

CAMBODIA MALARIA BULLETIN

JUNE 2012 BULLETIN, DATA TO 2ND QUARTER, CNM, CAMBODIA

Estimated coverage with LLIN or retreated mosquito net	Target ¹	Mobile ²
No. of persons at risk of malaria	3,236,449	439,446
No. of LLIN distributed YTD	1,376,528	91,368
No. of LLIN distributed YTD	187,565	2,841
No. of conventional nets distributed and retreated YTD	3,753	0
No. of long lasting nets distributed in last 3 years	3,140,930	94,209
Estimated coverage with LLIN / treated net (1 net / 1 pers)	97%	21%

¹ Pop of target villages

² Mobile pop (est from census)

Indicators	HIS			VMW			Total		
	2011	2012	Change	2011	2012	Change	2011	2012	Change
Malaria cases	25,572	23,879	-7%	19,930	15,027	-27%	45,502	38,906	-14%
Malaria Incidence ³	1.78	1.62	-9%	18.55	13.58	-27%	3.17	2.65	-17%
Malaria deaths	31	28	-10%	2	0	-100%	33	28	-15%
Mortality rate ⁴	0.22	0.19	-12%	0.19	0.00	-100%	0.23	0.19	-17%

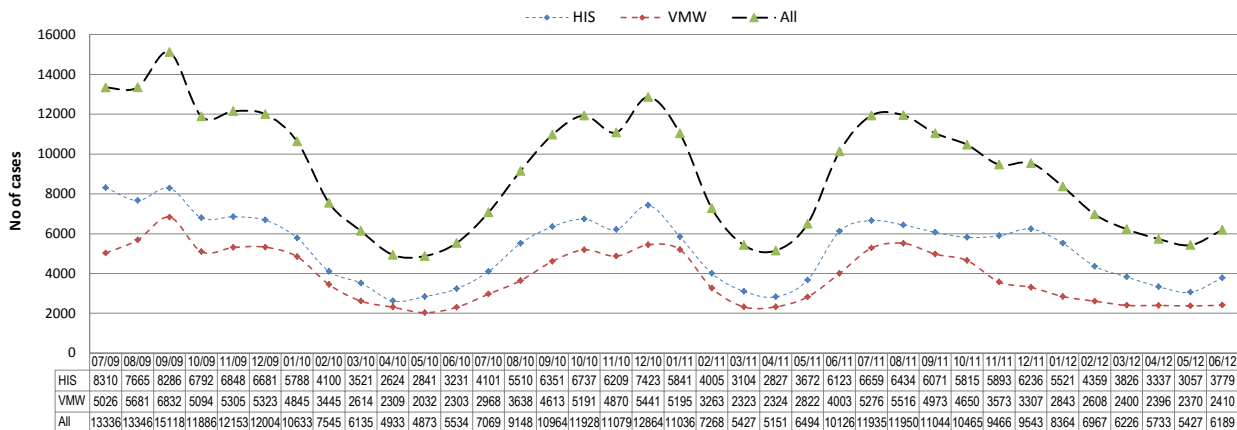
³ Cases per 1000 pop

⁴ Deaths per 100,000 pop

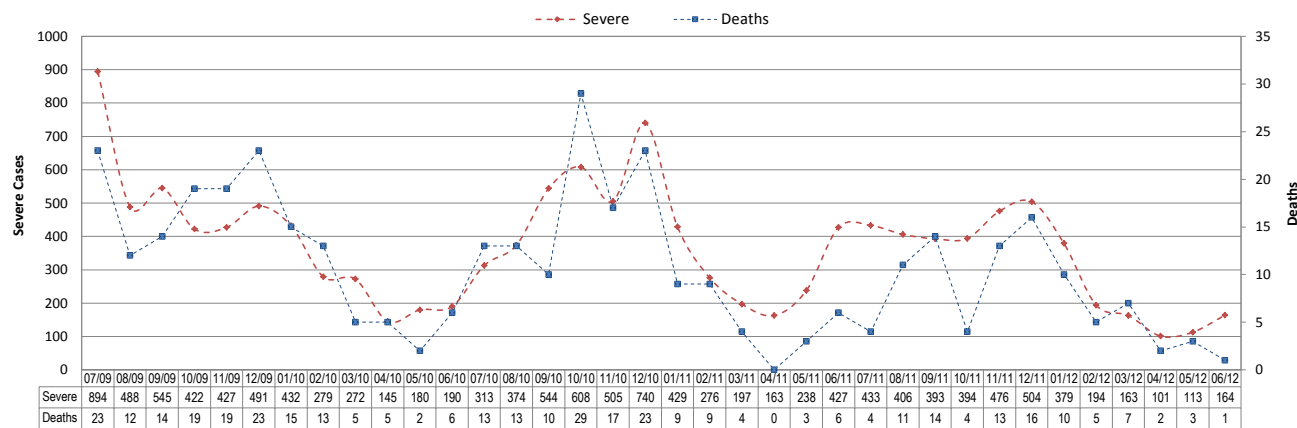
⁵ VMW rates uses VMW village populations

