**Detection of *Plasmodium malariae and Plasmodium knowlesi* through improvements in microscopy services in Cambodia**

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The primary method of malaria diagnosis in Cambodia is the use of Rapid Diagnostic Tests (RDTs), particularly outside hospitals. Currently available RDTs only detect *Plasmodium falciparum (Pf) and P. vivax (Pv)*. *P. malariae* *(Pm)* and *P. knowlesi (Pk)* are detected primarily in research studies using molecular diagnostic tools. Training and support for microscopy diagnosis has recently taken place in six provinces managed by the Ministry of Health, with financial and technical support from USAID/PMI through the Cambodia Malaria Elimination Projects (CMEP and CMEP2) and the World Health Organization. This includes 5-day training courses on microscopy diagnosis and organization of national competency assessments for malaria microscopists to ensure quality diagnosis at the point of care. If patients test negative by RDT but malaria symptoms continue, then a blood smear is taken for microscopy. If the blood smear is positive for *Pm*/*Pk*, a blood smear and dried blood spot are taken for confirmation at the National Center for Parasitology, Entomology and Malaria Control (CNM) through both microscopy and polymerase chain reaction (PCR). This investment has led to a corresponding rise in *Pm* and *Pk* cases diagnosed through routine CMEP2-supported activities from zero to 58 (Jan 2021-Feb 2023). Slide confirmation by CNM through microscopy examination classified 50 cases as *Pm*, six as *Pk*, and two were not definitive. PCR is used as it can be difficult to differentiate between *Pm/Pk* by microscopy. The PCR results showed that 42 cases were confirmed as *Pm*, nine as *Pk*, one as *Pf/Pm* and six were not definitive. The majority (79%, n=58) of these cases occurred during the rainy season (May-Oct 2022). These results suggest there is likely ongoing *Pm/Pk* transmission that is undetected in areas without microscopy services in Cambodia. Microscopy services at health centers remain limited and updates to the suspected case definition may be needed to ensure all *Pm/Pk* infected patents are tested. As Cambodia is aiming for the elimination of all human malaria species by 2025, introducing and sustaining quality microscopy will be essential to detect all forms of malaria species.