The Breast Health and Cancer Detection Program

Breast cancer is the leading cause of deaths in women aged 15-64 years: 48% of new breast cancers and 56% of all breast cancer deaths occur in women aged 65 years and older. The Kaiser Permanente Georgia Region's Breast Health and Cancer Detection Program, implemented in 1997, combines inreach and outreach activities designed to improve member access to breast cancer screening services as well as practitioner awareness for timely screening according to practice guidelines. The Program targets women aged 50 years and older. Inreach and outreach activities implemented to improve access to mammography services included Saturday appointments, van transportation of patients from centers without mammography services, self-referral and walk-in process, and adding mammography machines at high-use medical offices. Member and provider educational and awareness activities included inserting colored chart reminders for patients due for a mammogram; placing preventive service wall charts in exam rooms; establishing a Radiology-based mammography tracking system to monitor and follow up patients with abnormal clinical breast exams or mammograms; conducting Call Center telephone outreach to contact women aged 52-69 years past due for a mammogram; mailing postcard reminders and a brochure on clinical practice guidelines; and providing financial incentives to the health care team (HCT) for improving screening rates and quarterly reporting of HCT results.

Measurable impact of the Program is reflected in the mammography screening rates (aged 52-69 years) based on HEDIS specifications: 1996 = 73.8%, 1997 = 74.5%, 1998 = 80.6%, 1999 = 84.3%. The observed improvement in mammography screening rates for the period 1996-99 was statistically significant ($p < 0.0001$). The Georgia Region's 1997 performance for HEDIS breast cancer screening measure was the second lowest in the Program. Its 1998 performance was among the top four KP Regions, and for 1999 was again among the top 10%. The interventions employed in this Program are common in many KP Regions but with varying degrees of success. For example, in the Georgia Region, Call Center telephone outreach to contact women aged 52-69 years who are past due for a mammogram was one of the most successful outreach methods, whereas the mobile mammography van outreach was the least successful activity. Our practice results are transferable among KP Regions but could show varying results depending on how implemented.

Table 1. Team members for KP Georgia Region's Breast Health and Cancer Detection Program

Program leaders:
Adrienne Mims, MD, MPH, Chief of Prevention and Health Promotion, TSPMG; Leslie Litton, Director, Allied Health Services, KFHP

Program sponsors:
Marcia Thompson, MD, Chief, Department of Radiology, TSPMG; Dennis Tolsma, MPH, Director, Clinical Quality Improvement, KFHP

Patient Education Coordinator:
Kecia Leatherwood, MS, Prevention and Health Promotion, KFHP

Breast cancer screening work group members:
Donna Deckard, Associate Manager, Health Care Operations, KFHP; Debra Carlton, MD, Associate Medical Director, Primary Care, TSPMG; Carrie Sprenkle, RN, Quality Project Coordinator, Affiliated Care, TSPMG; Lauren Perkins, Outcomes Measurement Analyst, KFHP; Judy Griffith, RN, MS, Maternal Child Health Coordinator, Obstetrics/Gynecology, KFHP; Toni Best, RN, Advice Nurse Supervisor, Call Center, KFHP; Martha Wilber, MD, Chief, Department of Medicine, TSPMG (1995-98); Mark Hackman, MD, Chief, Department of Medicine, TSPMG (1999); Daria Fluker, Radiology Supervisor, Southwood Office, KFHP; Gail Kraft, Clinical Information Systems Analyst, KFHP

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Introduction

The Kaiser Permanente (KP) Georgia Region, which includes The Southeast Permanente Medical Group (TSPMG) and Kaiser Foundation Health Plan (KFHP) of Georgia implemented its Breast Health and Cancer Detection Program in November of 1994, when the organization's Interdisciplinary Prevention Committee (IPC) prevention priority was set as breast cancer screening.

Background

The IPC was initiated as a part of the Quality Forum (the KP Georgia Region Quality Improvement Committee) in late 1994. A charge of IPC was to identify priorities for quality improvement in preventive health services. The IPC conducted a review of scientific literature and considered both national and state health initiatives in considering what services to establish as priorities. The IPC also considered areas where low-cost interventions might achieve KP Regional goals to enable the Georgia Region to become a leader in delivery of medical care as measured by HEDIS effectiveness-of-care measures.

Breast cancer screening was selected as a top-ten priority for guideline development and for additional intervention. Breast cancer will develop in one of every eight American women in her lifetime. Breast cancer is the leading cause of cancer deaths in women aged 15 to 64 years. Forty-eight percent of new breast cancer cases and 56% of all breast cancer deaths occur in women aged 65 years and older. Breast cancer is most treatable and curable when it is found early, and the key to early detection is screening.

The national HEDIS result of 71%, reported in May 1995, provided our baseline performance measurement. This result fell short of our goal of being in the 90th percentile of performance on this and several other HEDIS effectiveness-of-care measures.

