

## **Barriers faced in the global implementation of rapid and point-of-care tests for HIV infection: a systematic review (1996-2014).**

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### **Abstract**

**Background:** Barriers operate at four different levels of health care (i.e., health systems, providers, patients and test devices) to impede the ideal global implementation of singleton HIV point-of-care and rapid diagnostic tests (POCT/RDTs). Mapping and understanding them can improve the integration of new POCT technologies. We conducted a systematic review to synthesize evidence on all current barriers on HIV POCT/RDT

**Methods:** Two reviewers systematically searched five databases for the period 1996-2014. About 190 barriers were reported as primary outcomes across 132 studies retrieved in the final subset.

**Findings:** Implementation barriers (59%; 112/190) across three levels (break up: patients (54/190; 28%), health systems (34/190; 18%), providers (24/190; 13%)) predominated, followed by accuracy of test device 41% (78/190) at a close second. At the patient level, a lack of awareness (15/54; 28%), along with time impeded implementation (12/54, 22%). Integration within health systems (8/34; 24%) poor quality assurance and control (7/34; 21%), and failure to integrate in clinical workflow at the provider level (7/24, 29%) were observed. Accuracy (57/78; 73%) and difficult new test protocols (15/78; 19%) were reported for test devices.

**Interpretation:** Overall, an ideal implementation of POC/RDTs could be achieved by simplifying test protocols, and facilitating integration into clinical workflows and health systems. Improved awareness about their accuracy and reducing time delays, will improve patient confidence. Addressing these barriers today, will determine the future success of complicated multiplexed POCT initiatives for HIV related co-infections in the years to come.

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