**THE PUBLIC PRIVATE MIX PROGRAM AND ANTIMALARIAL AND MALARIA RAPID DIAGNOSTIC TEST AVAILABILITY AND MARKET SHARE IN THE SOUTHERN LAO PDR PRIVATE SECTOR**

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**BACKGROUND**

In 2008, a Public Private Mix (PPM) program was initiated in southern Lao PDR to increase the availability of the first-line artemisinin combination therapy (ACT), artemether lumefantrine (AL), and malaria rapid diagnostic tests (mRDTs) in the private sector at little to no cost to the consumer. AL and mRDTs are provided free of charge from the Center for Malaria Parasitology and Entomology (CMPE). Providers receive training on malaria case management and are expected to report data to the nearest health center or district antimalarial nucleus (DAMN).

**METHODS**

A 2015 malaria outlet survey was conducted in 25 PPM districts and 16 non-PPM districts across five southern provinces (Savannakhet, Champasack, Salavan, Attapeu and Sekong). Approximately 85% of the country’s total malaria burden is concentrated in these five provinces. All outlets with the potential to sell antimalarials were screened for study eligibility among 41 of 42 districts (Figure 1). This included pharmacies and private for-profit facilities in PPM (N=351) and non-PPM districts (N=300). In the antimalarial stocking facilities, an audit was completed for all antimalarials and mRDTs. Data were retroactively analyzed to present indicators on availability, market share and provider knowledge among outlets located in the PPM and non-PPM districts.

**RESULTS**

How does the availability of appropriate malaria case management commodities compare across PPM versus non-PPM districts? First-line ACT (AL) were available in 68.5% of antimalarial-stocking PPM district pharmacies and private for-profit facilities versus 2.5% in non-PPM districts. First-line ACT was free in all AL-stocking outlets in both PPM and non-PPM districts (data not shown). Availability of mRDT was high in PPM (72.6%) district pharmacies and private for-profit facilities compared with 12.1% in non-PPM districts (Figure 2). The median price for mRDT in PPM district antimalarial-stocking outlets was USD $0.00 compared with USD $3.12 in non-PPM districts (data not shown).

Was chloroquine (CQ) widely available in both PPM and non-PPM district antimalarial-stocking outlets? CQ was widely available across the private sector regardless of PPM status. Nearly two-thirds (63.7%) of antimalarial-stocking private sector outlets in PPM districts stocked CQ. Almost all (96.7%) antimalarial-stocking private sector outlets in non-PPM districts stocked CQ (Figure 2).

What are the most commonly distributed antimalarials in the PPM districts versus non-PPM districts? Higher availability of AL in private sector antimalarial-stocking PPM district outlets did not translate into higher AL market share. AL market share was low regardless of PPM status. The majority of anti-malarials distributed by pharmacies and private for-profit health facilities were CQ treatments in both PPM (91.7%) and non-PPM districts (99.1%) (Figure 3).

Was provider knowledge higher in PPM district antimalarial-stocking outlets than non-PPM antimalarial-stocking outlets? Provider knowledge, with regards to correctly stating the first-line treatment for uncomplicated P. falciparum (PF) / P. vivax (PV) was higher in private sector outlets in PPM districts (63.0%) than non-PPM districts (15.3%). In PPM districts, 71.0% of providers correctly stated the first-line dosing regimens for uncomplicated PF/PV compared with only 6.1% of providers in private sector non-PPM district outlets (Figure 4).

**CONCLUSION**

Access to first-line ACT and mRDT was higher in PPM district antimalarial-stocking private sector outlets compared with non-PPM outlets. However, CQ availability and distribution was high in both PPM and non-PPM districts. Expansion of the PPM program could increase availability of mRDT and ACT, as well as improve provider treatment and dosing knowledge, all of which are paramount in the context of national malaria elimination goals in Lao PDR. However, interventions aimed at provider preference and consumer demand may also be necessary to reduce CQ availability and market share in the private sector.

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