TRENDS IN SURVEILLANCE

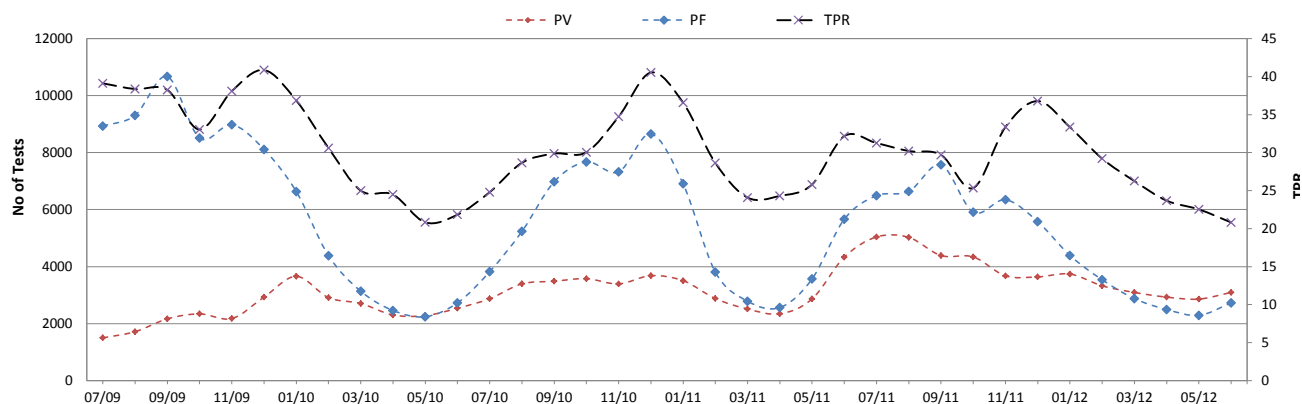
Treated malaria cases from HIS and VMW by month



