

Expanding the health system into the forest: analysis and response to the challenge of providing malaria services inside forest areas within the Greater Mekong Sub-region in the context of malaria elimination



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Key messages

- Malaria incidence in Cambodia is decreasing and transmission is increasingly confined to forest areas.
- Nearly all prevention and treatment funds are being invested in villages far from forest areas, and activities within forest areas have been much more efficient at reaching infected individuals.
- Intensification of malaria services into the forest is possible and will be needed to eliminate malaria.

Introduction

The WHO Strategy for Malaria Elimination in the Greater Mekong Sub region and the Cambodia Malaria Elimination Action Framework note malaria risk is highest in forest or forest fringe areas. From 2006-2016, the number of confirmed malaria cases decreased 84% from 143,758 to 23,492 (with no change in the annual blood examination rate). Simultaneously the percentage of *P. vivax* cases rose from six to 50% suggesting many cases identified in low risk villages are possibly relapses.

Experiences from the Field

Malaria control strategies rely heavily on village based schemes to provide malaria services. Mobile malaria workers (MMWs) are employed to reach outside villages, but are often located in farms with similarly low risk. Reactive case detection within villages with standard rapid diagnostic tests (the most operationally feasible diagnostic tool) yielded very low test positivity rates (TPR) in Cambodia (<1%), with co-exposed individuals slightly higher at ~3%. The Cambodia National Center for Malaria Control (CNM) has pioneered an elimination strategy employing MMWs inside the forest.

Recent Results

Screening data from the USAID Cambodia Malaria Elimination Program (CMEP) villages with the largest recent case increases in two provinces showed similar rates (<1%), suggesting most cases are imported from the forest. From January-December 2017, the Regional Artemisinin-resistance Initiative empowered MMWs inside the forest in Stung Treng province to perform malaria services. This resulted in a 42% TPR with 71% of cases identified as *P. falciparum*. CMEP data shows similarly high TPR rates from MMWs screening touch points (49%), work sites (38%) and forest communities (27%) inside the forest in Phnom Kravanh District (70% were *P. falciparum*). In CMEP areas MMWs each detected eight cases per month. The Vietnam NMCP piloted a similar programme with forest communities in Phu Yen from 2015-2017 and found an 81% decrease in cases sustained over three years. A recent survey by the World Wide Fund for Nature (WWF) also found that of 943/3,783 (25.2%) of forest rangers in Cambodia reported having malaria in the last 12 months.



