

## BCSC Newsletter for February 2015

### News & Announcements

#### BCSC Creates Risk Calculator iPad & iPhone App

In 2013 The Breast Cancer Surveillance Consortium (BCSC) developed a [BCSC Risk Calculator](#) for health professionals to estimate a woman's five-year risk of developing invasive breast cancer. The BCSC has now [created a free iPhone and iPad app](#). Instructions on how to download the app are posted on the BCSC Risk Calculator site.

#### Transition to Digital Mammography Costs More but shows Little Evidence of Added Benefit

While there has been a national move transitioning from film to digital mammography, two new BCSC publications in the *Journal of the National Cancer Institute* question whether it is worth the increased cost. [One study](#), led by [Natasha Stout, PhD](#) found that the transition to digital breast cancer screening in the United States increased total costs but only added a small health benefit. [A solicited editorial](#) led by [Karla Kerlikowske, MD](#) and co-authored by [Anna Tosteson, PhD](#) suggested that increased screening mammography costs, for possibly small or no health gains, results in screening mammography being less cost-efficient than in the past.

#### Elizabeth Valencia to present at the SBI/ACR Breast Imaging Symposium

BCSC researcher and University of Washington Fellow, Elizabeth Valencia, MD, JD submitted a study abstract, "Performance Benchmarks for Screening Breast MRI in Community Practice," which was accepted as an oral presentation for the [Society of Breast Imaging](#), at the [ACR Breast Imaging Symposium](#) on April 25-28, 2015. This BCSC study aims to evaluate the performance of breast MRI screening in community practice and demonstrate achievable outcomes with breast MRI screening in current clinical practice.

#### Dr. Kerlikowske Discusses Risk-Based Screening and the BCSC at the Society of General Internal Medicine meeting

[Karla Kerlikowske, MD](#) received the Distinguished Professor of Cancer Research award from the [Society of General Internal Medicine's \(SGIM\)](#) at their annual meeting in April 2014. The objective of the Distinguished Professor program is to raise the visibility of cancer-related research and education among SGIM members, particularly junior faculty, fellows, and other trainees, through a series of sponsored educational and other activities during their annual meeting. Dr. Kerlikowske discussed risk-based breast cancer screening and the value of the BCSC as a research resource at the Distinguished Professor Program in Cancer Research session.

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### BCSC in the News

#### BCSC Study on Screening Women with Dense Breasts is "The Most Read" News Story by Radiologists

Screening women with dense breasts is a hot topic and is generating legislation across the country. A [recently published study](#) led by BCSC researcher [Brian Sprague](#), modeled what would happen if women with dense breasts routinely received an ultrasound exam after a negative mammogram. The results indicated that this practice would generate high costs, extra tests and little benefit. The study:

- Was designated as the "Most Read News Story by Radiologists" in [Medscape Radiology](#) Top 10 News in December 2014.
- Resulted in press coverage by several news outlets, including [CBS News](#), where the [BCSC Risk Calculator](#) is mentioned as a tool which uses breast density to assess a woman's risk.
- Highlighted in the [Journal of the American Medical Association \(JAMA\)](#) in its News and Analysis section stating that, "[Recent findings may inform breast density notification laws.](#)"

#### Screening and Tomosynthesis Combo is Cost-Effective and Saves Lives

[A BCSC study](#) published by Radiology and led by [Christoph Lee, MD](#) was featured in several news outlets, including [Time Magazine](#). The authors found it was cost-effective to have women with dense breasts undergo tomosynthesis (3D screening) combined with traditional digital mammography because of the reduction in false-positive tests by screening with tomosynthesis.

## BCSC Highlighted in the NIH Applied Research Program Newsletter

[The NIH Applied Research Program](#) highlighted the Breast Cancer Surveillance Consortium (BCSC) in the [October 2014 issue](#) of its newsletter, *Spotlight on Applied Research*. The issue highlighted 15 years of scientific progress and accomplishments led by ARP and their funded research community.

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## People News

[Christoph Lee, MD, MSHS](#) is beginning his academic research career and has worked on several projects within the BCSC. Most recently, he published a study in Radiology on the [comparative effectiveness of combined digital mammography and tomosynthesis screening for women with dense breasts](#). Dr. Lee is a physician at Seattle Cancer Care Alliance and an assistant professor of radiology and of health services at the University of Washington. Dr. Lee recently received a 5-year Mentored Research Scholar Grant in Applied and Clinical Research from the American Cancer Society (ACS) to support his ongoing work with the BCSC. The award supports investigator development and was sponsored by the BCSC.

