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**Elizabeth Glaser
Pediatric AIDS Foundation**
Fighting for an AIDS-free generation

Implementation of Cervical Cancer Prevention, Screening, and Management Programming Across Select EGPAF- Supported Countries

Spotlighting Lesotho

Contacts:

Oluwasanmi Akintade - oakintade@pedaids.org; Aida Yemane Berhan - aberhan@pedaids.org;
Allan Mayi – amayi@pedaids.org; Puseletso Maja – pmaja@pedaids.org;
Cosima Lenz – clenz@pedaids.org

Cover Photo: Members of the EGPAF Team at the Senkatana Clinic in Lesotho.

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Cervical cancer is one of the leading cancers among women globally, with an estimated 604,000 new cases occurring in 2020.¹ More than 95% of cervical cancers are caused by the human papillomavirus (HPV). There are over 200 related viruses among HPVs, with HPV type 16 and 18 causing about 70% of cervical cancers. Sexually transmitted HPV can infect both men and women, and high-risk, persistent HPV infections can lead to HPV-caused cancers, including cervical cancer.

Low- and middle-income countries account for 90% of deaths resulting from cervical cancer. Women living with HIV (WLHIV), in particular, are six times more likely to develop cervical cancer when compared to women not living with HIV. Globally, an estimated 6% of women with cervical cancer live with HIV, and a little under 5% of all cervical cancer cases are attributed to HIV.² Globally, a strategy has been developed highlighting cervical cancer as a public health threat and to spur action to acceleration elimination.³

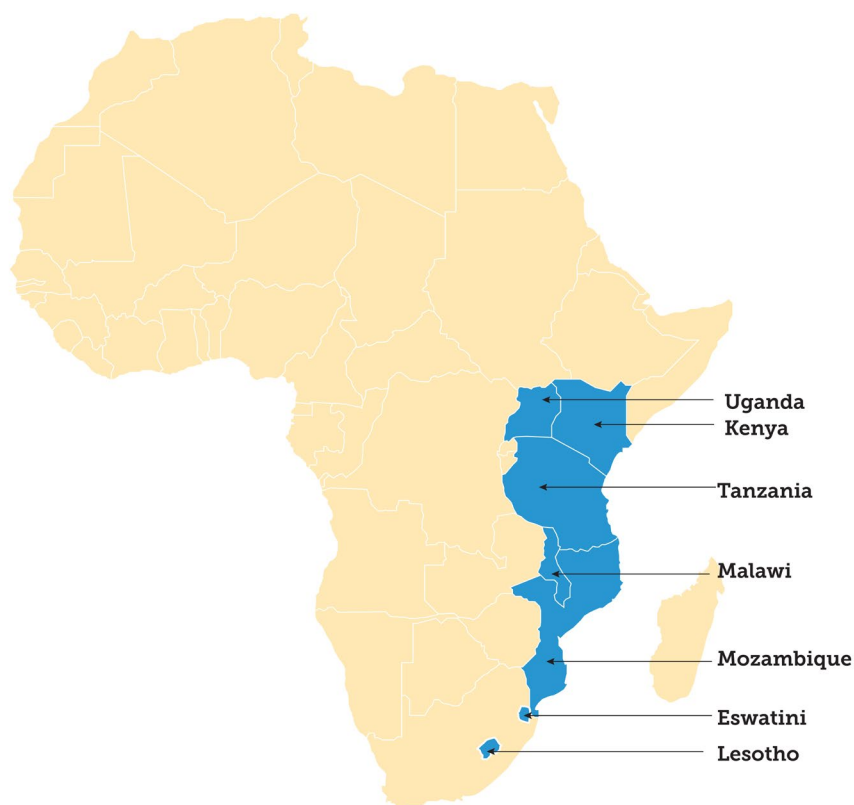
Comprehensive cervical cancer control comprises of various levels of prevention and management. This includes primary prevention, such as provision of the HPV vaccination; secondary prevention, including screening and treatment of pre-cancerous lesions identified; and tertiary prevention, which includes diagnosis and treatment of invasive cervical cancer, if detected, and hospice care. Effective primary prevention has the capacity to prevent most cervical cancer cases. When detected in the early stages, cervical cancer is one of the most successfully treatable forms of cancer.

EGPAF's Engagement in Cervical Cancer Programming

The Elizabeth Glaser Pediatric AIDS Foundation (EGPAF) currently implements comprehensive cervical cancer programming in seven countries at supported facilities in Eswatini, Kenya, Lesotho, Malawi, Mozambique, Tanzania, and Uganda with additional programming across other countries.