In August 1995, the Quality Forum accepted the IPC recommendations, endorsed by the Department of Medicine, which emphasized the importance of annual clinical breast examination and mammography for women of targeted age groups. In November 1997, a new Excellence in Quality (EIQ) HEDIS Improvement Team began work. Its charge was to undertake analyses of underlying causes of reduced performance and to develop additional steps to impact yearend 1997 performance and for incorporation into care delivery processes in 1998. In March 1998, the Quality Forum Executive Committee designated breast cancer screening one of the six organizational quality priorities for 1998 and designated "owners" who would be accountable for this performance—the Chief of Radiology and the Director of Radiology. At that time, the KP Georgia Region's Clinical Affairs Division designated mammography as one of four priorities for improvement by the local Implementation Team—a collaborative effort with KP's Care Management Institute.

Program Objectives

One objective of the Breast Health and Cancer Detection Program has been to assist our members and practitioners with information and treatment to facilitate adherence to practices that promote early detection of potential breast cancer. The second objective of the Program has been to sustain measurable improvement in the screening rates to a level that meets or exceeds the 90th percentile of HEDIS breast cancer screening rates as reported in Quality Compass.[1]

Program activities were implemented in 1997. The 1996 screening rate therefore served as a baseline rate. If the program activities were efficacious in increasing and sustaining the screening rate, then the 1999 rate could be expected to be much greater than the 1996 rate; and the screening rates should exhibit a trend of increasing rates from 1996 through 1999. On the basis of the current screening rates, we expected to meet or exceed projected rates.

For the sample size used to calculate each year's mammography screening rate, we used administrative data only to calculate the screening rate. We did not select samples: thus, 100% of the eligible population was used to calculate rates.

Thus, the 1999 predicted rate was developed by using a simple linear projection from historical rates (Table 2). Yearend 1999 actual data showed a mammography screening rate of 84.3% (confirming the predicted rate; not a statistically significant difference from 1998).

Program Description

The EIQ's designated Breast Cancer Screening Work Group, in cooperation with the IPC, the Implementation Team, and under the general direction of the Quality Forum, have implemented a broad array of activities to improve breast cancer screening rates. These activities have been intended to improve member access to screening services, member and practitioner awareness for timely screening, and practitioner adherence to screening guidelines.

Improving Member Access

Access was considered on the basis of 1996 HEDIS results to be a key barrier to improved performance. The IPC Continuous Quality Improvement team (IPC/CQI) was convened in May 1997 to discuss ways to increase access to mammography. Saturday hours and mobile mammography were identified as potential activities to overcome access barriers.

A mobile mammography pilot study was conducted in December 1997. Although 60 women were screened and two previously undetected cancers were found, the mobile mammography program was discontinued because of mammogram quality problems that led to increased patient callbacks.

In November 1997, the EIQ recommended analysis of scheduling backlogs greater than three months that began the same month. Call Center staff examined wait lists, and primary care operations began to provide backfill staffing to allow practitioners with the longest wait lists to provide examinations, including clinical breast examination and referral to mammography.

Breast cancer is most treatable and curable when it is found early, and the key to early detection is screening.

Unique aspects of the solutions developed that year and in 1998 included the following:

- Use of Saturday sessions with van transportation from other nearby centers that don't have mammography services (and offering Pap smears at the same time);
- Developing mechanisms for self-referral by members for mammograms, including walk-in capability; and
- Ensuring appropriate capacity at high-use facilities by adding second mammography units at the Southwood and Gwinnett Medical Offices.

Improving Member and Practitioner Awareness

Throughout 1997, the EIQ recommended implementation of a broad array of low-cost ways of improving member and practitioner awareness of the need for timely screening.

- Fuchsia-colored chart reminders were placed in the charts of women aged 50 years and over not screened by mammography for two years. This reminder was easily recognized by practitioners during the visit of a woman overdue for a mammogram recommended by the Breast Cancer Screening Prevention Guideline.[2]
- Recommended Screening Preventive Services for Adults wall charts[3] were placed in all adult exam rooms to remind practitioners and members about important preventive services.
- In 1997, the Georgia Region initiated a mammography tracking system based in the Radiology Department to monitor patients with abnormal clinical breast examinations or mammograms. Patients with an abnormality are contacted by phone or letter through the ordering physician to notify them of results and needed follow-up appointments.
- Health care team (HCT) and Call Center staff began to call members in the target group missing mammograms that year. Mammography Reminder Cards, entitled "You Oughta Be in Pictures"[4] also were mailed to members who had missed mammograms. Adult Health Preventive Services Guidelines brochures[5] were mailed to all member households.

Mammography Reminder Cards, entitled "You Oughta Be in Pictures"[4] also were mailed to members who had missed mammograms.

