

New breast imaging algorithm brings breast cancer diagnosis and treatment to underserved area of Uganda

April 13 2013

Radiologists are a step closer to implementing a program in an underserved region of Uganda for diagnosing and treating women with palpable breast masses.

The program combines a unique diagnostic algorithm along with targeted [community outreach](#), said medical student Chris Duncan working with the organization Imaging the World. Imaging the World, a non-profit organization dedicated to bringing [diagnostic imaging](#) to underserved areas around the world, has multiple obstetrical imaging programs currently operating in Uganda and plans to expand both the obstetric imaging and [breast imaging](#) programs.

"We just returned from a trip to Kamuli, Uganda where we laid the groundwork for implementation of the diagnostic algorithm," said Mr. Duncan, a fourth year medical student at University of Vermont. "Our team met with local stakeholders, determined available treatments and identified potential barriers," he said. "The meetings helped ensure that we can create appropriate local resources prior to our program roll-out this summer," he said.

The diagnostic algorithm is designed to be simpler and more effective than the current course of breast cancer diagnosis and treatment for women in Uganda, a region where most [breast cancer patients](#) are diagnosed with late stage breast cancer, said Mr. Duncan.

The algorithm focuses on [breast ultrasound](#) as an initial [diagnostic tool](#) for evaluating palpable breast masses. The breast ultrasound exam is done by minimally trained personnel who follow a standardized scanning methodology. The [ultrasound images](#) are then compressed, uploaded to a server through a [cellular network](#), and interpreted at another location by an imaging expert. (Research continues in the U.S. to evaluate the quality of the images obtained using the algorithm, with preliminary results suggesting that the images are more than adequate for evaluating breast masses, said Mr. Duncan)

After the images are interpreted, the results are sent back to the clinic where the ultrasound was performed. If the results indicate the need for a biopsy, the patient is referred to the district referral hospital. "We have trained local surgeons to perform both fine-needle and core biopsies using ultrasound guidance," said Mr. Duncan. If the biopsy is positive for cancer, the patient is referred to the major tertiary referral hospital in the capital city for treatment. "We are hiring a patient care navigator to assist women in the complicated and daunting process of receiving [breast cancer](#) care," said Mr. Duncan. "We are also working on obtaining funding for a lodging area where the women can stay during their treatment period in the capital city," he said.

The recent trip also emphasized the need for patient education. There are some in the community that believe that cancer is contagious, that surgery spreads cancer throughout the body or that cancer is due to curses, evil spirits and various other supernatural etiologies. "We hope that our education campaign will help to eradicate these myths, opening the path to early diagnosis and effective care for these women," said Mr. Duncan.

The Uganda breast imaging program is being described in an electronic exhibit featured at the ARRS Annual Meeting in Washington, DC.

Provided by American Roentgen Ray Society

Citation: New breast imaging algorithm brings breast cancer diagnosis and treatment to underserved area of Uganda (2013, April 13) retrieved 7 May 2024 from <https://medicalxpress.com/news/2013-04-breast-imaging-algorithm-cancer-diagnosis.html>

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