Cervical cancer programming is implemented and integrated to various degrees across EGPAF's country programming.

The scope of services in each country ensures provision of support for implementation of screening, diagnosis, management, and prevention of cervical cancer and integration into HIV programming infrastructure. A critical aspect of support is the facilitation and capacity building of a knowledgeable and competent cadre of providers at supported sites as well as the introduction and utilization of relevant technologies and equipment.



1 Sung H, Ferlay J, Siegel RL, Laversanne M, Soerjomataram I, Jemal A, et al. Global cancer statistics 2020: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *CA Cancer J Clin.* 2021;71:209–49. doi:10.3322/caac.21660

2 [https://www.thelancet.com/journals/langlo/article/PIIS2214-109X\(20\)30459-9/fulltext#:~:text=Women%20living%20with%20HIV%20have%20a%20substantially%20increased%20risk%20for,cancer%20are%20attributable%20to%20HIV.](https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(20)30459-9/fulltext#:~:text=Women%20living%20with%20HIV%20have%20a%20substantially%20increased%20risk%20for,cancer%20are%20attributable%20to%20HIV.)

3 <https://www.who.int/publications/i/item/9789240014107>

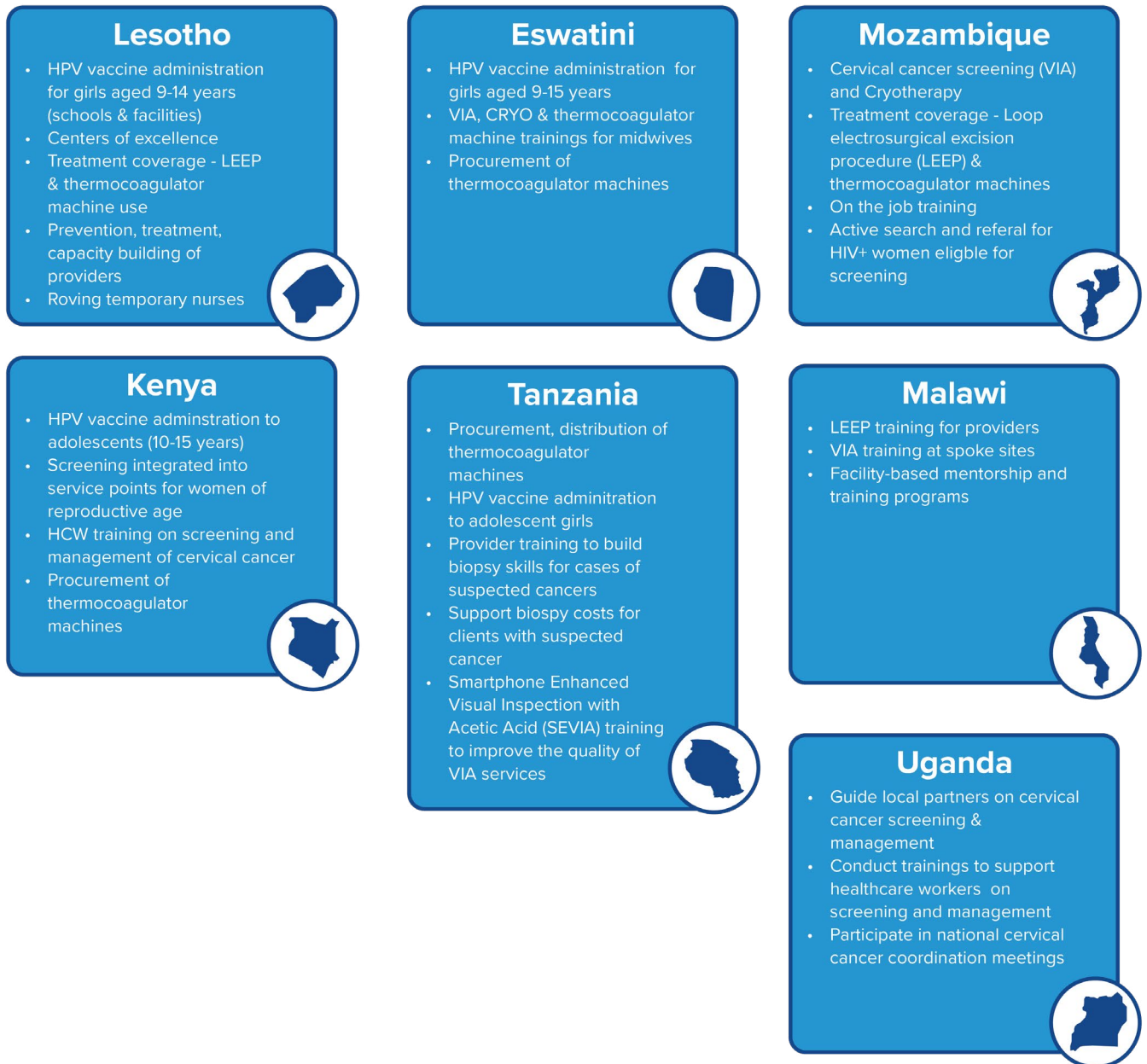


Figure 1: Cervical cancer programming across EGPAF-supported country programs

In 2021, 181,349 women received screening for cervical cancer across six of EGPAF’s country programs, from which data is available (Eswatini, Kenya, Lesotho, Malawi, Mozambique, Tanzania). Of those screened, 4% (n=7,148) of women were positive, and 0.5% (n=915) had lesions suspected to be cancerous — those with lesions were referred for appropriate management and care. From October to March of 2022, over 85,000 WLHIV were screened for cervical cancer across the countries, with 6% receiving a positive result.

Figure two illustrates the screening rate trend over consecutive quarters across EGPAF countries. The results show increases across each country as of March 2019, with inflections across time. Figure three displays the results of cervical cancer screening over time across six of EGPAF’s country programs.

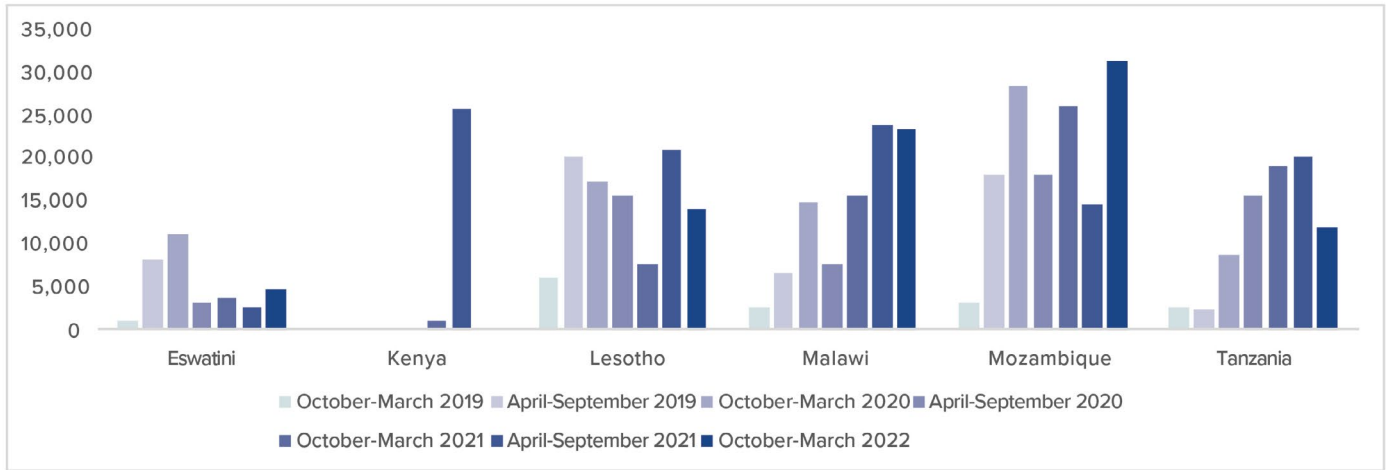


Figure 2: Cervical cancer screening across six of EGPAF's country programs over time