Improving Practitioner Adherence

- Beginning in 1995, the Georgia Region began redesign of primary care delivery—shifting emphasis in accountability of service and clinical care quality from individual primary care physicians to HCTs. That accountability has been linked to financial incentives for improvement in selected areas of care.
- In August 1995, early detection and screening of breast cancer was identified as one of the preventive service priorities for which HCTs would be held accountable. To motivate improved screening rates, each HCT received an inservice presentation on the Breast Cancer Screening Prevention Guideline[2] and mechanisms to implement it during any clinical encounter. TSPMG began to motivate its practitioners to improve

Table 2. Year-end actual mammography screening rates for KP Georgia Breast Health and Cancer Screening Detection Program (HEDIS 3.0)

Year	Had mammogram	Not screened	Population	Proportion having mammogram
1996	5179	1838	7017	73.8%
1997	6535	2236	8771	74.5%
1998	6895	1689	8554	80.6%
1999	8386	1553	9939	84.3%

Table 3. System and process interventions in the Breast Health and Cancer Detection Program

Date of Action	Action taken
July 1995	Department of Medicine adopts guideline for the provision of a clinical breast examination and mammography annually for women aged 50-65 years and every 1-3 years from ages 65-85 years.
August 1995 - December 1995	Prevention guidelines, including breast cancer screening presented by Chief of Prevention to Affiliated Community practitioners at all medical facilities and five other locations (including Callaway Gardens orientation).
August 1995	A breast care booklet describing the clinical breast examination and the mammography screening guideline was made available for distribution to the members by the clinicians during office visits.
October 1995	Quality Forum approved Interdisciplinary Prevention Committee recommendations: • Undertake wide distribution of *Adult Health Prevention Services Guidelines* brochure[5] to inform members about recommended preventive services, including influenza vaccination; • Build systems to enable reminder notices to members in four areas: childhood immunization; mammograms for women age 50+ years; diabetic retinopathy screening; and flu shots.
October 1995	The KP Georgia Region set performance goal of 80% as one of the quality measures for Medical Services Agreement compensation bonus.
Spring 1996	*Recommended Screening and Preventive Services for Adults*[3] wall charts posted in all adult primary care modules to remind primary care practitioners of target ages and frequency of mammogram screening.
April 1996	*Mammography Reminder Card: You Oughta Be in Pictures*[4] mailed to women aged 50+ years who had not had a mammogram since 1/1/94.
April 1996	To acknowledge reaching the 200,000-member milestone, the Georgia Region sent a mailing to all member households promoting prevention, including a brochure to inform members about preventive services guidelines. This *Adult Health Preventive Services Guidelines* brochure[5] includes a women's health section with breast cancer screening information for normal and high-risk women.
March - July; October - November 1996	The CME Training in Primary Care Delivery Model rolled out to all HCTs in all nine medical centers. The Chief of Prevention, Health Promotion, and Research presented one-hour training on preventive services recommendations and implementation recommended by IPC and Prevention Team (emphasizing clinical breast examination and ordering mammogram on any visit).
September 1996	*Treatment Options for Breast Cancer* printed in *"Partners in Health"* article[6] that was mailed to all households.
November 1996	The Georgia Region set a performance goal of 77% minimum, 79% full attainment as one of the quality measures for the Medical Services Agreement compensation bonus.
January 1997	Breast cancer screening was selected as initiative for continuous quality improvement activity for Interdisciplinary Prevention Committee in 1997.
March 1997	Quality Forum reviewed recommended quality measures for geriatric care—flu shots for older adults, breast cancer screening, and eye examinations for members with diabetes.
March 1997	Results of analysis of members aged <50 years receiving mammogram: distributed to Department of Medicine practitioners and Chief of Obstetrics/Gynecology Department.
April 1997	The IPC Department of Medicine Guidelines Team completed biennial review of *Breast Cancer Screening Prevention Guidelines,*[2] emphasizing that women ages 40-49 years may be offered mammogram after discussion of risks and benefits.
May 1997	Interdisciplinary Prevention Committee Continuous Quality Improvement (IPC/CQI) team met to discuss ways to increase access to mammography—identifies Saturday hours, mobile mammography, chart reminders, data feedback to HCTs.

