



TOGETHER

CASE STUDY:

Building capacity to address cervical cancer in Ghana

From his position on the staff of Catholic Hospital in Battor, in southeastern Ghana, Dr. Kofi Effah saw a clear problem: women were dying because too few medical providers in his country were trained and equipped to prevent cervical cancer. An estimated 2,119 women died from the disease in Ghana in 2018.¹

In response, since 2017, Dr. Effah and a dedicated team of nurses have trained health care providers and exposed them to innovative technologies to prevent cervical cancer, with the support of the Hospital Management Team at Catholic Hospital, Battor. With each new graduate of the program, a new community of women gains access to cervical cancer prevention and treatment services.

Dr. Effah's efforts demonstrate that investment in cervical cancer prevention training and innovative approaches can save lives.

Cervical Cancer Prevention and Training Centre

Catholic Hospital, Battor has offered cervical cancer screening since the 1970s. Today, around 2,000 women per year visit for cervical cancer prevention and treatment.

As of June 2019, The Cervical Cancer Prevention and Training Centre (CCPTC), <http://www.battorcervicalcentre.org> at Catholic Hospital had trained 81 health workers, under Dr. Effah's leadership. Trainees are doctors, nurses, and midwives from near and far—including 10 of Ghana's 16 regions, plus two nurses from Liberia enrolled in 2019—and from a full range of different health care settings: public, private, rural, and urban. Usually, trainees' employers pay their tuition.

At a minimum, trainees learn during the first two-week module how to test patients for the human papillomavirus (HPV) that causes most cases of cervical cancer, and how to perform



Dr. Effah with Nurse Trainers Ms. Ethel Tekpor and Ms. Comfort Wormenor at an outreach program in 2017

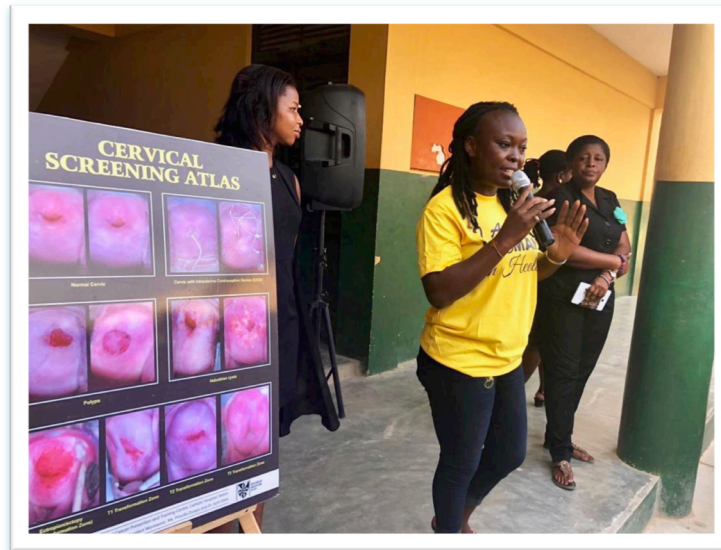
¹Globocan 2018: <http://gco.iarc.fr/today/data/factsheets/populations/288-ghana-fact-sheets.pdf>

“Visual Inspection with Acetic acid” (VIA) to detect pre-cancerous lesions. Module 1 costs about USD\$470. Advanced trainees learn to use colposcopes, and treat pre-cancerous lesions using cryotherapy and thermal coagulation, during the second two-week module, which costs around USD\$498. CCPTC offers training on all cervical cancer screening and treatment devices on the market, so trainees can choose among the options when they begin offering services in their communities.

During their training, CCPTC students screen and treat women for cervical cancer at Catholic Hospital, Battor, or in government-run community health care compounds. Usually they screen 40-100+ women per day, and provide immediate treatment for any pre-cancerous lesions they discover. This “screen-and-treat” service benefits both the trainees, who get hands-on experience, as well as communities whose members can access care at no cost, in line with CCPTC’s goal to reach poor women.

Putting training to work in communities

Graduates of CCPTC’s training report using their new knowledge and skills in various ways in their communities, all year round. Many of them have started ongoing screen-and-treat programs in their health care institutions, and have been active in educating community members about cervical cancer prevention.



Ms. Sarpong sought training at CCPTC “to help fellow women,” she said. “Cervical cancer is killing lots of women because most don’t know about it or have little knowledge” about the disease and how to prevent it.

Ms. Freda Agyemang Sarpong, for example, is a physician’s assistant who completed the CCPTC training in December 2017. She has conducted cervical cancer prevention education sessions for students, in addition to providing screening services at the clinic where she works in Kaneshie, Accra. She uses the EVA system to

screen women (see page 3), and refers positive cases to Catholic Hospital, Battor.

Ms. Edna Kueliho is a midwife in the Nkwanta South District of the Oti Region, a low-income, mostly agricultural district. Dr. Effah offered to train her while she was receiving other professional training at Catholic Hospital,

Battor, and she was eager to learn cervical cancer prevention skills. “I was always the first to be at the center” each day of the training, she recalled.