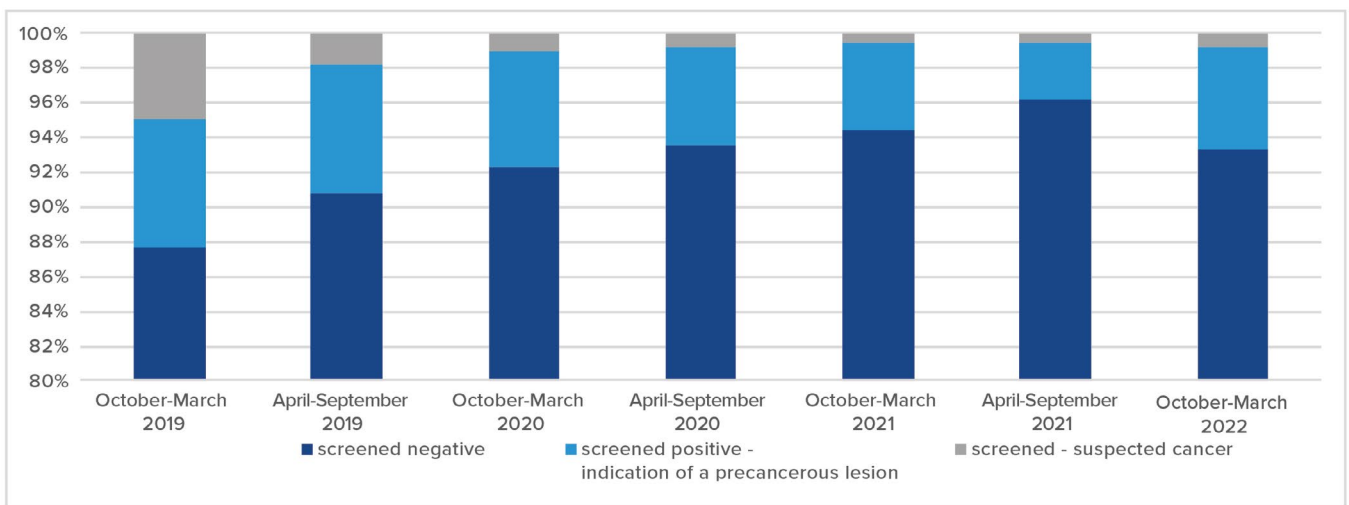


Figure 3: Overall cervical cancer screening results from six of EGPAF's country programs over time

Addressing Cervical Cancer at EGPAF in Lesotho

Lesotho has one of the highest estimated cervical cancer incidence rates in the world. In 2020, the estimated crude incidence per 100,000 women was 49.9.⁴ EGPAF in Lesotho has been implementing cervical cancer programming since 2013 — in partnership with the Ministry of Health (MOH) — focused on prevention, screening, diagnosis, treatment, and management of cervical cancer among women. In partnership with the MOH, EGPAF in Lesotho established and continues to support Senkatana as the national training center for cervical cancer prevention, screening, and treatment.

In Lesotho, screening is provided in all 174 supported public health facilities across the ten districts. All facilities have thermocoagulators with Loop Electrosurgical Excision Procedure (LEEP) services — available methods for treating precancers — at all district hospitals, including Senkatana, Queen Elizabeth II, Mafeteng, Berea, Motebang, Health Division Thaba Tseka, Machabeng, Quthing, and Ntsekhe Hospitals. Maseru remains the largest district with two LEEP centers. For women who receive a result indicating a suspicion of cervical cancer, biopsies are taken for histology and any confirmations are referred to a tertiary institution in South Africa for management.

EGPAF Lesotho implements comprehensive cervical cancer prevention in collaboration with civil society organizations that work across facility and community levels to build knowledge, demand, and utilization of services. Lesotho introduced HPV vaccinations in 2022 for children and young adolescents between the ages of 9-14 years to broaden prevention efforts. Lesotho has piloted and plans to scale-up the screen-triage-treat approach in Maseru and Leribe with the use of HPV testing, leveraging on the Gene Xpert machines in-country. The HPV DNA test utilizing the GeneXpert is a qualitative assessment to measures all HPV genotypes, specifically indicating the identification of the 16 or 18 genotypes for an individual sample. The screen-triage-treat method is recommended by the World Health Organization, where eligible women are offered an HPV DNA test followed by visual inspection with acetic acid (VIA). For women receiving a positive diagnosis of HPV type 16 or 18, referrals and cases are managed accordingly.

