Cervical Cancer Screening in Rural Tanzania; A Capacity Building Project

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Issue

- Tanzania has the 6\textsuperscript{th} highest rates of cervical cancer (CACX) with an incidence of 30.6 per 100,000 versus 9 per 100,000 in the US\textsuperscript{1}.
- According to WHO, CACX mortality rate is 52% globally with the majority of deaths occurring in LMIC.
- Limited access to screening in LMIC means that most CACX is diagnosed at a late stage when curative treatment is not available.
- Although nearly 81% of countries have CACX prevention strategies, only 48% have an operational plan that includes funding.
- Through an ongoing partnership based on capacity building between the University of Vermont (UVM) and Wasso District Hospital in Northern Tanzania, the region’s first CACX screening clinic was developed in 2015.
Background

In 2014, UVM global women’s health program director established a relationship with Wasso District Hospital. At this time a needs assessment was performed. The following year (2015) on a return visit, joint priority goals were established and plans for a longitudinal capacity building program were confirmed. Bilateral cultural exchanges took place where the USA providers received training on Tanzanian patient care and health care delivery. An in-country referral network was strengthened as all parties' involved received clear communication about the proposed cervical cancer screening project.

In 2016, 344 woman attended a pilot screening. Local doctors and nurses received training in the cervical cancer screening procedure. The pilot screen success resulted in a request from the Tanzanian partners to expand the geographical area of services in 2017 and infrastructure upgrades were identified. Language and differences in cultural expectations prompted a trilingual interpreter to be employed.

2017 scaled-up screening clinics were offered in three locations however with a less than expected number of attendees. Demographic data was collected.

![Image](image_url)

**Fig. 1**: Dr. Mallange and interpreter Kiaro Tendeu explain the process of cervical cancer screening and prevention to women at the Ololesokwan outreach clinic

**References**: University of Vermont - Bethel/US

Figure 1: .
Rationale

Cervical cancer (CACX) is preventable and treatable when detected early. Screening women is the best way to prevent CACX progressing to a life threatening disease. The Human Papillomavirus (HPV) is associated with most CACX however the HPV vaccine is not widely available in Tanzania.

Through our partnership, we have embarked on a capacity building project to increase CACX screening that is embedded in Tanzanian culture. We describe our capacity building program, the lessons learned and program improvements.
Description

Preventative Health Screening (PHS):

April, 2016: 344 women attended first PHS at Wasso Hospital

• Patients were unfamiliar with cervical exam. Maasai providers were largely underrepresented. Cultural and language barriers prevented comprehensive patient education.

April 2017: PHS expanded to include outreach locations in Endulen and Ololosokwan. A total of 359 women attended, less than anticipated.

• Maasai, Swahili, English interpreter employed who bridged cultural and language barriers. Improved patient communication and education.
• 12,000 TZ shilling fee for service was adopted without the knowledge of all partners. This issue highlights that communication between all invested partners is essential.

Fig. 5: Interpreter Kiaro Tendeu explains cervical cancer, HIV and breast cancer screening to a group of Maasai women at the Endulen clinic.

References: University of Vermont - Bethel/US

2017 Demographic Findings To Target Future Education and Outreach:
• 48% (N= 173) self-identified as Maasai. The Ngorongoro district is thought to have a majority of Maasai population estimated at 80%. Mobilization of women essential to reach population for PHS.
• > 2/3 of patients have some primary school education or less. Patient education must be appropriate for this comprehension level.

Measuring Capacity:

• Tanzanian staff who performed the 2016 PHS returned to run 2017 PHS. UVM attending physician evaluated technique and test interpretations. The ongoing commitment of staff to remain at Wasso is a crucial component to increasing capacity.
• PHS is now offered throughout the year. The Tanzanian trained staff independently screened 31 women at a new location (Ngarasero) and made two referrals. They were able to perform cryotherapy on positive screens.
• Open communication line between UVM attending and Wasso staff for consults and regular check-ins.
### Fig. 3: Patient Demographics collected during 2017 preventative health care clinic

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Methods

- We developed a longitudinal capacity building program divided into the following phases:

