

Sacramento registry offers wealth of breast imaging data

THERE ARE MANY

unknowns about breast cancer screening, according to Diana Miglioretti, Dean's professor of biostatistics in the UC Davis Department of Public Health Sciences. Evaluating the effectiveness of new imaging modalities and personalizing screening strategies are just some of the issues that require large amounts of data.



Diana Miglioretti, Ph.D.

Enter the Breast Cancer Surveillance Consortium, a national network of registries that collects extensive information on breast imaging and outcomes to evaluate effectiveness and understand risk. Miglioretti is principal investigator of the Statistical Coordinating Center for the consortium, which currently has registries in six states across the United States.

With support from the UC Davis CTSC, she started a pilot project to add a new registry to the network – the Sacramento Area Breast Imaging Registry (SABIR). Eventually intending to collect breast imaging data throughout the greater Sacramento area, she started the project using three UC Davis facilities. “Data from the Sacramento area is especially important, as the population is more diverse than in the other network sites,” she says. “This registry will make a real contribution to the consortium.”

Many questions to probe

The field of breast cancer imaging is changing fast. New imaging modalities include digital breast tomosynthesis, breast magnetic resonance imaging, and whole breast ultrasonography. While touted as advances in the field,

Miglioretti points out that evidence of the risks and benefits of these methods does not yet support routine use for screening or surveillance. Current recommendations state that most women aged 50 to 74 years should be screened every two years, with some needing more frequent screening if they are

at increased risk. However, evidence-based research may alter guidance for breast cancer screening.

Should some high-risk women start screening at an earlier age? Can low-risk women be safely screened at intervals of every three years? Would some women – particularly those with high-density breast tissue – benefit from supplementary imaging methods? Miglioretti anticipates that consortium data will answer these and other related questions.

Complexities of data acquisition

A year into the SABIR project, her team enrolled 58,630 women in the registry and obtained data from these women on 245,503 breast imaging examinations, 8,166 breast biopsies, and 2,077 breast cancer diagnoses. Existing clinical data from examinations, procedures, and diagnoses from 2008-2018 were obtained from the UC Davis

mammography facilities in Sacramento, Folsom and Roseville.

When starting the project, Miglioretti's goal was simply to collect retrospective data from the UC Davis electronic medical record. But the task proved more complex than anticipated.

“Data collected for clinical purposes does not always mesh with what is needed for research,” she says. “Fortunately, the CTSC staff was there to help with the logistics. Having good technical support for these kinds of unexpected problems is critical.”

Future directions

According to Miglioretti, SABIR will pave the way for local investigators to mine the data for a myriad of issues related to breast cancer screening and surveillance in this region. For example, providers might use the data to identify groups that may need additional services.

Analysis of registry data can detect women who had a suspicious finding on screening mammography but did not return for follow-up. It would be worthwhile to characterize such at-risk populations: perhaps they are migrant farmworkers or women without health insurance, Miglioretti speculates. It may be possible to track down individuals with registry information or target such groups in the future for special outreach following mammography.

A future project could compare performance measures between mammography centers across the region. “It's critical that the preliminary work is done with the registry so that new researchers do not need to reinvent the wheel to obtain useful data,” says Miglioretti. “That way, one pilot project can make things easier for many translational studies.” §

“It's critical that the preliminary work is done with the registry so that new researchers do not need to reinvent the wheel to obtain useful data.”

—Diana Miglioretti