Severe malaria cases and deaths from HIS by month



Malaria test results (VMW and HIS) by species⁶

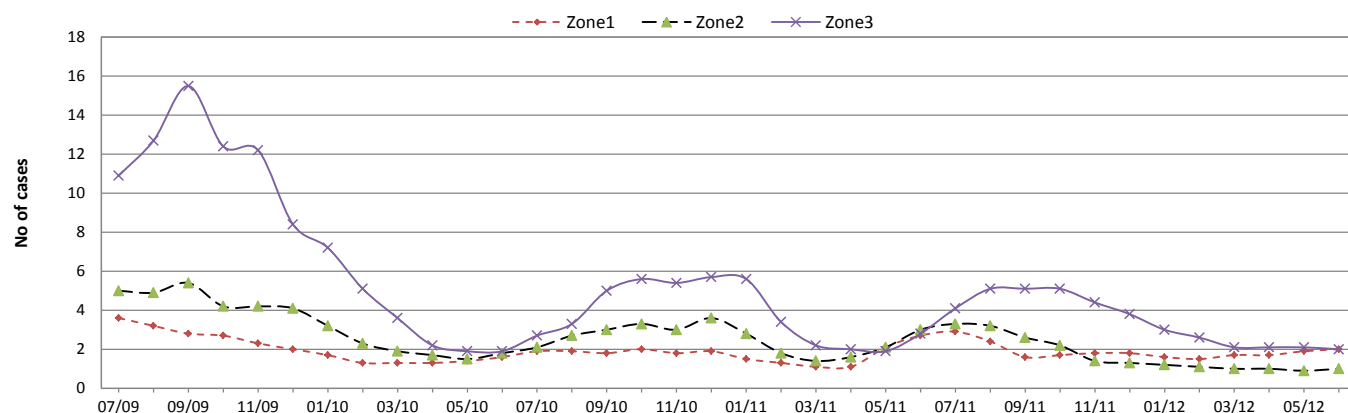


CONTAINMENT INDICATORS

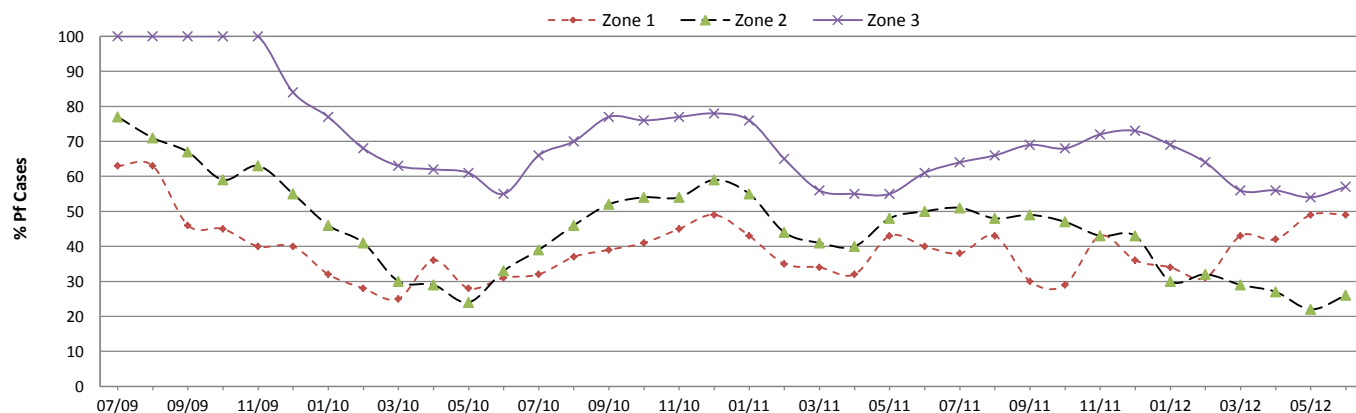
Estimated coverage (possession) with LLIN or retreated mosquito net					VMW RDT tests						
Indicators	Zone 1	Zone 2	Zone 3	Total	Zone	TPR			%Pf		
						2011	2012	Change	2011	2012	Change
No. of persons at risk of malaria (pop of target villages)	319,096	1,304,144	1,604,758	3,236,449	Zone 1	35%	39%	11%	39%	42%	8%
No. of LLIN distributed YTD	157,573	790,196	422,765	1,370,534		Zone 2	33%	24%	-29%	48%	28%
No. of LLIN distributed YTD	12,948	85,095	88,678	186,721	Zone 3		37%	33%	-13%	64%	60%
No. of conventional nets distributed and retreated YTD	0	3	3,750	3,753							
No. of long lasting nets distributed in previous 3 years	375,887	1,296,249	1,461,956	3,134,092							
Estimated coverage with LLIN / treated net (1 net / 1 pers)	118%	99%	91%	97%							

National Surveillance data for the period Jan - Jun												
Indicators	HIS treated cases			VMW treated cases			Total treated cases			Incidence (per 1000 pop)		
	2011	2012	Change	2011	2012	Change	2011	2012	Change	2011	2012	Change
Z1 Total malaria cases	2,389	1,782	-25%	2,283	2,661	17%	4,672	4,443	-5%	14.64	13.92	-5%
Z1 Severe malaria cases	170	142	-16%				170	142	-16%	0.53	0.45	-16%
Z1 Malaria deaths	3	1	-67%	0	0	0%	3	1	-67%	0.01	0.00	-67%
Z2 Total malaria cases	8,659	7,105	-18%	7,749	4,920	-37%	16,408	12,025	-27%	12.58	9.22	-27%
Z2 Severe malaria cases	525	288	-45%				525	288	-45%	0.40	0.22	-45%
Z2 Malaria deaths	9	3	-67%	1	0	-100%	9	3	-67%	0.01	0.00	-67%
Z3 Total malaria cases	8,906	8,823	-1%	9,858	7,435	-25%	18,764	16,258	-13%	11.69	10.13	-13%
Z3 Severe malaria cases	634	491	-23%				634	491	-23%	0.40	0.31	-23%
Z3 Malaria deaths	13	18	38%	1	0	-100%	13	18	38%	0.01	0.01	38%
Z4 Total malaria cases	5,618	6,169	10%	0	0	0%	5,618	6,169	10%	n/a	n/a	n/a
Z4 Severe malaria cases	401	193	-52%				401	193	-52%	n/a	n/a	n/a
Z4 Malaria deaths	6	6	0%	0	0	0%	6	6	0%	n/a	n/a	n/a

