



## Behind the Science

### Dr. Lisa A. Newman, MD, MPH, FACS

*Komen grantee Dr. Lisa A. Newman, MD, MPH, FACS is Professor of Surgery and Director of the Breast Care Center for the University of Michigan in Ann Arbor, Michigan. This is her story.*

Breast cancer can change your life. It has definitely changed Komen grantee Dr. Lisa Newman. She has given the diagnosis of breast cancer too many times during her career as a breast cancer surgeon and has personally dealt with breast cancer risk herself. African Americans are woefully under-represented in the medical professions and so, lacking physician role models in her family, Dr. Newman's career interest was inspired by television. "My mother loved to watch the afternoon soap operas on TV, and her favorite was General Hospital. I used to watch it with her after school, thinking 'I want to be a doctor too some day'." Little did she know the exciting doors that would ultimately open for her. Today, Dr. Newman's work is devoted to conquering the most aggressive breast cancers, particularly in disparate and underserved populations.



Dr. Newman's exposure to breast cancer disparities began in the early 1990s, as she was just starting to practice medicine at the State University of New York Health Science Center at Brooklyn. In the course of her practice, she noted that African American women seemed to develop aggressive forms of breast cancer more often than other women. Since that time, these aggressive breast cancers have become known as triple negative (TNBC), because they lack the three receptors often targeted in other types of breast cancers. "But, one thing that we don't know is whether the TNBC we encounter in women of African ancestry represents the same subtype of TNBC in women of European ancestry," says Newman. She knew that she had to look at the bigger picture.



*Dr. Newman in the waiting room of the Oncology ward of the Komfo Anokye Teaching Hospital in Kumasi, Ghana. Most Ghanaian patients present with triple-negative breast*

In 2006, Dr. Newman began her first 5,600-mile journey from Detroit, Michigan to Ghana, a sub-Saharan country in Africa. There, she started an international collaboration between the University of Michigan in Ann Arbor, the Henry Ford Hospital in Detroit, and the Komfo Anokye Teaching Hospital (KATH) in Kumasi. The goal was to identify the genetic origins of TNBC and determine why it particularly affects women of African descent. Dr. Newman now travels to Ghana several times a year, joining the local oncology team, to evaluate and treat breast cancer patients at KATH. She and her international research team collect breast cancer tissue and DNA specimens for genetic studies. The samples are brought back to the US, to become part of the University of Michigan Multi-Ethnic Breast Registry, an invaluable resource for breast cancer researchers studying breast cancer disparities. Over the last few years, with the help of a Komen grant, Dr. Newman has added 600 Ghanaian breast cancer and normal tissue samples to this repository. This

program also features academic exchange, bringing contemporary breast oncology management tools to a country that possesses tragically limited medical resources, and providing US based training in advanced surgical, as well as pathology techniques, to the Ghanaian hospital staff. "It's challenging [to go to Ghana] because we're constantly trying to find the funds to keep up with the ever-increasing needs of this work, but these efforts are worth the search," says Newman of her travels.

Back at the University of Michigan, Dr. Newman works with her partners in medical oncology and pathology, including Komen Promise Grantee Dr. Max Wicha, to analyze the samples collected in Ghana. The goal of the analyses is to identify the genetic differences between African, African

American, and Caucasian women that may contribute to the disparate incidence of TNBC among different populations. Understanding these differences could enable doctors to better assess a women's risk of TNBC, and also help researchers identify new ways to treat TNBC, an aggressive disease with few effective treatment options. Using the registry samples, the University of Michigan team has found that a protein, called EZH2, is present at higher levels in invasive cancerous tissues from African women compared to Caucasian women. The results of this study, which were recently published in *Breast Cancer Research and Treatment*, suggest that EZH2 could be a new target for treating TNBC.

In addition to her research, Dr. Newman is also a mentor. Her research program regularly sponsors Ghanaian physicians to come visit the University of Michigan to become familiar with how breast cancer patient cases are managed in the US. The goal is for these young physicians to adapt and implement these methods to the health care system in Ghana. On one trip sponsored by her Komen grant in the summer of 2011—a few months after 11,000 Ghanaians participated in the first Susan G. Komen Ghana Race for the Cure—Dr. Newman worked with Ghanaian breast surgeon Dr. Evelyn Jigge, to perform the first sentinel lymph node biopsy ever performed at KATH. By successfully performing the biopsy, Dr. Newman said that this “patient’s care was clearly elevated way beyond what is generally available in Ghana - as a direct consequence of the international partnership supported by Komen.” The groundbreaking surgery was also very personal, because the patient was the mother of another Ghanaian physician, who participated in the University of Michigan exchange program just a few months earlier. Dr. Newman emphasizes that seeing the growth of a younger generation of physicians (both at the University of Michigan and in Ghana) committed to this international partnership has been particularly gratifying.



*Dr. Newman (on middle, right) during a Breast Cancer Tumor Board meeting in Kumasi, Ghana to discuss breast cancer cases management.*

To ensure that the international multidisciplinary breast cancer management discussions continue throughout the year, Dr. Newman and her team have launched a new web-based initiative that allows the oncology team (scientists, physicians, nurses, etc) in both the US and Ghana to connect face-to-face on a regularly scheduled basis for telemedicine tumor board meetings. Together, Dr. Newman's team in Michigan and Dr. Baffour Awuak's team in Kumasi discuss and plan the management options for Ghanaian breast cancer patients. “We are very excited with this newer work - communicating with our partners at KATH on a weekly basis to review patient care in real-time.” According to Dr. Newman, the partnership and Komen support are not only advancing research for a deadly type of breast cancer, but also helping to change the landscape of breast cancer management in Ghana. “Through our partnership between the University of Michigan and Komfo Anokye Teaching Hospital, we have been able to expand in a very exciting, very powerful manner - and most importantly, it has vastly improved the treatment of women with breast cancer in Ghana.”

Not only is Dr. Newman making waves in Ghana, her research and efforts to reduce breast cancer disparities have also been getting much recognition here in the US. She was featured on CNN's 2009 documentary “Black in America 2”, and last year, she was named one of the 2012 Michiganians of the Year. She was even called a “Breast Cancer Hero” in the October 2012 issue of Oprah Magazine. She joined Komen in September 2012 at the [Congressional Black Caucus Foundation Annual Legislative Conference](#), where she was invited to present her Komen-supported work to a broad spectrum of advocates, media representatives, and legislative leaders. In February 2013, Dr. Newman participated in [Komen's Global Women's Cancer Summit](#), using her own experience and research to give feedback on the most critical issues facing cancer science and technology in low- and middle-income nations.

Given the many fronts where Dr. Newman fights breast cancer, she has uniquely positioned herself to address the interests of global advocacy, improve breast health care in sub-Saharan Africa, and address breast cancer disparities here in the United States. “It's been very, very exciting,” says Newman, “thanks to the dollars that Susan G. Komen invested.”

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