

Researchers pinpoint causes for spike in breast cancer genetic testing

October 20 2017, by Lauren Baggett



Mammograms showing a normal breast (left) and a breast with cancer (right). Credit: Public Domain

A sharp rise in the number of women seeking BRCA genetic testing to evaluate their risk of developing breast cancer was driven by multiple factors, including celebrity endorsement, according to researchers at the University of Georgia.

"BRCA testing and counseling provide important information on the risk



of developing breast and ovarian cancers among women with <u>family</u> <u>history</u> of the cancers," said Zhuo "Adam" Chen, an associate professor of health policy and management at UGA's College of Public Health and lead author on the study. "Appropriate use of BRCA testing would lead to reduction in avoidable cancer mortalities and morbidities."

Women with hereditary BRCA gene mutations have a 45 to 65 percent risk of developing <u>breast cancer</u> before age 70, compared to 7 percent in the general population, according to the National Cancer Institute.

Chen and his colleagues wanted to understand the trends in BRCA testing costs and utilization. Their study analyzed testing rates, payment to the provider, and out-of-pocket costs for patients from 2003 to 2014, and compared findings to reported revenue from Myriad Genetics, the only provider of the <u>test</u> until 2013.

Overall, BRCA testing increased 80-fold during those 11 years, with a large spike in testing occurring in 2013.

That same year Hollywood actress Angelina Jolie published an op-ed in The New York Times promoting BRCA gene testing and the Supreme Court struck down the patent on BRCA gene testing.

"This could provide insights on the impact of the policy changes and the media coverage of <u>celebrity endorsement</u>," said Chen.

Current U.S. Preventive Services Task Force guidelines recommend BRCA testing for women at high risk, and the Affordable Care Act requires most private health plans to provide in-network coverage to women with family history of breast and ovarian <u>cancer</u> without costsharing for BRCA genetic counseling as a preventive service for women.

Though it may be tempting to connect the whirlwind of media coverage



surrounding Jolie's decision to have a double mastectomy following a positive BRCA test, Chen says the available data cannot point to which event had a greater impact.

"Jolie's op-ed, the Supreme Court decision on BRCA gene and the USPSTF recommendation occurred in a very compact timeline," Chen said.

His team has done some analyses examining the difference in the use of BRCA testing among women at elevated risk versus women at low risk, but any significant differences were hard to tease out from available data.

"In a companion study, we did examine whether women had follow-up surgical procedures and found an urban and rural disparity in the followup rates," said Chen. "Women residing in urban areas consistently had a higher rates of follow-up surgical procedures than those in rural areas, though the gap is narrowing."

As genetic testing becomes more accessible, Chen sees potential for individuals to make more informed decisions about their health.

"We live in a fortunate time where technology advances have greatly improved the quality of human life," he said.

The study, "Trends in utilization and costs of BRCA testing among <u>women</u> aged 18-64 years in the United States, 2003-2014," was published in *Genetics in Medicine*.

More information: Zhuo Chen et al, Trends in utilization and costs of BRCA testing among women aged 18–64 years in the United States, 2003–2014, *GENETICS in MEDICINE* (2017). DOI: 10.1038/gim.2017.118



Provided by University of Georgia

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