Malaria Cases per VMW by month



Percentage of Pf cases diagnosed by VMW per month



Surveillance Data by District, Jan-Jun 2012

Province / Op. District	Population (x1000)		Health Facility (HIS)									Village Malaria Workers															Incidence (per 1000 pop)					
			All Cases			Severe			Deaths			All Cases			Treated Pf			Treated Pv			Referred Pf			Referred Pv			TPR					
			2011	2012	Change	2011	2012	Change	2011	2012	Change	2011	2012	Change	2011	2012	Change	2011	2012	Change	2011	2012	Change	2011	2012	Change	2011	2012	Change	2011	2012	Change
n n		%	n n		%	n n		%	n n		%	n n		%	n n		%	n n		%	n n		%	%		%	%	n n		%		
Mongkol Borei	246	252	95 121 27%	0 1 100%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 39	0 48	24%		
Ou Chrov	211	216	71 83 17%	7 12 71%	0 0 0%	0 0 0%	33 18 -45%	7 11 57%	26 6 -77%	0 1 100%	0 0 0%	6 4 -30%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	6 4 -30%	0 0 0%	0 0 0%	0 0 0%	0 49	0 46	-6%		
Preah Net Preah	144	148	33 34 3%	1 1 0%	0 0 0%	0 0 0%	7 5 -29%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	3 2 -44%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	3 2 -44%	0 0 0%	0 0 0%	0 0 0%	0 28	0 26	-5%			
Thma Puok	125	128	20 27 35%	0 0 0%	0 0 0%	0 0 0%	13 20 54%	1 4 300%	5 15 200%	0 0 0%	7 1 -86%	4 5 49%	0 0 0%	7 1 -86%	4 5 49%	0 0 0%	7 1 -86%	4 5 49%	0 0 0%	7 1 -86%	4 5 49%	0 0 0%	7 1 -86%	4 5 49%	0 0 0%	0 21	0 36	73%				
Banteay Meanchey	727	744	219 265 21%	8 14 75%	0 0 0%	0 0 0%	53 43 -19%	8 15 88%	38 26 -32%	0 1 100%	7 1 -86%	5 4 -16%	0 36 0.41 13%																			
Thma Koul	214	219	89 116 30%	3 1 -67%	0 0 0%	6 0 -100%	0 0 0%	0 0 0%	6 0 -100%	0 0 0%	0 0 0%	60 0 -100%	0 4 0.53 19%																			
Mong Russei	175	179	325 340 5%	2 5 150%	0 1 100%	222 155 -30%	67 53 -21%	152 101 -34%	2 1 -50%	27 20 -25%	3 12 3.12 2.76 -11%																					
Sampov Luon	141	145	221 482 118%	14 9 -36%	0 0 0%	107 212 98%	28 57 104%	77 151 96%	1 3 200%	1 1 0%	14 25 78%	2 31 4.77 107%																				
Battambang	373	382	658 635 -3%	40 59 48%	0 1 100%	703 766 9%	256 377 47%	439 382 -13%	3 6 100%	5 1 -80%	30 33 11%	3 62 3.62 3.65 1%																				
Sangkae	187	192	33 62 88%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 18 0.32 83%																			
Battambang	1100	1126	1326 1635 23%	59 74 25%	0 2 200%	1038 1133 9%	353 488 38%	677 634 -6%	5 9 80%	8 3 -63%	26 29 10%	2.14 2.45 14%																				
Chamkar Leu - Stueng Trang	168	172	328 470 43%	24 24 0%	2 0 -100%	175 209 19%	65 64 -2%	110 144 31%	0 1 100%	0 0 0%	44 45 1%	2 99 3.94 32%																				
Choeng Prey - Batheay	200	205	80 86 8%	7 1 -86%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 40 0.42 5%																				
Kampong Cham - Kampong Siem	293	300	146 326 123%	16 55 244%	1 4 300%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 50 1.09 118%																				
Kroch Chhmar - Stueng Trang	108	111	95 161 69%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 88 1.46 66%																				
Memut	159	163	344 232 -33%	21 15 -29%	0 0 0%	212 131 -38%	83 34 -59%	127 97 -24%	1 0 -100%	1 0 -100%	22 15 33%	3 48 2.23 -36%																				
O Reang Ov - Koh Soutin	87	89	140 315 125%	3 0 -100%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	1 61 3.54 120%																				
