Background Ghana rolled out the policy in 2013 with the use of malaria rapid diagnostic test (mRDT) promoted to facilitate diagnosis. However, health workers who are at the centre of mRDT implementation still treat half of febrile patients with negative mRDT results with antimalarial drugs, suggesting limited or lack of acceptability of the innovation.

Methods We conducted a cross-sectional study to examine determinants of mRDT among health workers in Kintampo North Municipality (KNM) in Ghana. Data were collected from 110 health workers in KNM involved in malaria management from February to April 2017. The survey tool was based on two frameworks – the Technology Acceptance Model (TAM) and Normalisation Process Theory (NPT). Acceptability was measured by ease of use, perceived usefulness and intention to use.

We hypothesised that acceptability was influenced by coherence, cognitive participation, collective action, reflexive monitoring and respondent characteristics. A composite acceptability score was computed from a 21-item questionnaire for each respondent. The respondents were divided into three groups of low, moderate and high acceptability for ordered logistic regression to examine the relationship between acceptability and its determinants.

Results The median acceptability score was 84 (Q1, Q3:68, 103). About 34% of health workers had low acceptability while 37% and 29% had moderate and high acceptability respectively. In the multivariable analysis, coherence (OR=1.23, 95% CI=1.11–1.37), cognitive participation (OR=1.35, 95% CI=1.10–1.66), health workers in rural health facilities (OR=6.99, 95% CI=1.82–26.84) and health workers with more than three years’ experience (OR=5.53, 95% CI=1.98–15.42) were more likely to have high mRDT acceptability.

Conclusion Acceptability of mRDT was moderate among the majority. This can be improved by enhancing health workers’ coherence on the benefits of mRDT through policy building or dissemination of information, promoting health workers’ cognitive participation in the mRDT implementation process through recruitment of local ‘champions’ to promote ‘buy-in’ and providing incentives to health workers to embed and sustain the use of the health technology.