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## Quarterly Spotlight

### The Carolina Mammography Registry

[The Carolina Mammography Registry \(CMR\)](#) is a founding member of the national Breast Cancer Surveillance Consortium and is led by Louise Henderson, PhD. The registry was funded in 1994 by the Department of Defense to create the infrastructure for a population-based mammography registry, and to serve as a resource for researchers interested in outcomes of community-based breast cancer screening in North Carolina. Recently Dr. Henderson led a study using the CMR data combined with a survey to mammography technologists across the state to examine [the influence of mammographic technologists on radiologists' ability to interpret screening mammograms in community practice](#) (NCI funded R01CA155342). The study found that the interpretive performance of radiologists in screening mammography varies substantially by the technologist performing the examination.

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## Stat-Bite

Traditionally, the BI-RADS definition of a positive mammogram for assessing screening mammography performance considered all BI-RADS 3 (probably benign) assessments to be negative. The BCSC has considered BI-RADS 3 assessments with a recommendation for immediate work-up to be positive, because this recommendation coincides with a BI-RADS 0 (needs additional evaluation) assessment and all other BI-RADS 3 assessments to be negative. However, the new BI-RADS definition (from the 5th edition) considers all BI-RADS 3 assessments on screening exams to be positive. We compared these three definitions (see figure) and found the new BI-RADS definition very slightly increases sensitivity and very slightly decreases specificity and PPV1 compared to the old BI-RADS and BCSC definitions. The BCSC will adopt the new BI-RADS definitions for future publications.

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## Recent BCSC Publications

Allison KH, Abraham LA, Weaver DL, Tosteson AN, Nelson HD, Onega T, Geller BM, Kerlikowske K, Carney PA, Ichikawa LE, Buist DS, Elmore JG. Trends in breast biopsy pathology diagnoses among women undergoing mammography in the United States: a report from the Breast Cancer Surveillance Consortium. *Cancer* 2015 May 1;121(9):1369-78. [\[View Abstract\]](#)

Buist DS, Anderson ML, Smith RA, Carney PA, Miglioretti DL, Monsees BS, Sickles EA, Taplin SH, Geller BM, Yankaskas BC, Onega TL. Effect of radiologists' diagnostic work-up volume on interpretive performance. *Radiology* 2014 Nov;273(2):351-64. [\[View Abstract\]](#)

Dai H, Yan Y, Wang P, Liu P, Cao Y, Xiong L, Luo Y, Pan T, Ma X, Wang J, Yang Z, Liu X, Chen C, Huang Y, Li Y, Wang Y, Hao X, Ye Z, Chen K. Distribution of mammographic density and its influential factors among Chinese women. *Int J Epidemiol* 2014 Aug;43(4):1240-51. [\[View Abstract\]](#)

Feng S, Weaver DL, Carney PA, Reisch LM, Geller BM, Goodwin A, Rendi MH, Onega T, Allison KH, Tosteson AN, Nelson HD, Longton G, Pepe M, Elmore JG. A framework for evaluating diagnostic discordance in pathology discovered during research studies. *Arch Pathol Lab Med* 2014 Jul;138(7):955-61. doi: 10.5858/arpa.2013-0263-OA. [\[View Abstract\]](#)

Geller BM, Bogart A, Carney PA, Sickles EA, Smith R, Monsees B, Bassett LW, Buist DM, Kerlikowske K, Onega T, Yankaskas BC, Haneuse S, Hill D, Wallis MG, Miglioretti D. Educational interventions to improve screening mammography interpretation: a randomized controlled trial. *AJR Am J Roentgenol* 2014 Jun;202(6):W586-96. doi: 10.2214/AJR.13.11147. [\[View Abstract\]](#)

Henderson LM, O'Meara ES, Braithwaite D, Onega T; Breast Cancer Surveillance Consortium. Performance of digital screening mammography among older women in the United States. *Cancer* 2015 May 1;121(9):1379-86. [\[View Abstract\]](#)

Houssami N, Abraham LA, Onega T, Collins LC, Sprague BL, Hill DA, Miglioretti DL. Accuracy of screening mammography in women with a history of lobular carcinoma in situ or atypical hyperplasia of the breast. *Breast Cancer Res Treat* 2014 Jun;145(3):765-73. [\[View Abstract\]](#)

