Special Feature
INNOVATION

The Kaiser Permanente Interregional Breast Care Leaders

By Douglas Shearer
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Breast cancer leads to the most malpractice claims among misdiagnosed conditions.

Introduction

Despite advances in detection and treatment of breast cancer in recent years, this disease remains the leading cause of new cancer cases in women in the United States (an estimated 215,990 (32%) of these cases in 2004) and the second leading cause of cancer deaths in US women (an estimated 40,110 (15%) of these cases).[1]

A multidisciplinary team of clinicians from all Kaiser Permanente (KP) Regions, the Interregional Breast Care Leaders (IRBCL; Table 1), is working to improve programwide quality of care for patients with breast cancer and to reduce mortality from this disease among KP members. The IRBCL is led by The Permanente Federation and includes physicians from KP Departments of Primary Care, Surgery, Oncology, Obstetrics and Gynecology, Radiology, Mammography, Genetics, Women's Services, as well as representatives from various KP Regional Breast Cancer Task Force groups, Clinical Nursing, Quality Resource and Risk Management, Public Relations and Issues Management, Health Education, and Prevention Services.

The IRBCL is chaired by Jed Weissberg, MD, Associate Executive Director for Quality and Performance Improvement for The Permanente Federation. Other leading participants include Susan Kutner, MD (Department of Surgery, KP San Jose Medical Center), who is also Chair of the Breast Cancer Task Force for the KP Northern California Region; and Joanne Schottinger, MD, a medical oncologist who is Assistant to the Associate Medical Director for Quality and Clinical Analysis for the Southern California Permanente Medical Group.

The IRBCL illustrates how the Permanente Medical Groups increasingly work across KP regional boundaries to improve clinical quality and to enhance KP's reputation as a quality leader. "Most Permanente physicians don't understand what The Permanente Federation does," Dr Kutner notes. She continues, "The IRBCL is a perfect example of how a national organization can improve the quality of our services and the quality of our physicians' lives as well." Dr Weissberg agrees, saying, "The IRBCL shows that people can energize and inspire each other around the [KP] Program with their passion for improvement."

How the IRBCL Began

The IRBCL was launched in 2002 with a charter that was originally limited to risk management. This focus arose from the rising number of medical malpractice claims related to delay or failure to diagnose breast cancer. Breast cancer leads to the most malpractice claims among misdiagnosed conditions. In addition, a high percentage of malpractice claims related to breast cancer arise from cases in which a common "triad of errors" occurred: typically, young patients with self-diagnosed masses who had negative results of mammograms and then had disease diagnosed at stage II or higher. Typical situations in these cases include alleged misinterpretation of mammograms, failure to recognize potential for development of cancer, failure to refer, and failure to obtain biopsy specimens for evaluation.

However, the IRBCL soon recognized that it had a responsibility to broaden its focus beyond risk management. Given the apparent need for a broader programwide perspective, the IRBCL began to serve as a clearinghouse for regionwide sharing of best practices in breast care. "We have a great deal of expertise [in breast health] in each of our KP Regions and at the medical centers," says Dr Kutner. "The problem was that before the IRBCL, we never had the ability to learn from one another in a consistent manner." Table 2 lists some KP publications that have served as internal, programwide vehicles for sharing information about these practices. Table 3 lists some KP research projects related to improving breast health.

In expanding its scope, the IRBCL also responded to results of the DETECT study—funded by the National Cancer Institute—which set out to evaluate whether late-stage breast cancer occurs in female HMO


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patients because women are not screened, because cancers are not detected when screening occurs, or because follow-up does not occur when an abnormality is found. The conclusions of the DETECT study encouraged the IRBCL to avoid restricting its focus to a single portion of the diagnostic chain and instead to target for improvement KP's entire breast care process, including screening, detection, and treatment.

The Breast Care Management Algorithm

Perhaps the most important accomplishment of the IRBCL to date has been development and publication (in 2003) of an interregional breast cancer diagnosis algorithm. This algorithm outlined the most efficient way to proceed from symptom to resolution and addressed the most common situations confronted by primary care physicians: nipple discharge, inflammation, and abnormal mammogram results. After much debate, the IRBCL concluded that the available clinical evidence did not support an evidence-based recommendation. Instead, the group developed a consensus-based guideline based on the best available clinical approaches from each KP Region.

