

## Director of UCSD Moores Cancer Center recognizes Athena as a standard of care.

**By Scott M. Lippman**

In my previous columns, I've talked about the promise of using genetics to personalize cancer treatments, prevention and early detection. But there is much more to cancer than genetics.

A person's cancer risk depends on multiple factors. Genetic makeup is one, of course, but the environments a person is exposed to over his or her lifetime and lifestyle behaviors like smoking, diet and physical activity that they engage in are also significant and influential. Cancer researchers are just beginning to understand how all of these factors interact, leading to increased cancer risk for some and decreased risk for others.

One new and exciting program that is leading the way is the Athena Breast Health Program, a collaboration of the five University of California medical centers in partnership with the Safeway Foundation and the UC Office of the President. The heart of the program are thousands of participating women undergoing their regular screening mammograms, plus women who are breast cancer patients and women with benign breast problems.

The program's concept is simple: As we move to a paperless medical environment, women who are booked for their mammogram fill out an electronic intake questionnaire rather than a paper one. This includes all of the usual, routine information, such as breast biopsy history, family cancer history, hormone use and breast symptoms.

But because this data is now electronic, we have the new ability to quickly flag patients who have specific combinations of risk factors. Each UC site has a Breast Health Specialist who can consult with targeted patients by phone. This program takes a very holistic approach to breast cancer prevention and early detection: Women can be referred to programs such as lifestyle coaching and healthy cooking classes, genetic counseling or a high-risk breast clinic. The overarching purpose is to identify women at the highest risk of breast cancer and empower them (as well as their primary care doctors) to engage in prevention and early detection.

At the same time, these women can consent to allow researchers to use information from their electronic questionnaires to learn more about breast cancer risk factors (and protective factors) on a large scale in real-time. One important goal of Athena is not just to identify women at highest breast cancer risk, but also to learn more about which women are at minimal risk and who may not need to undergo screenings as frequently. One of the advantages of personalized cancer prevention and cancer treatment is eliminating unnecessary medical tests and treatments.

Beyond the mammogram component of Athena, breast clinics and breast cancer clinics are using the program to boost survivorship care. Many breast cancer survivors have long-term side effects from their treatments. In chronicling their care electronically, they describe their treatment history, symptoms and problems which can be automatically flagged so that physicians can address them more quickly.

On the research side, scientists can study the data and pool information about tumor biology, treatment, side effects and cancer recurrences. Again, the aim is to learn more about which breast cancers need aggressive treatment and which patients can safely avoid specific treatments and associated side effects.

The Athena program is an example of collaboration on many levels. First and foremost, it is a partnership between patients, their health care providers and researchers: Primary care doctors consult with basic science researchers. Breast oncologists and surgeons coordinate with

physical activity researchers. Pathologists and radiologists work with patient advocates. Altogether, they represent multiple institutions with many missions cooperating with academia and community to pursue a singular cause. That's what it takes to beat cancer.

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