

CASE STUDY:

Preventing cervical cancer among women living with HIV in Zambia

Project Concern International (PCI) first began addressing the connection between cervical cancer and HIV in Zambia in 2011. Recognizing that women living with HIV are particularly vulnerable to cervical cancer because of their compromised immune systems, especially without early access to HIV treatment,¹ PCI began its program by offering integrated mobile cervical cancer screening and HIV testing. Women with precancerous lesions were provided or linked to treatment, and those who

tested positive for HIV were linked to antiretroviral therapy (ART) services.

Over time, though, the cervical cancer health policy and technology landscape in Zambia changed. For example, policymakers and donors took the initiative to scale up access to cervical cancer prevention services—making Zambia a leader on this issue among African countries—and target HIV-positive women for screening. The government also laid the groundwork for national rollout of the vaccine against human papillomavirus (HPV), the virus that causes most cases of cervical cancer. Meanwhile, health service providers gained access to new tools for detecting and treating precancerous lesions.

PCI successfully adapted to the new circumstances and priorities. Today, PCI offers cervical cancer services for clients on ART, contributing to Zambia's strategy to reduce cervical cancer mortality by 25% by 2025.² This will help move Zambia toward the global goal of cervical cancer elimination.³



Health care providers discuss an image of a patient's cervix

¹ Rohner, Eliane et al. Cervical cancer risk in women living with HIV across four continents: A multicohort study. *International Journal of Cancer*. 19 June 2019. <https://onlinelibrary.wiley.com/doi/full/10.1002/ijc.32260>

² Republic of Zambia Ministry of Health. National Cancer Control Strategic Plan 2016-2021. <https://www.iccp-portal.org/system/files/plans/NCCSP%20Final%20Version%20Zambia.pdf>

³ Adhanom Ghebreyesus, Tedros. Cervical Cancer: An NCD We Can Overcome. Speech at Intercontinental Hotel, Geneva. 19 May 2018. https://www.who.int/reproductivehealth/DG_Call-to-Action.pdf?ua=1

PCI's Model

PCI is an innovative global development organization that works toward meaningful and measurable change in the lives of women and girls, and cervical cancer prevention, treatment, and referral are among PCI's lifesaving health interventions.

Building on its experience providing screen-and-treat services to almost 22,000 Zambian women between 2011 and October 2018, PCI had a running start for its new model targeting women on HIV treatment, starting in 2019. The work is currently funded by the U.S.

government's President's Emergency Fund for AIDS Relief (PEPFAR) and the U.S Department of Defense HIV Prevention Program (DHAPP).

The frontline health service providers in PCI's model are members of the Zambia Defense Forces (ZDF). PCI strengthens the capacity of ZDF professionals to provide quality services by offering in-service training, developing tools such as guidelines and standard operating procedures, and providing mentoring and technical support.

PCI designed its new model to address the specific needs of its target population of women living with HIV, as it has since 2011. Under its current model, the mobile clinic takes place in a health center, with PCI-trained providers traveling to geographically isolated ART and Maternal, Neonatal, and Child Health (MNCH) clinics that otherwise are not staffed and equipped to provide cervical cancer screening. At these clinics, PCI-trained ZDF nurses provide visual inspection with acetic acid (VIA), using a vinegar solution to highlight any precancerous



A Zambia Defense Forces nurse staffs PCI's mobile service unit

lesions in the cervix.⁴ Following the protocols of "screen-and-treat," any precancerous lesions are excised at the time of discovery, either onsite by the nurses or by the mobile unit's doctor at a nearby hospital. PCI prioritizes the implementation of services in regions with high incidences of cervical cancer and HIV, reviewing program trend data every quarter and updating its work to reflect changing epidemiology. In a year, the mobile unit provides services at 20 clinics.

Despite significant progress against HIV and AIDS over the past two decades, an estimated 630,000 Zambian women are currently living with HIV.⁵ And PCI has found that the prevalence of cervical precancerous lesions in HIV-positive women is more than three times higher than in their HIV-negative peers in Zambia,⁶ so it is unsurprising that cervical cancer is the most common and deadly form of cancer in Zambia. An estimated 2,994 Zambian women

⁴ In line with recently adopted national HPV testing guidelines, PCI will integrate HPV testing with VIA triage into its screening program in FY2020.

⁵ Joint United Nations Programme on HIV/AIDS (UNAIDS). UNAIDS Data 2018. https://www.unaids.org/sites/default/files/media_asset/unaid-data-2018_en.pdf

⁶ Grulich AE, van Leeuwen MT, Falster MO, Vajdic CM. Incidence of Cancers in People with HIV/AIDS Compared with Immunosuppressed Transplant Recipients: A Meta-Analysis. The Lancet. 2007; 370(9581): 59-67. [http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(07\)61050-2/abstract](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(07)61050-2/abstract)

⁷ International Agency for Research on Cancer. GLOBOCAN 2018. <http://gco.iarc.fr/today/data/factsheets/populations/894-zambia-fact-sheets.pdf>

Challenges

The Zambian government has prioritized cervical cancer and is working to scale up cervical cancer prevention via both HPV vaccination and screen-and-treat services. PCI's screen-and-treat services for women on ART are addressing a particularly vulnerable population, and consequently having a large health impact.

However, PCI found that almost 3% of its HIV-negative clients from 2011-18 had cervical precancer, meaning that additional funding is needed to scale up services for Zambian women who do not have HIV. The need is especially great in peri-urban and rural areas, where primary health care providers frequently lack the resources to offer cervical cancer services. In some locations, PCI can refer HIV-negative women to facilities where the Global Fund supports cervical cancer services for all women, regardless of their HIV status.

Another challenge, not unique to Zambia, is that myths and misconceptions about cervical cancer screening diminish uptake of services. There are pervasive, inaccurate myths about pelvic exams and cervical cancer that make women afraid to come forward for screening. PCI contributes to dispelling myths and misconceptions with strong and extensive community mobilization campaigns to educate the population and address concerns.

were diagnosed with cervical cancer in 2018, and the disease caused 1,839 deaths.⁷

PCI's efforts to address this dual disease burden, across all the 10 provinces of Zambia, have been successful because they reflect the constraints and opportunities inherent in the low-resource, high-disease-burden setting, and because PCI works closely with government representatives at multiple levels, to support national and provincial priorities.

Given the shortage of physicians in Zambia, the PCI model uses trained nurse midwives to perform screen-and-treat, and "cervicography" telemedicine technology to supplement their expertise. During screenings, PCI's service providers can capture images of the cervix using a specialized digital camera, and share them with remotely located physicians, in real time, to support diagnoses and treatment recommendations. Cervicography also allows for continued quality assurance (QA), as images taken by the mobile unit providers are shared later with physician consultants in QA meetings coordinated by PCI. The consultants offer ongoing mentorship, training, and supportive supervision based on the images presented.

Even before the World Health Organization issued guidelines in July 2019 for the use of thermal ablation for precancerous cervical lesions, PCI offered thermal ablation as a screen-and-treat innovation. Thermal ablation overcomes some of the barriers to the alternative procedure—cryotherapy—in resource-constrained settings.

Conclusion: Tailoring Services to Fit the Circumstances

PCI's success in providing cervical cancer prevention services in Zambia is based on its strong and evolving understanding of both women's health needs and the impact-maximizing strategies of donors and policymakers. By targeting the most vulnerable women, offering them services in a way that meets their needs, and giving low-level health care workers the tools and training to provide high-quality services, PCI is a key player in moving toward eventual cervical cancer elimination in Zambia – a country that is setting an example for other African nations on scaling up access to cervical cancer interventions.