

Canadian and Tanzanian researchers are developing smartphone technology to bring cervical cancer screening to remote areas.

Since its introduction in the 1950s, Pap tests have significantly reduced rates of cervical cancer in countries with broad screening programs. The tests are difficult to do in the developing world, though, due to a lack of labs and pathologists to read and process the tests. Another hurdle is that many women in poor countries simply don't live near medical facilities, so testing and, especially, follow-up exams are seldom practical. Over 80% of cervical cancers occur in the developing world, where the disease remains one of the leading causes of cancer-related deaths among women, so a simple, effective "on the spot" test is sorely needed. Enter the smartphones and a bit of ingenuity.

The Kilimanjaro Cervical Cancer Screening Project in Tanzania, led by principal investigator Karen Yeates, is utilizing smartphones and patient tracking apps to screen women for cervical cancer. Non-physician health workers use the cameras on their phones to take a snapshot of the cervix (known as cervicography) which is transmitted to a health center and reviewed by an expert. If cancerous areas are present, treatment instructions are transmitted back to the health care worker. The entire review process is done in minutes, and the quick diagnosis and treatment is a boon to women in remote areas for whom "come into the office in a week or two" isn't practical.

The project is being funded as one of Canada's Grand Challenges, a government-sponsored program that supports innovative "bold ideas" in science, technology, and business. For more on the project go to <http://www.grandchallenges.ca/grantee-stars/0109-01/>.