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EVALUATING HPV TESTING FOR CERVICAL CANCER SCREENING IN FOUR COUNTRY'S HIV PROGRAMS

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BACKGROUND

- Cervical cancer disproportionately affects women in resource-limited settings, as access to secondary prevention is currently limited. Women living with HIV (WLHIV) are at increased risk of human papillomavirus (HPV) infection and once infected are at greater risk of progression to cancer; therefore, timely screening and treatment is of utmost concern.
- The goal of the pilots was to introduce integrated HPV testing using existing NAT platforms in public health HIV programs in sub-Saharan Africa and describe the cascade of care.

METHODS

- Observational, prospective pilot studies were conducted across 32 facilities in Malawi, Nigeria, Uganda, and Zimbabwe between September 2019 and April 2021.
- All countries except Zimbabwe utilized near-point-of-care (POC) devices as one of the solutions for HPV testing. Zimbabwe conducted testing on platforms at a centralized laboratory; Uganda conducted HPV testing on both near-POC and centralized platforms.
- Self-collected sampling was offered as an alternative to clinician-sampling in Malawi and Nigeria, and as the primary offering in Uganda.
- The target population was WLHIV; age-inclusion criteria followed country guidelines, ranging from 25-49 years.
- All women identified as HPV-positive were to receive visual inspection with acetic acid (VIA), and if pre-cancerous or cancerous lesions were evident, receive treatment or referral.



Figure 1. Map of countries implementing HPV testing and contributing facilities

RESULTS

- Across the four countries, 14,148 tests were conducted, with 4% of tests invalid and 4% missing results, leaving 12,962 valid results (Table 1).
- HPV prevalence was 35% and decreased by age (Figure 2).
- There was no difference in rates of invalid results between self-collected and clinician-collected sampling (9% vs 6%, p=0.41)

	Malawi	Nigeria	Uganda	Zimbabwe	All
	n(%)	n(%)	n(%)	n(%)	n(%)
Total Tested	2,320	1,344	6,611	3,873	14,148
Sample Collection Method					
Self	598 (26%)	794 (59%)	6611 (100%)	0 (0%)	8003 (57%)
Clinician	1649 (71%)	438 (33%)	0 (0%)	3873 (100%)	5960 (42%)
Missing	73 (3%)	112 (8%)	0 (0%)	0 (0%)	185 (1%)
Testing Location					
Onsite, hub	1939 (84%)	0 (0%)	4551 (69%)	0 (0%)	6490 (46%)
Offsite, spoke	381 (16%)	0 (0%)	0 (0%)	0 (0%)	381 (3%)
Offsite, centralized	0 (0%)	1344 (100%)	2060 (31%)	3873 (100%)	7277 (51%)
Valid Result	2203 (95%)	1177 (88%)	6012 (91%)	3570 (92%)	12962 (92%)
HPV-positive	957 (43%)	302 (26%)	1827 (30%)	1425 (40%)	4511 (35%)
Patient Received Result	516 (54%)	261 (86%)	1223 (67%)	220 (61%)	2220 (64%)
Patient Received VIA	430 (83%)	210 (80%)	767 (63%)	1223*	2630*
VIA-positive	81 (19%)	104 (50%)	163 (21%)	232 (19%)	580 (22%)
Received Treatment	65 (80%)	104 (100%)	120 (74%)	208 (90%)	497 (86%)
VIA-suspected of cancer	7 (2%)	0 (0%)	14 (2%)	9 (1%)	30 (1%)
Patient Referred	4 (57%)	NA	14 (100%)	8 (89%)	26 (87%)

*In Zimbabwe, 1067 women received VIA that did not first receive their result; they are added back into the cascade here.

Table 1: HPV testing and treatment cascade among women living with HIV

- 64% of HPV-positive women received their result (median time to result: 34 days, interquartile range: 7-64)
- In Zimbabwe, 1,067 women received VIA on the same day as their HPV sample collection; among the other women who received HPV results first, linkage to VIA was 70%.
- Among all women who received VIA, 580 (22%) were VIA-positive and among those 86% received treatment (82% on same-day as VIA). 30 (1%) were suspected of cancer and of those 87% had a documented referral for tertiary care.

Country-specific results:

- Malawi was able to achieve same-day turnaround times from sample collection to result receipt by patient for 32% of women at hub sites.
- In Uganda, 53% of the HPV-positive women tested at centralized laboratory received VIA versus 69% of women tested on near-POC devices (p=0.13).
- Nigeria was able to treat 100% of women found to be VIA-positive.

HPV testing in public health facilities in low- and middle-income countries is **feasible** and with proper systems in place a promising model for cervical cancer screening programs.

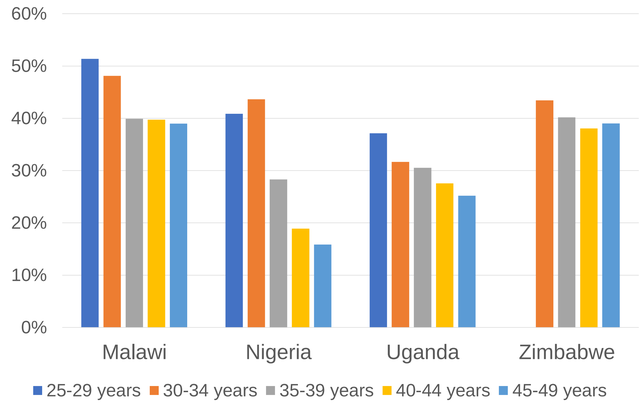


Figure 2. HPV prevalence by age group and country

CONCLUSIONS

- Cervical cancer screening with HPV testing was feasible across the four pilot countries in public health settings.
- 64% of HPV positive results were returned to patients which highlights need for strengthening of clinic processes.
  - Poor results delivery may also be due to disruption in care and health seeking behavior due to COVID-19 and corresponding mitigation strategies such as lockdowns in countries.
- 86% of HPV-positive/VIA-positive women received appropriate clinical action with the majority receiving same-day treatment.
- With proper systems in place, use of HPV testing for cervical cancer screening program as recommended by WHO is a promising model in low- and middle-income countries.

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