THE MALARIA TESTING AND TREATMENT LANDSCAPE IN BENIN
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BACKGROUND
Malaria is a leading cause of illness and death in Benin. National treatment guidelines indicate confirmatory testing followed by treatment of cases with artemisinin combination therapy (ACT).

METHODS
Following surveys in 2009 and 2011, a 2014 national malaria outlet survey was conducted. A census of public and private outlets with potential to distribute malaria testing and/or treatment was conducted among a representative sample of administrative units and 4,332 outlets were screened for availability of malaria testing and treatment. An audit was completed for all antimalarials, malaria rapid diagnostic tests (RDTs) and microscopy. The audit captured product information, retail price and amount distributed to consumers during the last week.

RESULTS
What is the antimalarial market composition in Benin? Private sector outlets comprise most of the antimalarial market composition, and over half of all outlets are general retailers that primarily sell fast-moving consumer goods (59%). The antimalarial market composition of other types of private sector outlets include private health facilities (10%) and itinerant drug vendors (11%). Pharmacies and drug stores are relatively uncommon service delivery points (1%) (Figure 1).

What types of antimalarials are available in Benin? Quality assured ACTs were available in 90% of public health facilities and 88% of pharmacies. Fewer than half of outlets had quality assured ACTs available among all other private sector outlet types. Non-antimicrobial therapies were commonly available. These included chloroquine, available in half of private sector outlets stocking antimalarials (53%). Quinine tablets and syrups were available in both the public and private sectors, at 85% of public health facilities and nearly half of private sector outlets (44%). Sulphadoxine-pyrimethamine (SP) is used for intermittent preventive treatment during pregnancy (IPTp) in Benin, however fewer than half of public health facilities had SP in stock (Figure 2).

What are the most commonly distributed antimalarials in Benin, and which outlet types distributed them? Most antimalarials in Benin were distributed by the private sector (71%). Outlet types with particularly high market share included general retailers (32%) and pharmacies (19%). Sulphadoxine-pyrimethamine (SP) and other non-artemisinin therapies accounted for half of all antimalarials distributed (51%). Approximately 1 in 3 antimalarials distributed were quality assured ACTs (35%) (Figure 3).

How much do antimalarials cost in the private sector? The 2014 private sector price for one adult equivalent treatment dose of quality assured ACT ($2.06) was 4 times higher than the price of SP ($0.52) and chloroquine ($0.52). A full course of treatment with quinine tablets was 2 times more expensive than quality assured ACT ($4.33).

Where antimalarials are distributed, is confirmatory testing available? Most public health facilities had malaria blood testing available (90%), and most of the time testing was available by microscopy (12%). Testing availability was much lower in the private sector. About 1 in 5 private health facilities had testing available, and other outlet types generally did not offer confirmatory testing (Figure 4).

CONCLUSION
Readiness to test and treat malaria according to national guidelines is high in public facilities, but with gaps in readiness for IPTp. However, the private sector is responsible for the majority of antimalarial distribution in Benin, and general retail outlets are the most common distributor of antimalarial medicines. Private sector outlets frequently stock and distribute non-artemisinin therapies including chloroquine, quinine and SP. These medicines are typically sold at a fraction of the cost of quality assured ACT. Furthermore, private sector outlets that stock and distribute antimalarials typically do not have confirmatory testing available. Strategies to improve malaria case management in the private sector are critical in Benin in order to improve overall coverage of appropriate malaria case management.

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Figure 1: Market composition Outlet type, among outlets with at least one antimalarial in stock

Figure 2: Antimalarial availability Among outlets with at least one antimalarial in stock

Figure 3: Antimalarial market share Relative market volume (sale/distribution) of antimalarials

Figure 4: Availability of malaria blood testing* Among outlets stocking antimalarials on the day of the survey or in the past 3 months

*All antimalarial outlet surveys were completed in Benin in 2014 and results will be available in early 2017. www.actwatch.info for more information.