Ponhea Krek - Dambae	231	237	725 709 -2%	17 4 -76%	0 0 0%	172 109 -37%	58 28 -52%	109 81 -26%	5 0 -100%	0 0 0%	40 35 -12%	3 85 3.45 -10%																				
Prey Chhor - Kang Meas	189	193	118 183 55%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 63 0.95 51%																				
Srei Santhor - Kang Meas	145	149	38 37 -3%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 26 0.25 -5%																				
Tbong Khmum - Kroch Chhmar	219	224	405 584 44%	48 66 38%	0 3 300%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	1 85 2.61 41%																				
Kampong Cham	1801	1844	2419 3103 28%	136 165 21%	3 7 133%	559 449 -20%	210 127 -40%	347 322 -7%	6 1 -83%	1 0 -100%	31 27 -14%	1.65 1.93 17%																				
Kampong Chhnang	229	234	251 197 -22%	10 20 100%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	1 1.10 0.84 -23%																				
Kampong Tralach	156	160	246 223 -9%	29 8 -72%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	1 1.58 1.40 -11%																				
Boribo	121	124	196 131 -33%	0 4 400%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	1 1.62 1.06 -35%																				
Kampong Chhnang	506	518	693 551 -20%	39 32 -18%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	1.37 1.06 -22%																				
Kampong Speu.	419	429	602 501 -17%	44 31 -30%	1 0 -100%	1376 684 -50%	668 222 -67%	395 459 -16%	174 0 -100%	139 3 -98%	56 33 -41%	3 97 2.75 -31%																				
Kong Pisey	240	246	446 497 11%	23 12 -48%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	1 1.86 2.02 9%																				
Ou Dongk	110	112	377 299 -21%	5 4 -20%	0 0 0%	402 203 -50%	232 66 -72%	144 135 -6%	1 0 -100%	25 2 -92%	51 31 -39%	6 6.86 4.45 -35%																				
Kampong Speu	769	788	1425 1297 -9%	72 47 -35%	1 0 -100%	1778 887 -50%	900 288 -68%	539 597 11%	175 0 -100%	164 5 -97%	55 32 -41%	3.72 2.77 -26%																				
Baray and Santuk	248	254	253 380 50%	8 2 -75%	1 0 -100%	221 259 17%	101 104 3%	120 127 6%	0 21 2100%	0 7 700%	24 35 44%	1 1.91 2.40 26%																				
Kampong Thom	287	294	506 444 -12%	56 27 -52%	1 3 200%	1511 835 -45%	754 282 -63%	730 460 -37%	1 35 3400%	26 58 123%	40 34 -15%	6 6.94 4.04 -42%																				
Stong	143	146	100 104 4%	24 2 -92%	1 1 0%	276 193 -30%	93 54 -42%	183 139 -24%	0 0 0%	0 0 0%	25 19 -26%	2 2.63 2.03 -23%																				
Kampong Thom	678	694	859 928 8%	88 31 -65%	3 4 33%	2008 1287 -36%	948 440 -54%	1035 726 -30%	1 56 5500%	26 65 150%	35 31 -12%	4.19 3.02 -28%																				
Angkor Chey	111	113	34 47 38%	5 5 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 31 0.41 35%																				
Chhouk	204	209	887 481 -46%	67 42 -37%	1 0 -100%	1215 435 -64%	611 81 -87%	596 354 -41%	7 0 -100%	1 0 -100%	50 32 -35%	10 10.27 4.39 -57%																				
Kampong Trach	160	164	127 72 -43%	2 0 -100%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0%	0 0 0.79 0.44 -45%																				
Kampot	154	158	874 421 -52%	61 10 -84%	1 0 -100%	168 146 -13%	106 42 -60%	62 104 68%	0 0 0%	0 0 0%	77 33 -56%	6 6.77 3.60 -47%																				
Kampot	628	643	1922 1021 -47%	135 57 -58%	2 0 -100%	1383 581 -58%	721 123 -83%	659 458 -31%	7 0 -100%	1 0 -100%	52 32 -37%	5.26 2.49 -53%																				