The algorithm is accessible on the KP Intranet (Figure 1) and is sup-

Table 1. The Interregional Breast Care Leaders (IRBCL) exemplify the type of multidisciplinary team that can be assembled by a large group practice to design and implement improvement in the quality of clinical care

Kim A Adcock, MD	Associate Medical Director, Business Development and Chief of Radiology, KP Colorado
Bonnie Allen, MD	Physician, Radiology, KP Mid-Atlantic States
Jean K Baggs, MD	Chief of General Surgery, KP Southern California
Bev A Battaglia, CTR	Manager, KP Northwest
Deborah Bevilaqua, RN, JD	Practice Leader, National Risk Management, KP Program Offices
Mark Binstock, MD, MPH	Director, Women's Services, KP Ohio
Allen N Bredt, MD, FACP	Assistant to the Associate Medical Director for Clinical Services, KP Southern California
Diane L Broome, MD	Staff physician, Clinical Geneticist, KP Southern California
Bonnie Campos, C-NP, MS	Senior Director, Women's Health, KP Mid-Atlantic States
Susan A Chen, RN, MSN	Director of Special Projects, KP Southern California
Robin G Cisneros	Director, Technology and Products, The Permanente Federation
David A Cooley, MD	Radiologist, KP Mid-Atlantic States
Sue Jane Fox, RN, MN, MBA, CHES	Prevention Specialist II, KP Colorado
Wayne Gilbert, MD	Surgeon, KP Northwest
Leslie C Griffin, MD	Physician, Radiology, KP Mid-Atlantic States
Cecilia Gue, RN, CNS	RN, CNS Educator, KP Hawaii
Daniel Henshaw, MD	Acting Chief, Diagnostic Imaging, KP Northwest
Julia Herzenberg, MS	Care Management Assistant, KP Program Offices
Diane K Hubler, RT (R)	Assistant Director, Imaging, KP Southern California
Donna Kelsey, RN, BSN	Breast Care Coordinator, KP Hawaii
Karin L Kempe, MD	Physician, Family Practice & Preventive Medicine, KP Colorado
Stefanie Kolpak, MD	Physician, KP Colorado
Susan E Kutner, MD	Physician, Surgery, KP San Jose Medical Center, Chair, Breast Care Task Force, KP Northern California
Mark Littlewood, MPA, CHE, CPHRM	Facilitator, IRBCL; Clinical Risk Management and Patient Safety, The Permanente Federation
Susan Mallone, RN, BS, MPA	Business Process Analyst, KP HealthConnect, KP Ohio
David Mosen, PhD, MPH	Program Evaluation Consultant, KP Program Offices
Julie Nunes, RN, MS, CPHRM	Northern California Regional Director of Risk Management
Ellen M Post, RN BSN	Director, Women's Health Tracking, KP Mid-Atlantic States
Violeta Rabrenovich, MHA	Director, Medical Group Performance Improvement, The Permanente Federation
Paul Schefft, MD	Assistant Medical Director, Surgical Specialties, KP Ohio
Matthew Schiffgens	PR and Issues Management Consultant, KP Program Offices
Joanne E Schottinger, MD	Assistant to Associate Medical Director, Medical Technology, KP Southern California
Hanadi Shamkhani, MD	Physician, Internal Medicine, KP Mid-Atlantic States
Deborah S Shaw, MD	Regional Department Chair, KP Colorado
Robert van der Meer, MD, MBA	Chief of Risk Management, KP Georgia
Jed Weissberg, MD	Associate Executive Director for Quality and Performance Improvement, The Permanente Federation

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Table 2. Previous articles on Breast Care published in *The Permanente Journal*

"Surgeon Puts His Stamp on Breast Cancer" (Summer 1998) showcased the success of Balazs (Ernie) Bodai, MD, in convincing the US Government to create a breast cancer postage stamp that would fund medical research.

"KPNW's Safety Net for Preventive Services: The Challenge of Reaching the Unscreened" (Fall 1998) described the KP Northwest Region's success in identifying and removing barriers to mammography screening.

"The Breast Health and Cancer Detection Program" (Spring 2000) highlighted a new approach to inreach and outreach that improved mammography screening rates in the KP Georgia Region.

"Improving Breast Care at the Kaiser Permanente Bellflower Medical Center" (Fall 2000) focused on the formation of a Radiology Breast Center which reduced the timeframe for diagnosis of breast problems at a KP Southern California Region medical center.

"A Breast Cancer Tracking System" (Fall 2000) described the comprehensive electronic system in the KP Northern California Region that will serve as a partial model as Kaiser Permanente moves toward a nationwide tracking system.

"Mobile Mammography: Providing Screening to Women Without Access to Centralized Services." (Fall 2000) showed how use of a mobile mammography van at medical office locations without mammography equipment could reduce barriers to screening for patients with transportation problems.