Hubbard RA, Benjamin-Johnson R, Onega T, Smith-Bindman R, Zhu W, Fenton JJ. Classification accuracy of claims-based methods for identifying providers failing to meet performance targets. *Stat Med* 2015 Jan 15;34(1):93-105. [\[View Abstract\]](#)

Johnson JM, Johnson AK, O'Meara ES, Miglioretti DL, Geller BM, Hotaling EN, Herschorn SD. Breast cancer detection with short-interval follow-up compared with return to annual screening in patients with benign stereotactic or US-guided breast biopsy results. *Radiology* 2015 Apr;275(1):54-60. [\[View Abstract\]](#)

Kaplan CP, Livaudais-Toman J, Tice JA, Kerlikowske K, Gregorich SE, Perez-Stable EJ, Pasick RJ, Chen A, Quinn J, Karliner LS. A randomized, controlled trial to increase discussion of breast cancer in primary care. *Cancer Epidemiol Biomarkers Prev* 2014 Jul;23(7):1245-53. [\[View Abstract\]](#)

Kerlikowske K, Hubbard R, Tosteson AN. Higher mammography screening costs without appreciable clinical benefit: the case of digital mammography. *J Natl Cancer Inst* 2014 Jul 16;106(8). pii: dju191. Print 2014 Aug. [\[Look up in PubMed\]](#)

Lansdorp-Vogelaar I, Gulati R, Mariotto AB, Schechter CB, de Carvalho TM, Knudsen AB, van Ravesteyn NT, Heijnsdijk EA, Pabiniak C, van Ballegooijen M, Rutter CM, Kuntz KM, Feuer EJ, Etzioni R, de Koning HJ, Zauber AG, Mandelblatt JS. Personalizing age of cancer screening cessation based on comorbid conditions: model estimates of harms and benefits. *Ann Intern Med* 2014 Jul 15;161(2):104-12. doi: 10.7326/M13-2867. [\[View Abstract\]](#)

Lee CI, Cevik M, Alagoz O, Sprague BL, Tosteson AN, Miglioretti DL, Kerlikowske K, Stout NK, Jarvik JG, Ramsey SD, Lehman CD. Comparative effectiveness of combined digital mammography and tomosynthesis screening for women with dense breasts. *Radiology* 2015 Mar;274(3):772-80. [\[View Abstract\]](#)

Munoz D, Near AM, van Ravesteyn NT, Lee SJ, Schechter CB, Alagoz O, Berry DA, Burnside ES, Chang Y, Chisholm G, de Koning HJ, Ali Ergun M, Heijnsdijk EA, Huang H, Stout NK, Sprague BL, Trentham-Dietz A, Mandelblatt JS, Plevritis SK. Effects of screening and systemic adjuvant therapy on ER-specific US breast cancer mortality. *J Natl Cancer Inst* 2014 Sep 24;106(11). pii: dju289. Print 2014 Nov. [\[View Abstract\]](#)

Onega T, Hubbard R, Hill D, Lee CI, Haas JS, Carlos HA, Alford-Teaster J, Bogart A, DeMartini WB, Kerlikowske K, Virnig BA, Buist DS, Henderson L, Tosteson AN. Geographic access to breast imaging for US women. *J Am Coll Radiol* 2014 Sep;11(9):874-82. [\[View Abstract\]](#)

Ponti A, Lynge E, James T, Majek O, von Euler-Chelpin M, Anttila A, Fitzpatrick P, Mano MP, Kawai M, Scharpantgen A, Fracheboud J, Hofvind S, Vidal C, Ascunce N, Salas D, Bulliard JL, Segnan N, Kerlikowske K, Taplin S; ICSN DCIS Working group. International variation in management of screen-detected ductal carcinoma in situ of the breast. *Eur J Cancer* 2014 Oct;50(15):2695-704. [\[View Abstract\]](#)

Sprague BL, Gangnon RE, Burt V, Trentham-Dietz A, Hampton JM, Wellman RD, Kerlikowske K, Miglioretti DL. Prevalence of mammographically dense breasts in the United States. *J Natl Cancer Inst* 2014 Sep 12;106(10). pii: dju255. Print 2014 Oct. [\[View Abstract\]](#)

Sprague BL, Stout NK, Schechter C, van Ravesteyn NT, Cevik M, Alagoz O, Lee CI, van den Broek JJ, Miglioretti DL, Mandelblatt JS, de Koning HJ, Kerlikowske K, Lehman CD, Tosteson AN. Benefits, harms, and cost-effectiveness of supplemental ultrasonography screening for women with dense breasts. *Ann Intern Med* 2015 Feb 3;162(3):157-66. doi: 10.7326/M14-0692. [\[View Abstract\]](#)

