

Dr. Susan Love Research Foundation Receives NIH Grant to Develop Portable Self-Reading Ultrasound for Breast Screening

Low-Cost Device to Triage Palpable Lumps Could Narrow the Breast Cancer Detection Gap in Developing Countries, Reduce Stress on Healthcare Delivery Systems

July 21, 2014 – Santa Monica, CA – Breast cancer is the leading cause of death and disability among women, especially young women, in low- and middle-income countries (LMIC). Survival rates in developing countries are less than half that of the United States mainly for lack of resources for diagnosis and treatment. The National Institutes of Health has awarded a nearly \$1 million grant to the Dr. Susan Love Research Foundation to continue development of a technology aimed at addressing this serious issue for women's health. The two-year UH2 Phase I exploratory cooperative agreement will support work on a portable self-reading ultrasound that can be used by local health aides to triage palpable breast lumps, enabling them to distinguish between those which are benign and those which might be malignant and should be biopsied.

"While screening has been the focus for diagnosis in western countries, in developing countries, breast cancer most commonly presents in women less than 50 years of age as a palpable lump," said Dr. Susan Love, chief visionary officer and the principal investigator on the grant. "The four common types of breast lumps in young women are distinguishable on ultrasound, with fewer than 25% representing malignancy."

The goal for the UH2 grant period is to develop a low-cost, self-reading ultrasound device by employing imaging enhancing algorithms and computer-aided detection and diagnosis (CAD), to distinguish between malignant palpable lumps and clearly benign lumps, such as cysts, fibroadenomas, and fibrocystic change. The user-friendly device will not require highly trained professional staff for operation, making it accessible to a broader range of LMIC health care facilities, and enabling those already-stressed healthcare systems to focus resources on the women most likely to benefit from their efforts.

Proven pattern recognition technology, novel algorithms for ultrasound image enhancement, and computer-aided detection and diagnosis will be combined with real-time information generated by the live ultrasound scans to determine the probability of malignancy. A clinical validation trial will be performed at county hospitals in Southern California to determine the sensitivity and specificity of the ultrasound device. The NIH will then assess the feasibility for transitioning the project to a UH3 Phase II grant, which would include a clinical trial in Jalisco, Mexico, to validate effectiveness, acceptability, and feasibility of the technology in a developing country.

The device development and clinical validations will be performed in close collaboration between breast cancer expert and surgeon Dr. Susan Love, and breast imaging radiologist and clinical trial expert Dr. Wendie Berg (University of Pittsburgh School of Medicine, Magee-Womens Hospital of UPMC), medical software product development and commercialization expert Christine Podilchuk, PhD (ClearView Diagnostics), and technology and commercialization expert Richard Mammone (ClearView Diagnostics/Rutgers, The State University of New Jersey). Mammone, who is a professor of electrical and computer engineering and a professor in the Rutgers Business School, invented the scanner technology and founded ClearView Diagnostics.

"Breast cancer is a global disease. We are excited to have the opportunity to create a new solution for the detection of breast cancer in low-and middle-income countries," said Heather Cooper Ortner, chief executive officer, Dr. Susan Love Research Foundation. "This project is another example of bringing the scientific and medical communities together to collaborate on innovative research that can have a significant impact on women around the world."

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About Dr. Susan Love Research Foundation

Dr. Susan Love Research Foundation is dedicated to achieving a future without breast cancer by engaging the public and the scientific communities in innovative research on cause and prevention. We do this through performing and facilitating innovative and collaborative research, translating science to engage the public as informed partners, and inspiring novel research.

Dr. Susan Love Research Foundation has received a 4-star Charity Navigator rating for three consecutive years, putting it in the top 12% of rated charities in terms of fiscal performance, accountability, and transparency. The Foundation is also a GuideStar Exchange Silver Level participant and a member of the Better Business Bureau Wise Giving Alliance.

Dr. Susan Love Research Foundation, and its more than 376,000 volunteers nationwide, invite you become part of a movement to engage the public in breast cancer research with the goal of eradicating the disease once and for all. To learn more and show your support, visit www.actwithlove.org.

About ClearView Diagnostics Inc.

ClearView Diagnostics Inc., a Rutgers University start-up company headquartered in Piscataway NJ, is committed to advancing the practice of medicine through transformative biomedical engineering and technology. Inspired by the need to eradicate breast cancer, our primary focus is on innovative image processing technology for early detection and accurate diagnosis of breast cancer to improve patient outcome and quality of life. Our goal is to provide improved and affordable healthcare to women everywhere.

For more information, visit www.clearviewdiagnosticsinc.com.

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