

# VERIFYING DECENTRALIZED HIV SELF-TESTING USE AND RESULTS: A GLOBAL SYSTEMATIC REVIEW

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**Background:** Australia licensed their first HIV self-testing (HIVST) device in 2019, to provide opportunity for individuals to test, interpret and report their own test results in private. It has the potential to remove stigma, improve access and decentralize HIV testing. However, decentralization can make it difficult to verify self-testing results, which is important for linkage to care and surveillance. The aim of this systematic review is to summarize methods to verify HIVST use and results.

**Methods:** Guidance from the Cochrane Handbook 5.1 on systematic reviews was followed. Four journals, two conference abstracts, one clinical trial, and one grey literature databases were searched for studies that verified HIVST results. Only studies that verified either opening of HIVST kits or the test results were included. Two researchers independently screened articles and extracted data regarding verification details, including HIVST location, type of verification method, who performed the verification, percent of results verified and primary or secondary kit distribution. The review protocol was registered in PROSPERO database for systematic reviews.

**Results:** The search yielded 3,853 unique citations, of which 40 were included. Among these 40 studies, 32.5%, 40.0% and 27.5% respectively were from high, middle and low-income countries. While 42.5% of the studies included key populations, only 5.0% of studies focused on youths. Three verification methods were identified for test results and one for opening a self-test kit. Methods that verified test results included supervision or observation by a health provider, returning used test kits, and electronic transmission of photographic verification. The method that verified opening the test kit involved using the internet-of-things.

**Conclusion:** Three methods of test results verification were identified from the review, however only electronic transmission method of verification seem to guarantee the three key attributes of HIVST of stigma reduction, improved access and decentralization of HIV testing. Ensuring accurate verification should adopt the strategy that preserves the key attributes of HIVST as it has implications for ongoing surveillance of HIV in Australia.

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