1. **Partnership development & augmentation of local infrastructure**
2. **Bilateral education exchange**: Convocation of key stakeholders from both the District and Referral Hospitals and professional development for Tanzanian partners. In-country working relationships strengthened. Tanzanian providers from the referral hospital demonstrated local customs and patient-provider exchanges.
3. **Preventative Health Screening Pilot**: CACX, breast cancer and HIV screening at the Wasso District Hospital. Women would rotate through screening stations: i) Women were tested for HIV and counselled about results with CTC officer. ii) Women received a breast exam and educated on how to perform self-breast examinations at home. Positive findings were referred to Mt. Meru Hospital. iii) Demographic information and CACX risk factors such as tobacco use and sexual history was obtained through private interview with tri-lingual interpreter. iv) Cervical examination and CACX screening education was provided and after verbal consent was obtained. CACX screening was performed using the visualization with acetic acid (VIA) method. Women with positive findings were then counseled and offered cryotherapy if eligible, otherwise they were referred to the government referral Hospital.
Fig. 2: UVM MS IV Alexandra Miller and Tanzanian nurse midwife Daudi, interpreting VIA during screening

References: University of Vermont - Bethel/US

4. **Program expansion:** Offered preventative health screening at additional locations within Wasso Hospital Regional Outreach Network. Additional infrastructure (cryotherapy device, CO2 Tanks) was purchased given success of pilot clinic. The addition of Lugol's iodine (VILI) if positive or indeterminate VIA was used to increased specificity of the visualization technique.

5. **Evaluation:** Language and cultural interpreter for predominantly traditional Maasai population essential. Target education for patient education level as indicated by demographic data collection.
Fig. 5: Interpreter Kiaro Tendeu explains cervical cancer, HIV and breast cancer screening to a group of Maasai women at the Endulen clinic.

**References:** University of Vermont - Bethel/US

6. **Future Directions:** Patient education and community outreach to increase utilization for preventative health available throughout Wasso Hospital's district.
Kinga ni njia sahihi ya kuwa na afya njema.

Shingo ya kizazi ni sehemu ya chini nyembamba mwishoni mwa kifuko cha uzazi inayounda mstari katikati ya mfuko wa uzazi na uke. Mfuko wa uzazi hutunuka wakati mtoto anazaliwa.

Kansa ya shingo ya kizazi huambukizwa na kirusi wakati wa kujamiana.

Kansa ya shingo ya kizazi inaweza kuwa ugonjwa hatarishi endapo hatua madhubuti haitachukuliwa mapema. Hata hivyo inaweza KUZUIWA na KUTIBIWA kama itagundulika MAPEMA.

Fig. 4: Cervical Cancer Patient and Provider Education Developed and Translated into Swahili

References: University of Vermont - Bethel/US
Conclusions

Fig. 6: Model For Bilateral Partnership and Capacity Building Program

References: University of Vermont - Bethel/US
- Tanzanian women need access to CACX and PHS services.
- Creating a PHS clinic embedded in local culture and collaborating with local trainers was a vital component to the expansion of services available to women.
- Clear communication is key to maintaining a partnership; preventing misunderstandings saves time, money and negative outcomes.
- Although preventing mortality and morbidity is our goal, for the patient who is accustomed to associating the hospital with death and severe illness, the real challenge lies in a shift of thinking from treatment to prevention.
- Community education and sensitization is paramount to having successful preventative programs and we must continue to work to cross over the language and cultural divide to ensure the best patient outcomes.

The Next Phase:
- Continue to demonstrate the value of PHS to the Tanzanian Ministry of Health to encourage government support.
- Develop a process to create visual aids for patient education
- Increase patient volume in PHS especially women of Maasai ethnicity. Continued work with our tri-lingual cultural interpreter will be crucial to achieve this objective.
• Remain flexible, incorporate input from the community and expand services to women that were commonly requested while maintaining our focus on creating capacity. An example of this is to support local women in making moon beads for natural family planning and fertility counseling.
References


Short Bio (max. 100 words or less)

Kiaro Tendeu, Daudi Pius and Emmanula Mallange MD. of Wasso Hospital, Tanzania, were invaluable to this project.

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Alexandra Miller will be graduating medical school in May, 2018 and is pursuing a residency in emergency medicine.