Stout NK, Lee SJ, Schechter CB, Kerlikowske K, Alagoz O, Berry D, Buist DS, Cevik M, Chisholm G, de Koning HJ, Huang H, Hubbard RA, Miglioretti DL, Munsell MF, Trentham-Dietz A, van Ravesteyn NT, Tosteson AN, Mandelblatt JS. Benefits, harms, and costs for breast cancer screening after US implementation of digital mammography. *J Natl Cancer Inst* 2014 May 28;106(6):dju092. Print 2014 Jun. [\[View Abstract\]](#)

Trentham-Dietz A, Sprague BL, Hampton JM, Miglioretti DL, Nelson HD, Titus LJ, Egan KM, Remington PL, Newcomb PA. Modification of breast cancer risk according to age and menopausal status: a combined analysis of five population-based case-control studies. *Breast Cancer Res Treat* 2014 May;145(1):165-75. [\[View Abstract\]](#)

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## Recent BCSC Grant & Contract Awards

### BCSC Researcher wins Mentored Research Scholar Grant

[Christoph Lee, MD, MSHS](#) received a 5-year Mentored Research Scholar Grant in Applied and Clinical Research award from the [American Cancer Society](#). Dr. Lee was sponsored by the BCSC. The ACS Mentored Research Scholar Award provides support for mentored research and training to full-time junior faculty, typically within the initial four years of their first independent appointment. The goal is for these beginning investigators to become independent researchers as either clinician scientists or cancer control and prevention researchers. BCSC researchers, [Connie Lehman, MD, PhD](#), [Diana Miglioretti, PhD](#) and [Tracy Onega, PhD](#) will serve as co-mentors for this award.

### American Cancer Society awards grant to the BCSC

[The American Cancer Society](#) awarded a grant to the Breast Cancer Surveillance Consortium (BCSC) to update a prior BCSC analysis that compared annual vs. biennial screeners using narrower windows for those definitions. This research will help fill a gap in knowledge due to few head-to-head randomized trials comparing annual vs. biennial screening.

### BCSC Researcher wins RSNA Research Resident Grant

[Amie Y. Lee, MD](#), a University of Washington radiology resident and BCSC researcher, was awarded a [Radiological Society of North America](#) (RSNA) [Research Resident Grant](#) which will fund her work on a BCSC study to evaluate the utilization patterns of MRI BI-RADS assessments and management recommendations in clinical practice. The RSNA Research Resident Grant provides trainees who are not yet professionally established in the radiologic sciences an opportunity to gain further insight into scientific investigation and to develop competence in research techniques and methods.

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## Upcoming Abstract Deadlines

[The Controlling Cancer Summit](#) 

London, UK

May 12-14, 2015

Abstract Submission Deadline: February 10, 2015

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**Upcoming Conferences**

[HMO Research Network \(HMORN\)](#) 

Long Beach, CA

March 11-13, 2015

[American Society of Preventive Oncology \(ASPO\) Annual Meeting](#) 

University of Alabama, Birmingham

March 14-17, 2015

[AACR Annual Meeting](#) 

Philadelphia, PA

April 18-22, 2015

[ARRS Annual Meeting](#) 

Toronto, CA

April 19-24, 2015

[Society of Behavioral Medicine \(SBM\) Annual Meeting & Scientific Sessions](#) 

San Antonio, Texas

April 22-25, 2015

**Society of Breast Imaging/American College of Radiology Breast Imaging Symposium**

Orlando, FL

April 25, 2015

[ACOG Annual Clinical Meeting](#) 

San Francisco, CA

May 2-6, 2015

[The Controlling Cancer Summit](#) 

London, UK

May 12-14, 2015

[American Society of Clinical Oncology \(ASCO\) Annual Meeting](#) 

Chicago, IL

May 29 - June 2, 2015

**International Cancer Screening Network (ICSN)**

Rotterdam, The Netherlands

June 2-4, 2015

**7th Annual Breast Density and Breast Cancer Risk Assessment Workshop**

San Francisco, California

June 10-12, 2015

[Academy Health Annual Research Meeting](#) 

Minneapolis, MN

June 14-16, 2015

[Society for Epidemiologic Research \(SER\) Annual Meeting](#)

Denver, CO

June 16-19, 2015