"Initiative to Improve Mammogram Interpretation." (Spring 2004) described the 2003 Vohs Award winner from the KP Colorado Region.

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ported by Web-based education accompanied by pretests and posttests for continuing medical education (CME) credit.

The algorithm also provided a tool for interdepartmental discussion about scope and responsibility for primary care, radiology, and surgery. "Every facility was different in terms of resources, configuration, and approach," Dr Kutner recalls. "Who do you see first—internist, gynecologist, radiologist, surgeon? What constitutes a thorough evaluation?" Because results of a member survey (conducted by the Southern California Permanente Medical Group) recommended a 14-day maximum interval from suspicion to diagnosis, the algorithm work also created understanding of reasonable timelines for completing a clinical examination.

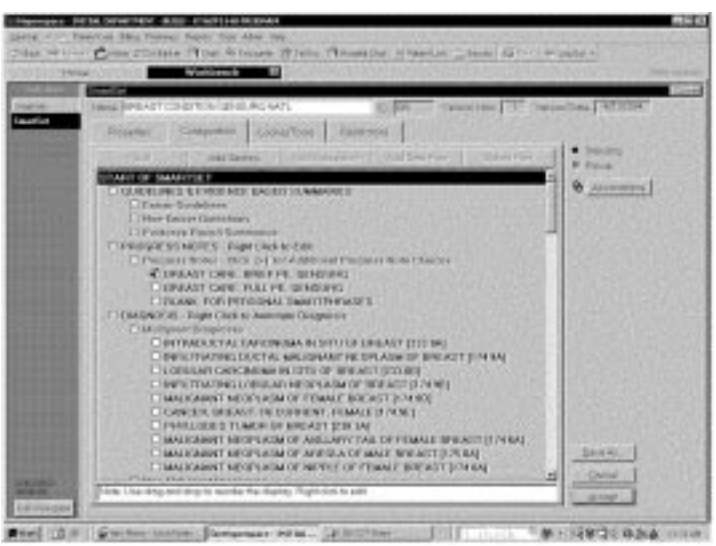

Figure 1. Excerpt (screen capture) from the Kaiser Permanente Breast Care Management Algorithm.

"Despite all the detail in the algorithm," Dr Weissberg comments, "the bottom line is that every breast complaint must be seen through to completion—either to a final diagnosis or to another resolution. Even for populations such as young women—who have a lower incidence rate of breast cancer—a definitive diagnosis is required because breast cancer is so costly in terms of both personal tragedy and professional liability."

The algorithm provides suggestions to help primary care practitioners along a care path for evaluating a patient's breast-related complaint (eg, clinical breast examination, follow-up suggestions for abnormal screening mammogram results, inflammation, breast mass/lump, spontaneous discharge from the nipple, breast pain) to the point where cancer is ruled in or out. To access the algorithm online, direct your Web browser to the KP National Clinical Library (Permanente Knowledge Connection), then click sequentially on *Clinical Guidelines*, *Interregionally Created Guidelines*, and *Breast Cancer*.

Sharing and Disseminating Best Practices for Breast Care

The IRBCL is also working toward programwide dissemination of best practices, such as the KP Colorado mammography interpretation program, to other KP Regions. For example, the KP Program Offices' Quality Department organized a "transfer session" in Denver, where Kim Adcock, MD, Chief of Radiol-

ogy at KP Denver/Boulder, shared best practices with an audience consisting of clinicians from every KP Region. Dr Adcock also visited the KP Northern and Southern California Regions and presented his results to large, enthusiastic audiences there. As a result, variations of the KP Colorado Region's program are being considered for implementation in other KP Regions.

Connecting Breast Care With KP HealthConnect

The IRBCL is now working with KP HealthConnect teams to develop "Smart Sets," or basic building blocks for documentation in KP HealthConnect that encode the Breast Care Management Algorithm into the system and help to translate the algorithm into everyday clinical practice. "Having the algorithm enables us to build the basic template for the complaint in KP HealthConnect and then allow minor Regional customization based on local practice and service agreements," Dr Weissberg says. And Dr Schottinger adds, "We hope that with KP HealthConnect, the agreed-upon algorithm for breast care will be 'staring you in the face' when you diagnose, treat, and document a breast complaint. For example, the algorithm will include reminders that a negative mammogram following [discovery of] a breast lump shouldn't be completely reassuring—you need to refer [the patient] to a surgeon *now*."

