

COVID-19 Mitigation Efforts and Testing During an In-Person Training Event — Uganda, October 12–29, 2020

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Summary: Effective COVID-19 mitigation measures, along with SARS-CoV-2 testing, are recommended for in-person trainings, particularly when trainees will have subsequent contact with survey participants.

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Abstract

Large public-health training events may result in SARS-CoV-2 transmission. Universal SARS-CoV-2 testing during trainings for the Uganda Population-based HIV Impact Assessment identified 28/475 (5.9%) individuals with COVID-19 among attendees; most (89.3%) were asymptomatic. Effective COVID-19 mitigation measures, along with SARS-CoV-2 testing, are recommended for in-person trainings, particularly when trainees will have subsequent contact with survey participants.

Keywords: SARS-CoV-2, COVID-19, mitigation, testing, trainings

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The Uganda Population-based HIV Impact Assessment (UPHIA) is a national HIV-focused household survey with approximately 25,000 participants. Data collection was initiated on February 20, 2020 and halted on March 24, 2020 before completion due to the coronavirus disease 2019 (COVID-19) pandemic. In October 2020, a decision was made to restart UPHIA activities based on initial data indicating relatively low COVID-19 case counts and mortality in Uganda [1], and approval from participating institutions and the Government of Uganda to resume survey activities with added safety precautions. Comprehensive risk management guidance and standard operating procedures (SOPs) to mitigate SARS-CoV-2 transmission were developed by principal investigator institutions and implemented for use by survey teams during UPHIA training events, household-based data collection, and laboratory activities. Before restarting household-based data collection, all survey teams completed in-person UPHIA refresher trainings. Such trainings are difficult to implement remotely because of their hands-on nature, and as such may facilitate transmission of SARS-CoV-2, as hundreds of survey staff gather, usually in indoor venues [2,3]. Here, we describe COVID-19 mitigation efforts at the training events and SARS-CoV-2 universal testing results among training attendees.

During October 12–29, 2020, three separate one-week refresher training events were held in large, outdoor, open tents at a hotel in Kampala, Uganda. Training attendees came from all over Uganda; there were 73 attendees during week one (October 12–15), 199 attendees during week two (October 19–22), and 205 attendees during week three (October 26–29). Trainees did not overlap from week to week, although most trainers and support staff were present for all three weeks. Specific COVID-19 mitigation measures included limiting the number of individuals per room/tent, social (physical) distancing including assigned seating >2 meters apart, use of masks, frequent hand hygiene, disinfection of frequently touched surfaces, staggering lunch and tea breaks, modifying the

curriculum to avoid group activities, discouraging trainees from lodging together, asking trainees to limit interactions during off-hours, and daily symptom screening including temperature checks.

Additionally, the Ugandan Ministry of Health (MOH) required universal SARS-CoV-2 testing of UPHIA training attendees on the first day of each training event. At the end of the first day of training each week, nasopharyngeal specimens were collected from attendees at the outdoor training venue. Specimens were tested by the Uganda Central Public Health Laboratories for SARS-CoV-2 using real-time reverse transcription-polymerase chain reaction (RT-PCR), with most results returned 24 hours later, on day two of the respective training event.

Overall, 28/475 (5.9%) training attendees tested positive for SARS-CoV-2. All infections were among trainees; no trainers tested positive. The proportion of specimens^s that tested positive each week increased over time (week one: 1/73 [1.4%]; week two: 10/199 [5.0%]; week three: 17/206 [8.3%]; Table), coinciding with the increase in reported COVID-19 cases in Kampala over the three-week period [1]. All 28 individuals with laboratory-confirmed COVID-19 were immediately isolated, interviewed by survey staff using a standard case investigation form to obtain information on symptoms and to elicit information on close contacts among training attendees, and reported to the appropriate MOH District COVID-19 Task Force. Upon case investigation, three (10.7%) individuals who tested positive for SARS-CoV-2 reported symptoms at the time of testing: one reported mild headache and sore throat, one reported runny nose, and one reported mild influenza-like symptoms. Those who were asymptomatic (89.3%) at time of testing did not subsequently report symptoms during the isolation period. All symptomatic individuals recovered without being hospitalized, and there were no deaths.

Because most participants' test results were returned at the end of day two of their respective training, there was potential for transmission for two days before infected individuals were identified and isolated. Per UPHIA SOPs, anyone within two meters of a person with laboratory-confirmed COVID-19 for a cumulative total of ≥ 15 minutes over a 24-hour period starting from two days before illness onset (or, for asymptomatic patients, two days before test specimen collection), irrespective of use of masks, was considered a close contact [4]. Contact tracing identified 15 close contacts among training attendees (week one: 0; week two: 13; week three: 2). During week two, one close contact shared lodging, two close contacts shared transportation to the training event, and 10 close contacts shared lunch with index cases. After identifying 13 close contacts during week two, COVID-19 mitigation measures were evaluated, modified, and reinforced, and efforts were increased to maintain social distancing, including implementing stricter measures for seating and serving lunch and tea, discouraging any mingling during breaks, and appointing mask and social distancing monitors. During week three, two close contacts shared transportation to the training event with index cases; no close contacts were identified during the training itself, including during lunch or tea breaks. All 15 close contacts completed a 14-day quarantine, and none reported symptoms. Close contacts were not tested for SARS-CoV-2, per in-country practice at that time. Individuals in isolation and quarantine attended the remainder of the training remotely. Field deployment plans were adjusted to account for survey staff in isolation and quarantine, with some teams delaying commencement of field data collection.