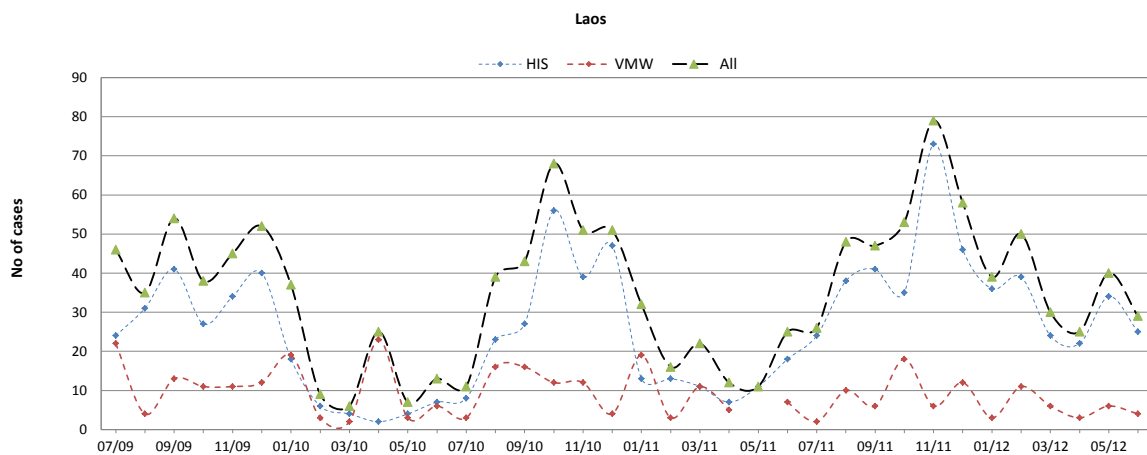
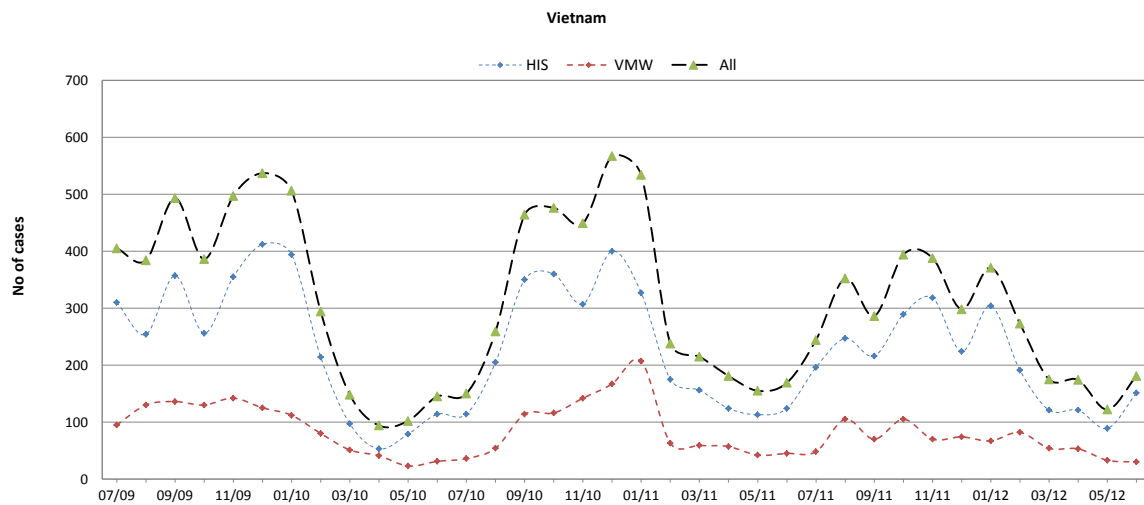
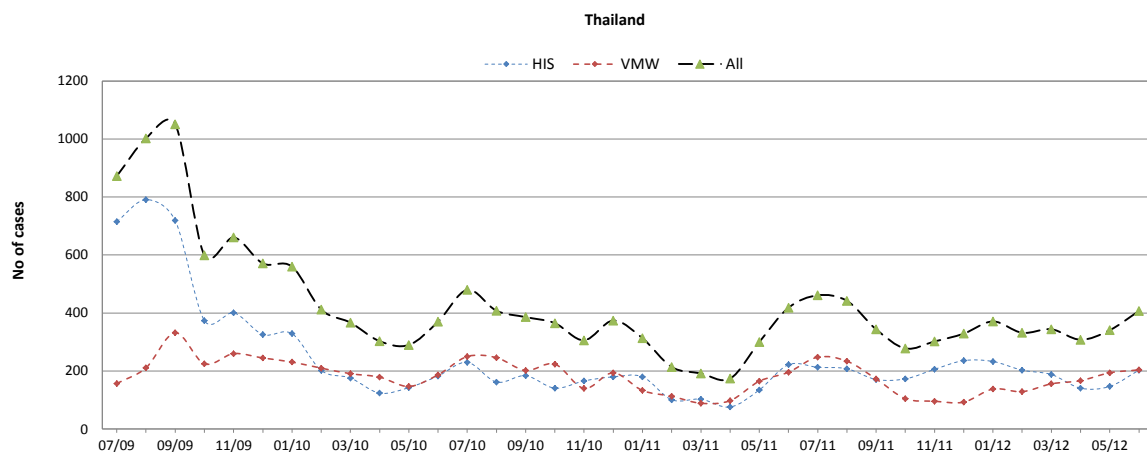
Surveillance Data by District, Jan-Jun 2012