KP is currently building four Smart Sets for breast health management. Smart Sets for two topics—physical examination for females aged 18 to 49 years and management of breast problems—will be documented in the Adult Primary Care domain of KP HealthConnect; a Smart Set for the breast care surgical pathway will be documented in the General Surgery domain; and a Smart Set for a breast-related oncology care plan will be documented in the Hematology/Oncology domain.

"KP HealthConnect will put us head and shoulders above the competition," Dr Schottinger says. Dr Kutner agrees, saying, "KP HealthConnect will revolutionize the way we provide breast care." Instead of relying on paperwork, all clinicians will be able to use the electronic system to access the same information, including the patient's family history of breast cancer, past diagnoses and treatments, and the next clinician who should see the patient according to the care algorithm.

Table 3. Objectives and principal investigators of some current Kaiser Permanente research projects related to breast health

Bay Area Breast Cancer and the Environment Research Center Study impact of prenatal-to-adult environmental exposures that may predispose women to breast cancer. A joint effort with UCSF and the Marin Breast Cancer Watch. (Robert Hiatt, MD, PhD; Lawrence Kushi, ScD)
Study of Tamoxifen and Raloxifene (STAR) Compare effectiveness of tamoxifen and raloxifene in reducing incidence of invasive breast cancer and their associated side effects among women at high risk for breast cancer. (Carol P Somkin, PhD; Louis Fehrenbacher, MD)
Women's Health Initiative (WHI): Clinical Center Assess effect of hormone replacement therapy, dietary modification, calcium, and vitamin D supplementation on coronary heart disease, breast and colorectal cancers, osteoporotic fractures, and total mortality. (Bette J Caan, DrPH)[3,4]
Women's Health Initiative—Benign Breast Disease Test the hypothesis that adoption of a low-fat dietary pattern is associated with reduced risk of proliferative forms of benign breast disease. (Bette J Caan, DrPH)
Women's Intervention Nutrition Study (WINS): Low-Fat Diet in Localized Breast Cancer—Outcome Trial Assess efficacy of a low-fat diet on survival after treatment of localized breast cancer. (Bette J Caan, DrPH)[5]
Women's Healthy Eating and Living (WHEL) Trial Evaluate effect of a low-fat, high-fruit, high-vegetable diet on breast cancer survival and recurrence in women with early-stage breast cancer. (Bette J Caan, DrPH)[6-8]

New Technology Assessment

The IRBCL group also leads assessment of new technology to support breast health and evaluates the evidence for clinical effectiveness of this technology. For example, a large randomized controlled study[2] recently showed that computer-assisted interpretation of mammograms does not improve rates of cancer detection. These study results suggested that the IRBCL should recommend against investment in computer-assisted mammography interpretation and should do so on the basis of current evidence.

New Quality Measures

To date, the only available outcome measure for evaluating the effectiveness of breast care has been the number of medical malpractice claims related to breast cancer. This number is a difficult measure because as many as four years can elapse from the time an error is alleged to have happened to the time a claim is filed. To respond to the need for early, sensitive measures that can track the impact of changes in a KP Region, the IRBCL is endorsing three process measures related to diagnosing breast problems. These measures could be applied universally across KP Regions regardless of the degree to which a Region has implemented the breast

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care management algorithm—and, ideally, without creating an additional documentation burden for clinicians.

One of the most important quality measures will be the percentage of patients with cancer diagnosed at stages 0 or I. Earlier detection of cancer saves lives and offers women more options for breast conservation. Another key measure will be the number of days from presentation to diagnosis.

The IRBCL is promoting work by KP HealthConnect teams to imbed operational and clinical quality measures into KP HealthConnect functionality.

Conclusion

The IRBCL group believes that interregional collaboration will eventually have a major impact on the quality of women's health care provided by the Permanente Medical Groups over the next few years, particularly with the advent of three key events: the rollout of KP HealthConnect, identification by IRBCL of new clinically effective technologies, and continuation of KP Regions finding more effective strategies for providing preventive medicine to KP's diverse patient population.

The IRBCL group also plans to address the recent decline in Health Plan Employer Data and Information Set (HEDIS) scores related to breast health and to identify possible causes for this decline (including cultural barriers to mammogram screening). The group's ultimate goal is to share knowledge and best practices across KP Regions.

"I never come off the phone call without hearing an exciting idea from another Region," Dr Schottinger says about the IRBCL meetings. "We do things so differently in our Regions, and there is so much that we can learn from each other." ❖

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The Feminine Perspective

To see our interdependence and interconnectedness
is the feminine perspective that has been missing,
not only in our scientific thinking and policy-making,
but in our aesthetic philosophy as well.

— Reenchantment of Art, *Suzi Gablik, b 1934, art theoretician*