Box 1. Strategies Implemented by EGPAF in Lesotho

Capacity building and health system strengthening

- Comprehensive & refresher trainings on screening, diagnosis, referral to health providers (physicians, nurses, counselors)
- Physicians trained in treatment of pre-cancer of the cervix - then deployed to high-volume sites
- Ongoing mentoring and supportive supervision will ensure quality service delivery
- Trained nurses clinically attached to the district hospitals for practice and coaching, based on need
- Partner with private practitioners to expand and enhance cervical cancer screening services in private clinics
- Use of mHealth/information technology systems to support diagnosis of cervical cancer lesions via medical images and case discussion

⁴ https://cdn.who.int/media/docs/default-source/country-profiles/cervical-cancer/cervical-cancer-iso-2021-country-profile-en.pdf?sfvrsn=8cdfb-59f_33&download=true

Quality improvement

- Ongoing mentoring and supportive supervision will ensure quality service delivery
- Continued liaising between sexual and reproductive (SRH) teams to ensure suitable stock of supplies are available
- Implementation of corrective strategies identified by quality improvement teams from highlighted challenges
- Use of appointment systems at high volume facilities of women on ART to ensure clinic visits
- Utilization of registers and reporting forms to allow for ongoing data monitoring
- Weekly review meetings to discuss trends with district teams
- WhatsApp groups with district and MOH staff to continue to advocate for prioritizing cervical cancer screening
- An audit to determine where SRH nurses are currently stationed and identify need
- Engage with IT to operationalize the use of EVA cameras, holding regular demonstrations for site teams

Ensure availability and use of equipment and supplies

- Procure and facilitate availability of relevant equipment - colposcopes, LEEP machines, and cold coagulation units - to facilitate screening for cervical cancer
- LEEP centers
- Thermocoagulation offered in all selected sites as treatment methods for precancerous lesions of the cervix

Demand creation

- Media education and training on the importance of cervical cancer elimination, community mobilization, and use of clinical literacy materials in the community for women
- Mobilize underserved populations including female sex workers, factory workers for cervical cancer screening
- Use of invitation slips to promote availability and increase uptake of screening services

Integration into HIV services

- Integrate cervical cancer screening into ART corners and MNCH clinics and train HCWs to introduce it as part of routine antenatal care (ANC), postnatal care (PNC), and HIV care per national guidelines
- Community and facility campaigns for women on 3-6 multi-month dispensation (MMD) of ART, calling eligible women to come for screening at facility and providing transport reimbursement
- Leverage project resources to implement HPV testing among women on ART for whom VIA is not suitable and do not have access to Pap smears, using GeneXpert
- Documentation of screening in ART cards for accurate monitoring via CACX stamps

Outreach for service delivery

- Conduct targeted outreaches to support some high and medium-volume sites by having outreach teams
- For identified sites with unmet needs employ roving temporary SRH nurses to provide cervical cancer screening and capacitate site level nurses on use of thermocoagulators
- Conduct community outreaches including at factory workplaces for demand creation of cervical cancer screening services
- Collaborate with community based partners (LENASO) to mobilize women in community ART groups to book appointments for screening

Treatment & linkage

- Phone calls and SMS to identify and connect with clients to come for treatment
- Transportation reimbursement for women in need of treatment to reduce barrier to access and utilization

Reach, Scale, and Impact of Cervical Cancer Programming in Lesotho

Through implementation of a diverse set of strategies (Box 1), EGPAF in Lesotho is able to robustly support screening, diagnosis, and management of precancerous lesions among women across the country. Despite two COVID-19 lockdowns, as well as significant programmatic shifts that occurred between October 2019 and June 2021, EGPAF Lesotho worked to continue ensuring access and utilization of screening and treatment for cervical cancer.

Figure four outlines the monthly trends of cervical cancer screening conducted from October 2018 to March 2022. Over the 41-month period, over 98,000 WLHIV were screened for cervical cancer at EGPAF-supported sites. The dips and increases evident in the figure reflect various occurrences that impacted health seeking and utilization. These include holiday festivities (October-December 2019); COVID-19 lockdowns (March-April 2020 and June-July 2020); the absence of SRH nurses at facilities (October 2020); and the re-deployment of temporary SRH nurses (February 2021). Currently, 174 EGPAF-supported facilities implement screening for cervical cancer across 10 districts, with scaling across program sites still a priority.

