

Arboshield



Photo n°2: Repetition of the dengue rapid diagnostic test is part of the second line of the virologic counter-investigation of dengue suspected cases collected by provincial military hospitals.

Arboshield is a three-year training program on surveillance and diagnosis of vector-borne diseases, organized by IPL teams and held at IPL. An average of 12 trainees per year, one third from civil organization and two third military staff, are following the curriculum. An A&EVD team delivers theoretical and practical sessions within three of the four modules held at IPL. A site follow up is organized to check trainees' capacity to apply diagnosis skills and support the development of surveillance activities in their respective institutions. Samples from patients who had consultations for a dengue-like syndrome in a military provincial hospital partner of the Arboshield project were tested on site and sent to IPL for control (Table 2). This quality assessment allowed for the checking of compliance with the transportation process, compliance to case definitions and capacity to perform and interpret first-line diagnostic tests. A series of 217 blood samples were reinvestigated revealing a high level of

discrepancies between first and second lines of analyses. Information on effective first-line testing, interpretation, and conclusions were missing for 166 (76%) of the 217 samples investigated. Among this series, samples from Xieng Khuang Province were initially collected in the context of suspected rickettsia infection based on rickettsia rapid from this series corresponded to an active dengue infection whereas four of them displayed indirect markers suggesting a recent or a past exposure to dengue virus. These results highlight the benefit of the implementation of such training programs and site follow ups to improve the knowledge of technical staff in the country and the global capacity for vector-borne diseases diagnosis and surveillance.

Table 2: Comparison of first line *versus* second line analysis of dengue suspected cases

Provinces	Dengue suspected cases							Total
	Probable		Confirmed		Negative		NS	
	Pce	IPL	Pce	IPL	Pce	IPL	Pce	
Khammuan	0	0	0	6	0	12	18	18
Xieng Khuang	0	3	0	2	0	4	9	9
Xayabouly	0	1	0	1	0	1	3	3
Luang Prabang	12	7	5	0	10	47	27	54
Champassack	0	2	1	6	9	16	14	24
Savannakhet	4	6	2	33	3	23	53	62
Vientiane Pce	0	7	0	1	5	39	42	47
Total	16	26	8	49	27	142	166	217

Pce: results obtained by the provincial hospital laboratories; IPL: results of counter-investigation at IP Laos. NS: not specified: provincial hospitals didn't mention any testing, test interpretation, or conclusion