Prior to her CCPTC training, women seeking cervical cancer services in her community needed to travel long distances to facilities that provided the service. But following Ms. Kueliho’s graduation from CCPTC in July 2018, and with encouragement from Dr. Effah, the hospital where she works established a cervical cancer screening and prevention center, and began offering screening with VIA in September 2018. Seven months after that, she reported that she had not only screened 169 clients so far

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Harnessing Innovation: Mobile Colposcope Systems

Among the innovative tools that CCPTC trainees learn to use are mobile colposcopes, which are gaining traction in places like Ghana, because they address some of the challenges unique to low-resource settings.

Colposcopes are critical for effective VIA, allowing the provider to examine lesions visually to determine the best treatment, but stationary colposcopes are expensive, and cannot be easily moved around. In contrast, mobile colposcopes are affordable handheld devices that are easily transported to community locations where women receive screenings, as described by Ms. Ethel Tekpor, a CCPTC nurse.



One mobile model, called the EVA system, combines a cellphone, magnifying lens, and light source in a sturdy device. The phone captures and stores images of the cervix. With the EVA system, the medical provider who conducts a screening can share images with other providers offsite, during the screening or at any later time.

According to Dr. Effah, “the EVA system has revolutionized cervical screening in Ghana,” offering the following advantages:

- Gives clinicians confidence in diagnoses
- Enables offsite experts to direct procedures in real time if needed
- Frees medical doctors and specialists to care for more patients, because middle-level staff like nurses can use the mobile colposcope to follow up with high-risk, HPV-positive cases
- Motivates patients to follow up on positive results, because seeing photos of their own cervixes makes cervical cancer and pre-cancer tangible
- Permits quality assurance or research after screenings. “Each month, my team meets to look at the EVA system images of all the HPV-positive women we have screened,” Dr. Effah said, so that even if he was not physically present for the screening, he can identify any additional patients requiring follow-up. All high-risk, HPV-positive patients are triaged to colposcopy.

Revolutionary as the EVA system is for cervical screening in low-resource settings, it has the potential for even greater impact. MobileODT, the manufacturer of the EVA system, is among the pioneers of Automated Visual Evaluation (AVE), an artificial intelligence innovation that takes advantage of a vast database of images to improve diagnoses. When AVE becomes available to medical providers in Ghana, Dr. Effah believes it will ensure more women receive accurate diagnoses by “taking a load off clinicians, especially beginners” who are inexperienced at diagnosing precancerous lesions.



In May 2019, a charity called Phoenix Resource Centre Global Aid Ghana (PRCGA) donated EVA system mobile colposcopes and related equipment to four CCPTC graduates, including Ms. Kueliho (2nd from left).

using VIA, but also trained five midwives to screen under her supervision, and organized cervical cancer education programs in five churches, a school, a teacher's association, and the hospital where she works.

Building on Ghana's CHPS program

Dr. Effah's vision of reaching every Ghanaian woman with cervical cancer prevention services is premised on well-trained providers offering women services in their community, with tools appropriate for the setting. He is convinced that an existing system for primary health care delivery in Ghana can be leveraged for cervical cancer screening.

Ghana's Community-based Health Planning and Services (CHPS) program offers primary health care to underserved populations living in rural areas. It reaches people within their communities with locally relevant preventive health care services. But the decentralized model offers the basis for accomplishing more in the future, as Dr. Effah sees it.

To learn more about CCPTC's work in Ghana, visit <http://www.battorcervicalcentre.org>

"We in Battor are spearheading the use of CHPS in cervical cancer prevention," Dr. Effah said, by training community health officers to add cervical cancer screening to the services they can provide patients in local CHPS compounds and even in patients' homes. Community registries make it possible to identify all women who qualify for screening.

If Ghana's national health insurance policy is changed to cover cervical cancer screening, as Dr. Effah hopes, then CHPS will become an important means to offer services as part of an organized national cervical cancer prevention program. Unfortunately, according to Dr. Effah, there are currently "many women in poor communities who would wish to get screening but cannot pay."

Until it is covered by the national insurance, women who visit CCPTC choose the services they can afford, paying about USD\$4 for the most basic VIA screening, up to about USD\$41 for the most expensive screening service, which is an HPV test processed with a GeneXpert machine. Prices at CCPTC are often lower than at other facilities, because CCPTC uses funds raised by the staff to offset costs to patients.

Conclusion: Laying the Groundwork to Protect Every Woman

When there are gaps in a country's capacity to deliver cervical cancer services, as is often the case in low- or lower-middle-income countries like Ghana, some targeted investments can increase the number of women reached, strengthening the health system as a whole. Dr. Effah and his team are laying the groundwork for eventual country-wide cervical cancer prevention and treatment via the CHPS, by training health care workers and showing them how tools like mobile colposcopy can help them reach more patients and attain better outcomes for each patient.