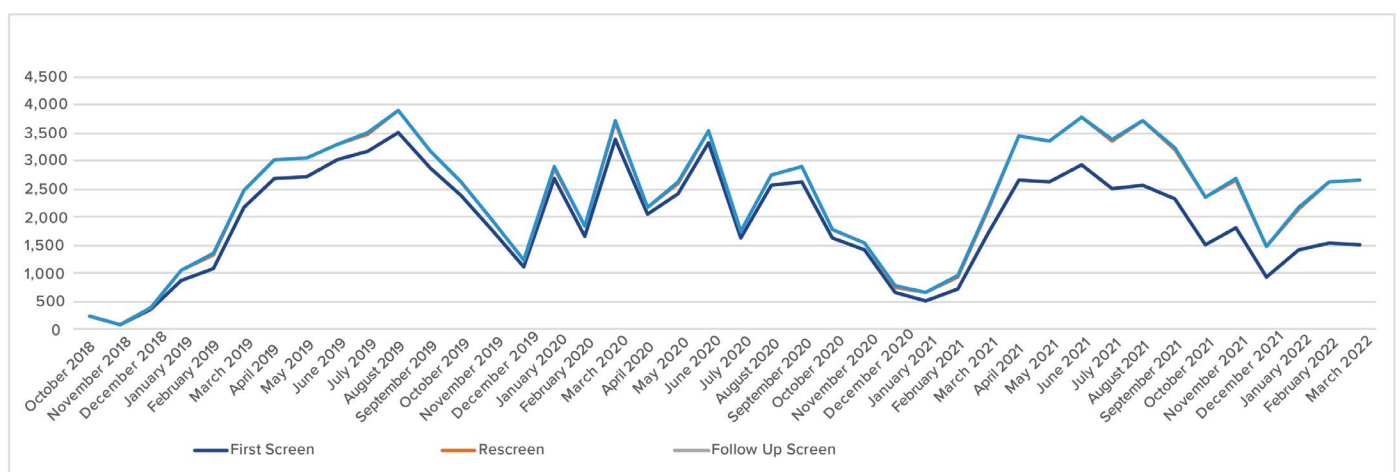


Figure 4. Monthly cervical cancer screening trends from October 2019 to March 2022 in Lesotho

Between October 2018 to March 2022, the average cancer screening positivity across supported sites in Lesotho was 7.6% among WLHIV who were screened and received a result. Figure 5 depicts the results of cervical cancer screening over time. The positivity among WLHIV screened varied from a high of 14.5% (359/2481) in March 2019 to a low of 2.7% (71/2635) in February 2022.

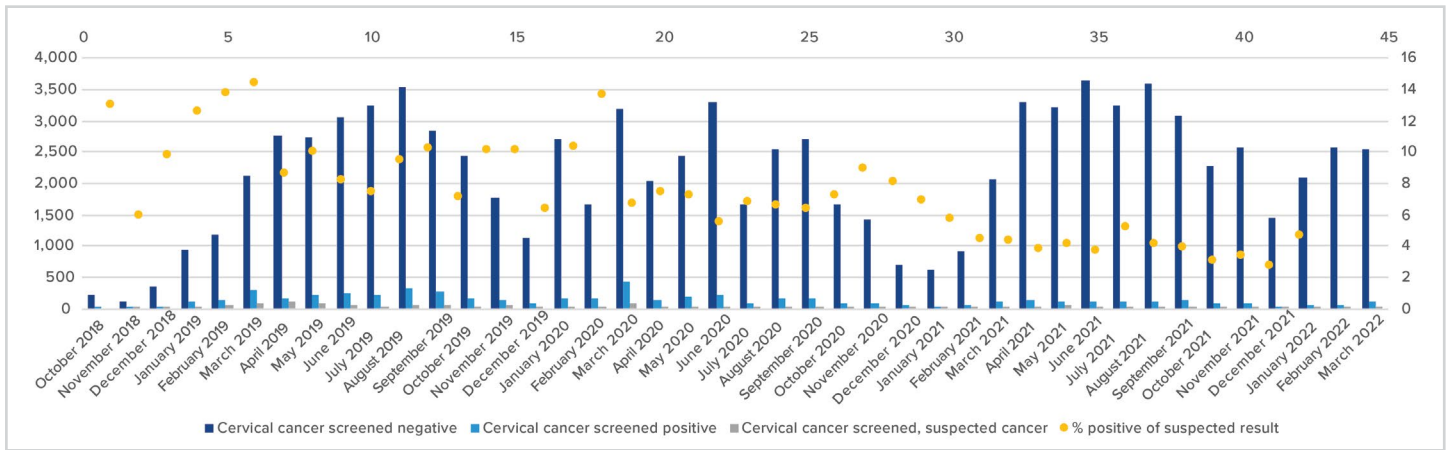


Figure 5. Cervical cancer screening results among WLHIV in Lesotho from October 2018 to March 2022

Referral and utilization of appropriate treatment is essential for timely and successful management of precancerous or cancerous lesions among women with positive or suspected cases. The cervical cancer screening and treatment cascade for Lesotho over a 12-month period is shown in Figure 6. Between April 2021 and March 2022, the overall positivity among approximately 35,000 WLHIV screened for cervical cancer was 4%, with 70.5% receiving treatment. The percent of women who received treatment based on a positive or suspected result ranged from 54.3% to 129.23%, with referrals from outside the Maseru district contributing to surpassing the 100% threshold.