Photo: Mobile Malaria Workers testing forest workers

Source: CMEP, 2017

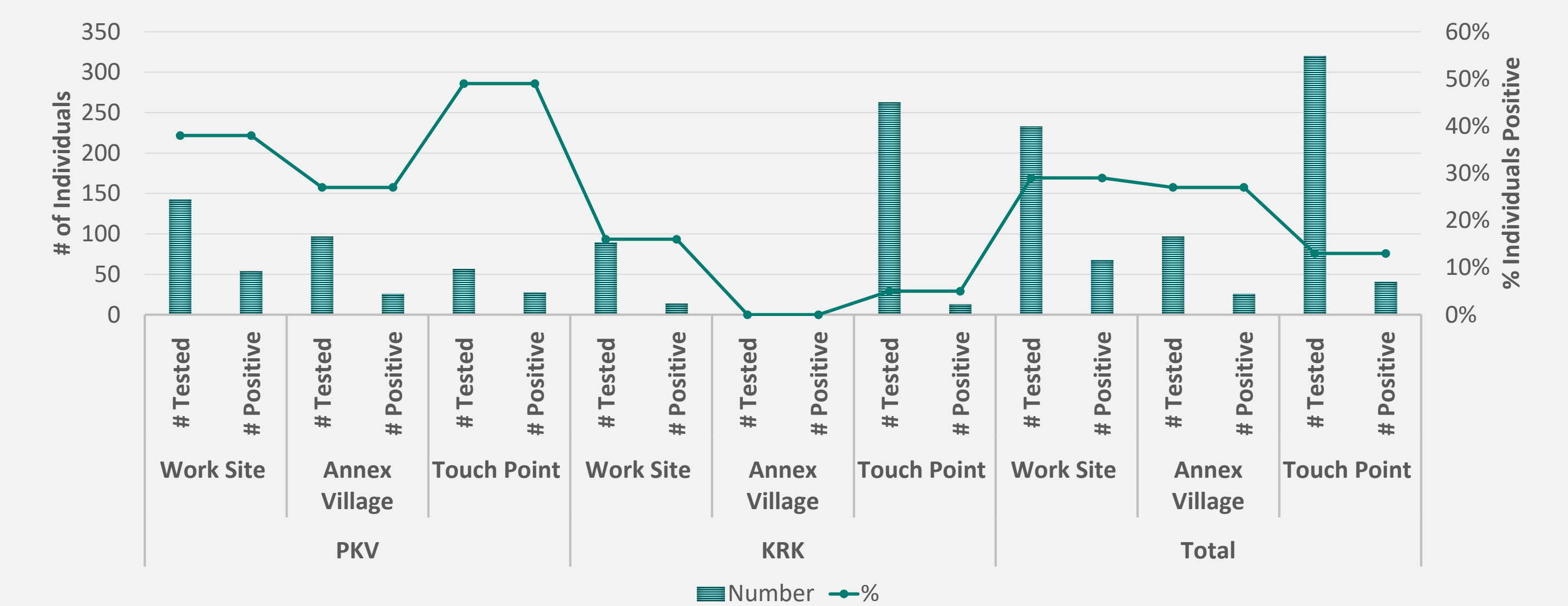


Figure 1: Results of MMW Outreach Activities, Pursat Province, Sept-Oct 2017 (Source CMEP, 2017)

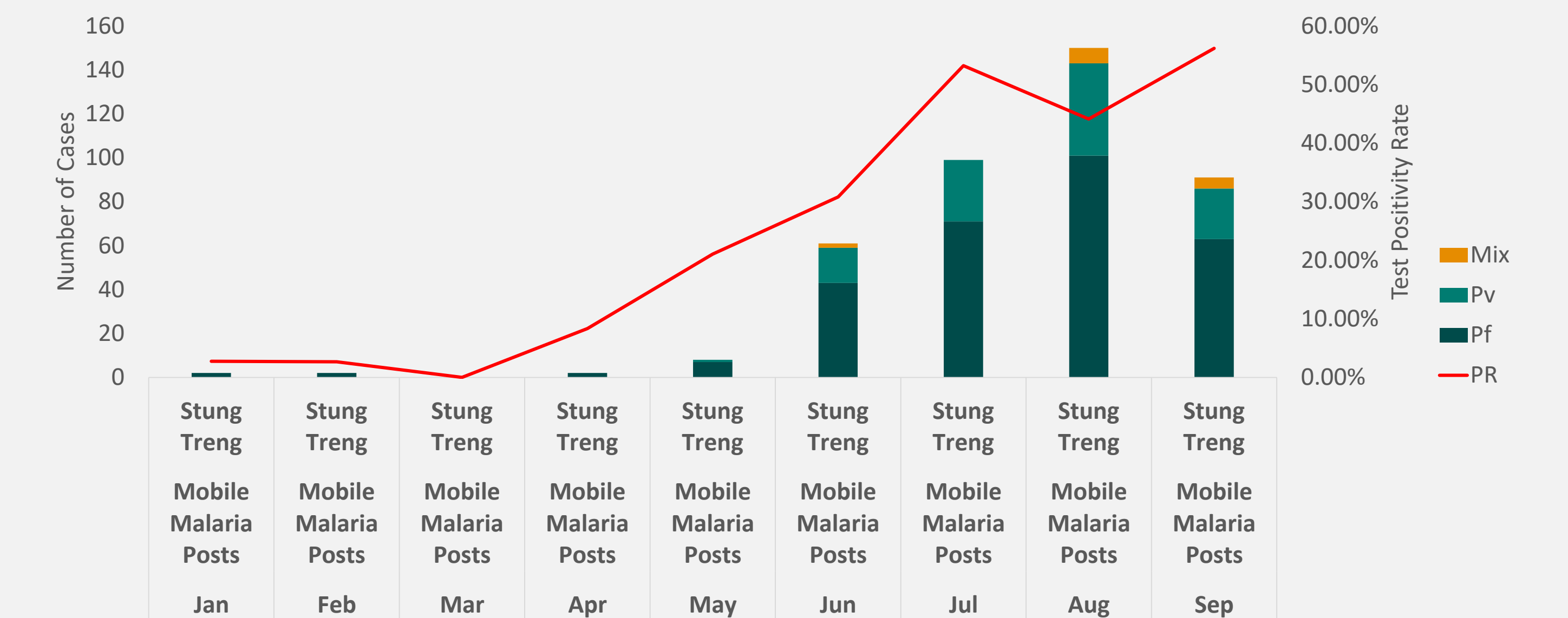


Figure 2: Data from MMW Screening Activities at Touch Points in/near Forest Areas in Steung Treng Province, Jan-Sept 2017 (Source: Malaria Consortium, 2017)

Conclusion

A rapid scale-up of malaria services into forest areas is possible and can improve effectiveness of malaria programmes in Cambodia and the Greater Mekong Sub-Region. The MMW programme should be expanded and should recruit forest workers and forest goers as MMWs. Future efforts should also ensure law enforcement officers such as forest rangers and military staff have access to diagnosis and treatment as an epidemiologically important and often neglected population.