



PROJECT TITLE: Colposcopy Telemedicine partnership: Strengthening cervical cancer screening in Zambia



Figure 1: Left - University Teaching Hospital, Lusaka, Zambia. Right - the cervical cancer screening and treatment unit. This is the main referral center for Zambia and the headquarters of the Cervical Cancer Prevention Program in Zambia (CCPPZ).

Context

Nine out of ten cervical cancer deaths occur in low-resource settings despite the existence of cost-effective preventative management of the condition. This represents a major global health problem with inherent social, gender and economic inequities. In the absence of effective cancer treatment options, the prevention of cervical cancer is paramount. The Cervical Cancer Prevention Program in Zambia (CCPPZ) and Centre for Infectious Disease Research in Zambia (CIDRZ) have pioneered Cervical Cancer (CC) screening in Zambia, providing a regional model for integrating HIV care and CC screening. Their program is based on the simplest and least costly method of screening, Visual Inspection with Acetic Acid (VIA). However, despite the implementation of a national screening program in 2006, CC continues to have the highest mortality rate of all types of cancers in Zambia (Figure 2). More effective methods of screening are urgently required.

A high prevalence of HIV puts women at greater risk of developing cervical cancer. HIV-infected women are at higher risk of co-infection with multiple high-risk oncogenic HPV subtypes that cause cervical cancer, of persistent infection and progression to invasive cervical cancer. Furthermore, recent research from Zambia shows that VIA is less reliable for HIV-positive women, increasing the need for a better solution.

Colposcopy allows visualization of the cervix under magnification and examination with bright and green light filters. This examination is considered the gold standard for cervical screening and diagnosis. It is usually performed by specialist gynecologists and sometimes, specialized nurse colposcopists. Telemedicine allows this service to take place in remote settings without on-site specialists. We will incorporate colposcopy telemedicine into cervical cancer screening services offered to HIV-infected women attending an urban HIV clinic in Lusaka. We aim to improve detection of treatable precancerous lesions, using the portable colposcope. This will, in turn, promote capacity building and system strengthening, facilitating ongoing education for junior colposcopists as well as an ongoing support network with experts.

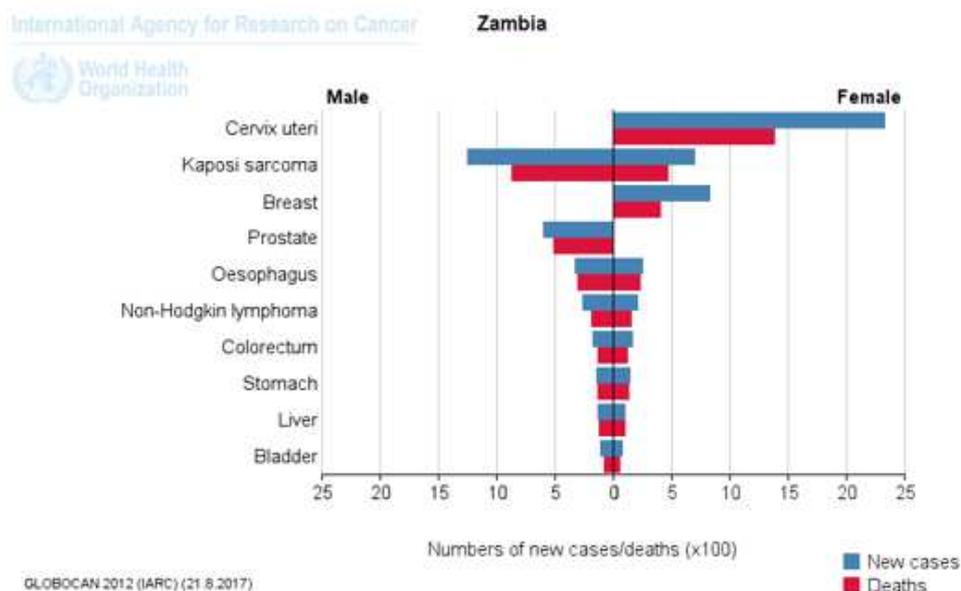


Figure 2: *Cancer burden in Zambia by sex (IARC 2012)* International Agency for Research on Cancer. GLOBOCAN 2012: estimated cancer incidence, mortality and prevalence by sex in Zambia in 2012. Lyon, France: IARC; 2013:<http://globocan.iarc.fr>

Project description

This project aims to establish improved and sustainable cervical cancer screening services. We will develop a nurse-led colposcopy service supported by colposcopy telemedicine. We will provide training in portable colposcopy and telemedicine, facilitate peer training and provide a multidisciplinary platform for further education with regular meetings at which cases can be discussed.



Figure 3 Mobile colposcope used with the mobile phone and telemedicine function.

Partnership

The **Centre for Infectious Disease Research in Zambia (CIDRZ, www.cidrz.org)** was founded in 2001 as a local, non-governmental health care organization. It now operates in approximately 600 health facilities (out of ~2,000) and is the largest non-profit healthcare research organization in Zambia. CIDRZ provides services in HIV/AIDS care, maternal and newborn health, family planning, TB, enteric diseases, and community outreach. With extensive technical and infrastructure support, CIDRZ facilitates ongoing healthcare, research, and training activities at provincial and national levels.

The **Cervical Cancer Prevention Program in Zambia (CCPPZ)** was set up in 2006 as a public-sector 'screen and treat' program and has served as a model for screening in the region. The National Cervical Cancer Screening Manual (NCCSM) of Zambia has served to model screening services in 13 neighboring African countries. At inception, services focused on HIV infected women, however, these expanded over time to serve women irrespective of HIV status. At present, CCPPZ in collaboration with CIDRZ, support 75 screening and treatment sites in all provinces in Zambia and it is the largest such program in SA [10].

Both organizations have strong supportive relationships the Ministry of Health (MoH) and are well funded, providing an excellent platform from which to build capacity.

The **Institute for Social and Preventive Medicine (ISPM, www.ispm.ch)** at the University of Bern specializes in public health research. It headquarters the International Epidemiology Databases to Evaluate AIDS Southern Africa (IeDEA-SA) (<https://www.iedea-sa.org/>), which is a National Institutes of Health (NIH)-funded research consortium established in 2005 with project partners in Zambia (amongst others CIDRZ), Malawi, Zimbabwe, Mozambique, Lesotho and South Africa.

Timeframe

From March 2018 to March 2019



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