Malaria is one of the most common causes of illness in Sub-Saharan Africa. The standard first response to a suspected malaria episode is to purchase over-the-counter medication from a local pharmacy, bypassing the formal health care system altogether. Evidence is emerging that a large share of illnesses for which antimalarial medication is taken are not in fact malaria, but are rather bacterial or viral infections. A high rate of inappropriate treatment is problematic because it delays proper diagnosis and treatment for the true cause of illness, wastes precious resources (such as antimalarial subsidies) and possibly accelerates antimalarial drug resistance. This study explores a method to increase access to affordable malaria diagnostics through retail sector drug shops. We investigate supplier incentives to sell and customer incentives to purchase rapid diagnostic tests (RDTs) for malaria in drug shops in Eastern Uganda. We sell heavily subsidized RDTs to drug shops and allow them to set the price, while simultaneously experimenting with methods to increase customer demand through behavior change communication messaging and social learning. The study also experimentally varies training modules for drug shop owners, in some cases emphasizing their role as primary health care providers in remote communities with poor access to the formal public health system. Finally, we exploit Uganda’s underlying variation in malaria endemicity to explore how financial incentives to sell RDTs are influenced by expected malaria positivity in an effort to understand the circumstances in which RDT subsidies can be most cost-effective.