Discussion

Universal SARS-CoV-2 testing during a large in-person training event in Uganda identified 28 participants with COVID-19, including a high proportion who were asymptomatic. Household surveys such as UPHIA provide data that are foundational to public health, and trainings of survey staff are essential for ensuring data quality and fidelity of implementation. These trainings require large

numbers of survey staff to gather, posing a risk for SARS-CoV-2 transmission with the potential to become superspreading events [2–3, 5–6], as immediately following training, survey teams simultaneously deploy across the country for household data collection with participant contact. To conduct these training events safely during the COVID-19 pandemic, effective mitigation is needed, which requires meticulous planning and rigorous implementation procedures, including close liaising with MOH and other public health partners for appropriate follow up.

The SARS-CoV-2 percent positivity (5.9%) among UPHIA refresher training attendees was similar to the 5.2% test positivity in the general Ugandan population as of October 16, 2020, although the context of testing differed in these populations [1]. In anticipation of detecting SARS-CoV-2 among training attendees, stringent COVID-19 mitigation measures were implemented at the training events, along with universal SARS-CoV-2 testing of training attendees. These mitigation measures limited the number of close contacts among training attendees, and reinforcement of these measures reduced the number of close contacts from week two to week three. Given the evidence for presymptomatic and asymptomatic transmission of SARS-CoV-2 [7,8], daily symptom screening alone was unlikely to be completely effective at detecting infectious individuals.

In combination with specific mitigation measures, universal SARS-CoV-2 screening testing can be incorporated as part of a comprehensive strategy [9] to detect and isolate infectious individuals, potentially reducing transmission during large, in-person training events. This requires substantial preparation, resources, and a comprehensive plan and procedure to respond to the results, even if the expected percent positivity is low. Testing for SARS-CoV-2 and return of results should be performed before gathering on the first day of training. Although not logistically feasible for UPHIA, this approach would likely have eliminated the exposure of close contacts to SARS-CoV-2 in that

setting. For national household surveys, baseline testing before gathering for training events, repeat testing of survey teams before field deployment, periodic testing during implementation, and testing of close contacts likely could reduce SARS-CoV-2 transmission among survey staff and subsequent exposure to survey participants. Considerations for implementing any testing strategy include availability, cost, and capacity for SARS-CoV-2 screening testing, and levels of local community transmission.

The findings in this report are subject to several limitations. First, this was an observational report describing mitigation measures; we did not test the effectiveness of strategies across different groups. Second, testing was conducted at one time point only, and close contacts were not tested. An additional round of universal testing before field deployment and testing of close contacts might have detected additional infectious individuals and could have determined whether transmission occurred during the training and whether mitigation measures were effective. Third, some test results could have been false positive or false negative, which should be considered before testing a large proportion of asymptomatic individuals without known or suspected SARS-CoV-2 exposure [9]. Finally, some training attendees may have underreported symptoms during daily symptom screening, during case investigations, or during isolation or quarantine periods. However, all participants continued to receive their daily stipend during isolation and quarantine to encourage accurate disclosure of symptoms.

UPHIA paused data collection during the December–January holiday season through the January 14, 2021 general elections, after which all UPHIA survey staff were re-tested before re-deploying to the field. As of January 17, 2021, Uganda had reported 38,485 laboratory-confirmed COVID-19 cases and 304 COVID-19–associated deaths [1], from a population of 42 million persons [10]. Using the UPHIA

restart as a model, PHIA surveys in other African countries attempted to restart survey activities in early 2021. However, some PHIAAs remain paused, given the rapidly increasing COVID-19 incidence in Africa, high SARS-CoV-2 test positivity, emergence of the B.1351 variant [11], and overwhelmed health systems across the continent.

Effective COVID-19 mitigation measures should be implemented during training activities involving large groups of in-person attendees, particularly when they will have subsequent contact with survey participants. In combination with other mitigation measures, universal SARS-CoV-2 testing is a critical strategy to detect and isolate infectious individuals and identify and quarantine close contacts, likely preventing further spread among survey staff and into the community. Despite implementation of COVID-19 mitigation measures, there is an inherent risk of transmission among large numbers of people gathered for in-person training events. Carefully weighing the benefits of data collection with the risks involved can help determine whether survey activities can be resumed safely.

[§]The number of specimens tested differs slightly from number of training attendees because three individuals were tested twice.

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Disclaimer

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Conflict of Interest

B.G. reports a fellowship contract from the Centers for Disease Control and Prevention and the Public Health Institute. All other authors have indicated that they have no potential conflicts of interest to disclose.

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Table. SARS-CoV-2 testing among study staff who participated in refresher training events for the Uganda Population-based HIV Impact Assessment, Kampala, Uganda (October 12–29, 2020)

Training week*	Date of testing	Tested for SARS-CoV-2** [N]	Tested positive for SARS-CoV-2 [n (%)]	Symptomatic*** [n (%)]	Close contacts [n]
Week 1	October 12	73	1 (1.4)	0 (0)	0
Week 2	October 19	199	10 (5.0)	2 (20.0)	13
Week 3	October 26	206	17 (8.3)	1 (5.9)	2
Total	--	478	28 (5.9)	3 (10.7)	15

*There were 73 participants during week one (October 12–15), 199 participants during week two (October 19–22), and 205 participants during week three (October 26–29).

**The number of specimens tested differs slightly from number of training attendees (n=475) because three individuals were tested twice.

***Denominator is those who tested positive for COVID-19.

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