Province / Op. District	Population (x1000)		Health Facility (HIS)									Village Malaria Workers															Incidence (per 1000 pop)								
			All Cases			Severe			Deaths			All Cases			Treated Pf			Treated Pv			Referred Pf			Referred Pv			TPR								
			2011	2012	Change	2011	2012	Change	2011	2012	Change	2011	2012	Change	2011	2012	Change	2011	2012	Change	2011	2012	Change	2011	2012	Change	2011	2012	Change	2011	2012	Change	2011	2012	Change
			n	n	%	n	n	%	n	n	%	n	n	%	n	n	%	n	n	%	n	n	%	n	n	%	n	n	%	%	%	Change	n	n	%
Kralanh	87	89	219	134	-39%	8	14	75%	1	0	-100%	186	101	-46%	117	58	-50%	27	43	59%	1	0	-100%	41	0	-100%	9%	5%	-41%	4.18	2.64	-37%			
Siem Reap	386	395	552	627	14%	36	33	-8%	4	2	-50%	479	490	2%	187	150	-20%	202	321	59%	9	6	-33%	81	13	-84%	33%	38%	16%	2.44	2.78	14%			
Sot Nikum	271	278	582	759	30%	0	1	100%	0	0	0%	500	343	-31%	317	133	-58%	180	210	17%	0	0	0%	3	0	-100%	38%	27%	-28%	3.98	3.97	0%			
Ankor Chhum	210	215	645	557	-14%	0	0	0%	0	0	0%	346	308	-11%	130	96	-26%	34	209	515%	14	0	-100%	168	3	-98%	24%	19%	-23%	3.85	4.01	4%			
Siem Reap	957	980	1998	2077	4%	44	48	9%	5	2	-60%	1511	1242	-18%	751	437	-42%	443	784	77%	24	6	-75%	293	16	-95%	24%	21%	-15%	3.34	3.37	1%			
Sihanouk	236	241	733	183	-75%	4	3	-25%	1	0	-100%	93	43	-54%	53	11	-79%	29	31	7%	5	0	-100%	6	1	-83%	61%	42%	-31%	3.46	0.93	-73%			
Sihanoukville	238	243	733	183	-75%	4	3	-25%	1	0	-100%	93	43	-54%	53	11	-79%	29	31	7%	5	0	-100%	6	1	-83%	61%	42%	-31%	3.43	0.92	-73%			
Steung Treng	119.16	122.02	549	1010	84%	24	32	33%	1	2	100%	1625	1662	2%	1047	1096	5%	577	557	-3%	1	8	700%	0	1	100%	33%	37%	12%	18.24	21.82	20%			
Stung Treng	119.16	122.02	549	1010	84%	24	32	33%	1	2	100%	1625	1662	2%	1047	1096	5%	577	557	-3%	1	8	700%	0	1	100%	33%	37%	12%	18.24	21.82	20%			
Chi Phu	0.00	0.00	25	11	-56%	3	0	-100%	0	0	0%	0	0	0%	0	0	0%	0	0	0%	0	0	0%	0	0	0%	0%	0%	0%			0%			
Romeas Hek	0.00	0.00	43	58	35%	10	4	-60%	0	0	0%	0	0	0%	0	0	0%	0	0	0%	0	0	0%	0	0	0%	0%	0%	0%			0%			
Svay Rieng	0.00	0.00	26	62	138%	6	9	50%	1	2	100%	0	0	0%	0	0	0%	0	0	0%	0	0	0%	0	0	0%	0%	0%	0%			0%			