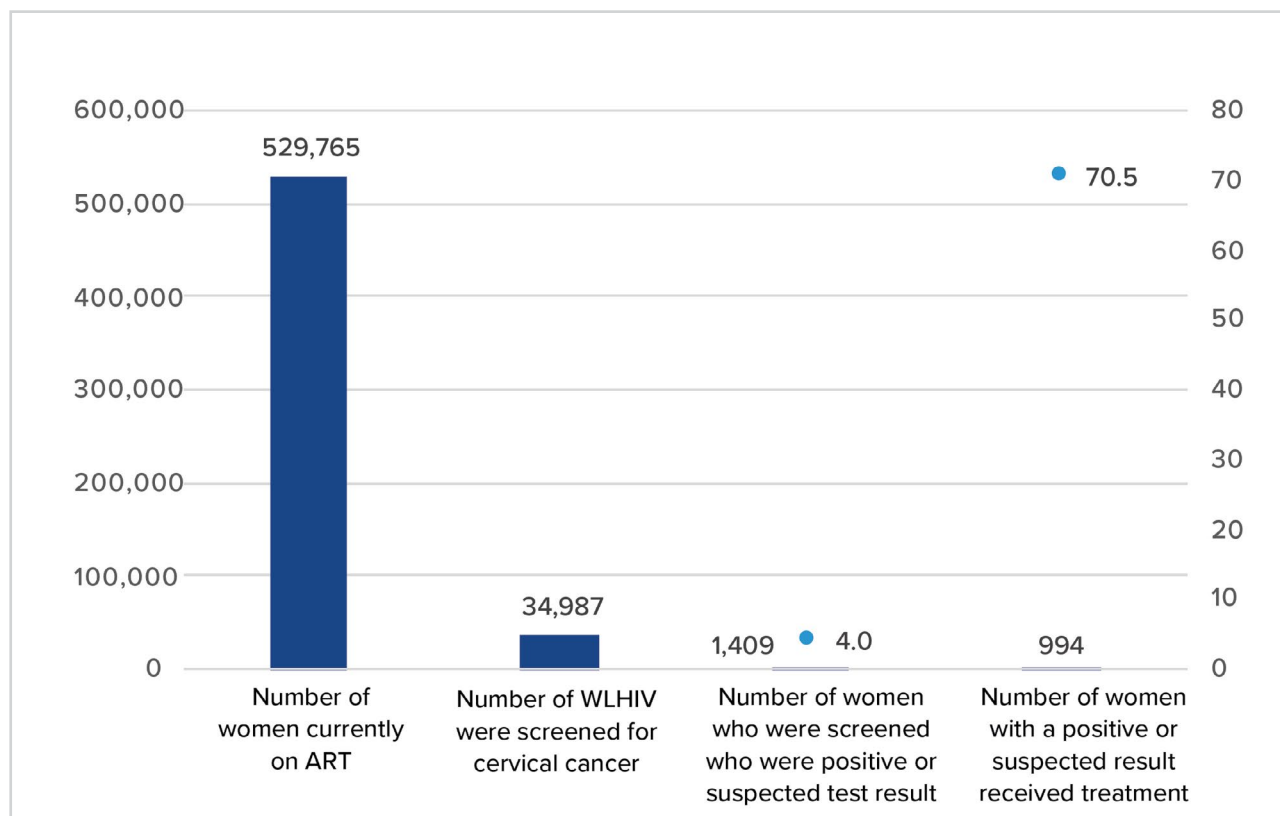


Figure 6. Cervical cancer cascade among WLHIV 15+ years in Lesotho over 12 months (April 2021-March 2022)

Between January and March 2022, over 91% of women with a positive result received appropriate treatment. Thermocoagulation, LEEP, and cryotherapy are the available methods for treating precancers. However, since 2020, the main treatment modalities have been thermocoagulation and LEEP services. Figure 7 illustrates in more depth the frequency at which the three types of treatment were employed over time. There is an increasing trend in the use of LEEP: 68.4% of women on treatment received LEEP over the last 12 months compared to 31.6% who received thermocoagulation. As depicted in the graph, cryotherapy was completed replaced by 2019 by thermocoagulation and LEEP. An upward trend in treatment coverage is expected to continue due to procurement of thermocoagulation machines, capacity building across sites, and scaling of strategies in the programs [Box 1].

