

Evaluation of turnaround time for yellow fever testing in Uganda from Jan 2022 to Mar 2023

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Background: Control of yellow fever (YF) outbreaks relies on early detection and response, which requires short laboratory turnaround time (TAT). YF is endemic in Uganda; surveillance is conducted at sentinel health facilities in high-risk areas. TAT targets are defined for three phases: pre-analytic (target ≤ 7 days), analytic and post-analytic (target ≤ 5 days). We evaluated the TAT for YF testing and factors affecting TAT in Uganda.

Methods: Median and range TAT was calculated from the national FY database, January 2022-March 2023. We conducted key informant interviews (KII) with staff involved in YF surveillance in March 2023 to assess factors affecting TAT and strategies to improve TAT.

Results: Among 1,274 entries evaluated, 25 (2.0%) were positive, and 1,249 (98%) were negative. In the pre-analytic phase, all samples had TAT > 7 days (median=30 days, range 10-64). In the analytic and post-analytic phases, 15 (60%) positive samples had TAT > 21 days (median=29 days, range 13-50), while 10 (40%) were within the target TAT. All negative samples had TAT ≤ 7 days (median=7 days, range 3-7) in the analytic and post-analytic phases. Among 20 KII, 18 persons reported delayed sample delivery from sentinel sites to UVRI due to inconsistent sample pick-ups.

Conclusion: The highest TAT was observed in the pre-analytic phase and affected all samples; due to delayed sample transport. We recommend alternative means of sample transportation aimed at ≤ 7 days TAT and improvement of TAT in the analytical phase by optimizing the YF confirmatory assay.

Keywords: Yellow fever, Turnaround time, Uganda, Laboratory

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