Svay Rieng	518.39	530.83	94	131	39%	19	13	-32%	1	2	100%	0	0	0%	0	0	0%	0	0	0%	0	0	0%	0	0	0%	0%	0%	0%	0.18	0.25	36%			
Ang Rokar	124.19	127.17	353	364	3%	11	8	-27%	0	0	0%	19	16	-16%	10	1	-90%	9	15	67%	0	0	0%	0	0	0%	0%	28%	28%	3.00	2.99	0%			
Bati	195.29	199.98	17	26	53%	0	0	0%	0	0	0%	0	0	0%	0	0	0%	0	0	0%	0	0	0%	0	0	0%	0%	0%	0%	0.09	0.13	49%			
Daun Keo	198.00	202.75	49	57	16%	14	4	-71%	1	1	0%	0	0	0%	0	0	0%	0	0	0%	0	0	0%	0	0	0%	0%	0%	0%	0.25	0.28	14%			
Kirivong	242.99	248.82	97	94	-3%	1	2	100%	0	0	0%	0	0	0%	0	0	0%	0	0	0%	0	0	0%	0	0	0%	0%	0%	0%	0.40	0.38	-5%			
Prey Kabass	146.57	150.09	29	11	-62%	0	0	0%	0	0	0%	0	0	0%	0	0	0%	0	0	0%	0	0	0%	0	0	0%	0%	0%	0%	0.20	0.07	-63%			
Takeo	907.04	928.80	545	552	1%	26	14	-46%	1	1	0%	19	16	-16%	10	1	-90%	9	15	67%	0	0	0%	0	0	0%	36%	28%	-23%	0.62	0.61	-2%			
Samraong	197.99	202.75	1217	1289	6%	50	36	-28%	0	0	0%	1352	1063	-21%	227	85	-63%	1109	958	-14%	6	2	-67%	10	18	80%	34%	31%	-10%	12.89	11.50	-11%			
Oddar Meanchey	197.99	202.75	1217	1289	6%	50	36	-28%	0	0	0%	1352	1063	-21%	227	85	-63%	1109	960	-13%	6	2	-67%	10	18	80%	34%	31%	-10%	12.89	11.51	-11%			
Kep	38.39	39.31	73	33	-55%	4	0	-100%	0	0	0%	0	0	0%	0	0	0%	0	0	0%	0	0	0%	0	0	0%	0%	0%	0%	1.90	0.84	-56%			
Kep	38.39	39.31	73	33	-55%	4	0	-100%	0	0	0%	0	0	0%	0	0	0%	0	0	0%	0	0	0%	0	0	0%	0%	0%	0%	1.90	0.84	-56%			
Pailin	75.56	77.38	215	241	12%	5	8	60%	0	0	0%	138	210	52%	18	23	28%	93	172	85%	23	12	-48%	4	3	-25%	21%	30%	44%	4.31	5.63	31%			
Pailin	75.56	77.37	215	241	12%	5	8	60%	0	0	0%	138	210	52%	24	25	4%	93	172	85%	23	12	-48%	4	3	-25%	21%	30%	44%	4.39	5.66	29%			
National Total	14357.83	14702.42	25572	23879	-7%	1730	1114	-36%	31	28	-10%	20810	15271	-27%	11092	6956	-37%	8838	8071	-9%	307	117	-62%	613	138	-77%	35%	30%	-16%	3.17	2.65	-17%			

Malaria Bulletin Ver 2 - Generated from CNM Malaria Database on 14/09/2012 08:36:36 including data from Online MOH HIS

CAMBODIA MALARIA BULLETIN

MALARIA TRENDS IN BORDER AREAS*



* HIS data from health facilities serving border villages plus VMW data from border villages (<10km from the border).