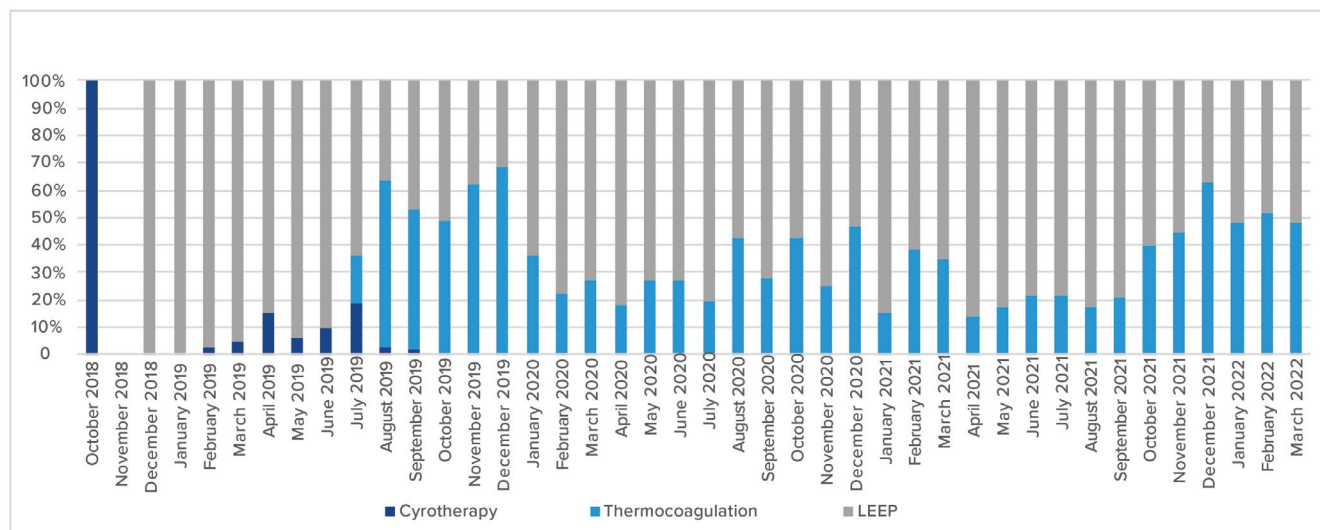


Figure 7. Cervical cancer treatment trends over time among WLHIV who received a positive or suspected result after screening

Lessons and Recommendations

Through the implementation of cervical cancer programming across various EGPAF-supported countries, several lessons and practices inform current and future programming.

- The persistence of myths and misconceptions surrounding cervical cancer hinders timely access and uptake of services
 - ▶ Health education, community sensitization, and demand creation are critical to address existing misconceptions, building knowledge, and increasing timely screening for early detection
- There is low demand and knowledge of prevention and diagnostic services
 - ▶ Community-based demand creation through media and mobilization activities are needed to increase awareness and utilization of screening
 - ▶ Leveraging active listing, searching, and identification of eligible women can assist in the completion of referrals to cervical cancer screening
- The cost of treatment and utilization of services poses significant barriers for those with suspected and confirmed cancer cases
 - ▶ Offer waivers for cost of treatment with support from the MOH
 - ▶ Provide transport reimbursements to facilitate access and uptake of treatment
 - ▶ Use WhatsApp to provide feedback to women treated by health facilities
- Collaboration with the MOH and district teams is needed to ensure streamlined and synchronous prioritization of scale up of screening and treatment

- Align MMD of ARVs for women with cervical cancer follow up appointments to avoid unnecessary additional hospital visits
- Integrate mechanisms for documentation of cervical cancer screening, treatment and follow-up in existing records, including antiretroviral therapy cards

Conclusion

Cervical cancer remains a significant health threat, particularly for WLHIV. A multi-disciplinary, systemic, and integrated approach is needed to ensure access to prevention, diagnosis, and management of this disease. The repercussions for not prioritizing this could result in an estimated doubling of the existing half a million cases and 250,000 deaths annually by 2035.⁵

⁵ <https://www.unaids.org/en/resources/presscentre/featurestories/2018/october/cervical-cancer-and-hiv#:~:text=Cervical%20cancer%20is%20an%20AIDS,to%20develop%20invasive%20cervical%20cancer>.

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