Table 3. (Cont.)	
May 1997	Using data from member and encounters system, *Mammography Reminder Card*[4] *("You Oughta Be in Pictures")* mailed to women aged 50+ years for whom we had no record of screening in prior two years.
June 1997	Mammography screening rates distributed to HCT members as recommended by IPC/CQI.
August 1997	Quality Forum received feasibility report to improve access to mammography through a mobile screening service and assigned responsibility to Chief of Prevention, Health Promotion, and Research to develop. Mobile Mammography Project Team met to develop plans for mobile mammography at small clinics without onsite mammography.
September 1997	Updated screening rates prepared at HCT level and distributed to teams per ICP/CQI recommendation.
October 1997	Outreach calls, letters, and clinic fliers used at four smaller facilities to reach target group of women aged 50+ years without mammogram in at least two years.
October 1997	Georgia Region began a Radiology-based mammography tracking system to monitor patients with abnormal clinical breast examinations or mammograms. Members with an abnormality were contacted by phone or letter through the ordering physician to notify them of the results and needed follow-up appointments.
October 22, 1997	Quality Forum reviewed HEDIS *Quality Compass*[1] data for the Georgia Region and for other managed care organizations inside and outside KP. Quality Forum recommended special efforts be undertaken to improve performance—senior management designated five priority areas, including breast cancer screening.
November 1997	Georgia Region conducted annual mailing of *Adult Health Preventive Services Guidelines*[5] to all member households. This 1997 brochure includes women's health recommendations; chart summarizes age- and gender-specific screening recommendations, including ages and frequencies for breast cancer screening.
November 1997	New Excellence in Quality (EIQ) HEDIS Improvement Team began with charge to undertake analyses of underlying causes of reduced performance and to develop additional steps for incorporation in 1997 and for incorporation into care delivery processes in 1998. Quality Forum November meeting reviewed initial targets of opportunity for improvement identified by team. Focus of interventions developed included analysis of scheduling backlogs greater than three months and recommendation for second mammography unit at Southwood Medical Office.
November 1997	Fuchsia-colored chart reminder placed in chart of women aged 50+ years unscreened for two years as readily recognized cue to alert practitioners during the visit of a women overdue for guideline-recommended examinations.
November 1997	Call Center-examined wait lists; Primary Care operations provided backfill to allow practitioners with longest waitlists to provide examinations, including clinical breast examination and referral to mammography.
November 1997	Radiology Department contacted women scheduled for mammograms three months out and offered them current appointments at new Saturday sessions.
December 1997	Mobile mammogram pilot project carried out at three small medical office sites. Total of 60 women were screened, and two previously undetected cancers were found.
February 1998	The Interdisciplinary Prevention Committee (IPC) reviewed the *Breast Cancer Screening Prevention Guidelines*.[2] The group was charged with evaluating strategies to increase screening in women aged 50+ years.
February 1998	New preventive services wall charts, developed by Prevention and Health Promotion Department, were posted in adult primary care exam rooms to remind both primary care practitioner and patient of needed services at time of visit, including mammography for women aged 50+ years.

Table 3. (Cont.)	
February 1998	IPC/CQI Team met and developed list of barriers and potential interventions to guide 1998 work efforts—breast cancer screening was designated as the focus for 1998 improvement.
February 1998	EIQ—HEDIS Team referred to work on making 1997 steps "part of the way we do business." Recommendations taken from IPC/CQI included continuing access improvements, eg, Saturday sessions, reviewing Mobile Mammography Pilot Project results, implementing second mammography unit at Gwinnett Medical Office.
February 1998	Previous interventions were reviewed including: *Mammography Reminder Card: You Oughta Be in Pictures,*[4] fuchsia chart reminder, blue Stable Events form, HCT feedback reports, and Mobile Mammography Pilot Project evaluation.
March 1998	Quality Forum Executive Committee designated breast cancer screening one of six organizational quality priorities for 1998; designated "owners" who would be accountable for performance: Chief of Radiology, Director of Radiology.
March 1998	Clinical Affairs Division entered into Memorandum of Understanding with Kaiser Permanente's Care Management Institute to share cost of two staff, Physician Implementation Manager and Implementation Manager, and designated mammography as one of four priorities for their activities.
April 1998	EIQ Team recommended attainable Business Plan targets for breast cancer screening: 1998 - 80%; 1999 - 85%; 2000 - 89%.
May 1998	Task force was developed to create a system to allow women to call the HealthLine to schedule mammograms without having a clinical breast examination first.
June 1998	Prevention and Health Promotion Department mailed the *Mammography Reminder Card: You Oughta Be in Pictures*[4] to women aged 52+ years without a mammogram since 1/96.
June 1998	First meeting of the Mammogram/Pap Smear Committee discussed coordination of same-day appointments for mammograms and Pap smears, at which group brainstormed barriers to achieving this goal.
June 1998	The Breast Cancer Screening Workgroup adopted the standard that routine screening mammogram would be within 20 working days for facilities with two machines.
July 1998	Departments of Medicine, Obstetrics/Gynecology, and Radiology collaborated on revision of *Breast Cancer Screening Prevention Guidelines.*[2]
July 1998	In compliance with the 1997 Balanced Budget Act,[7] a task force developed policy and procedures to provide self-referral mammograms for women aged 40+ years with Medicare—extended to all women who met screening criteria.
July 1998	A mammography self-referral questionnaire was developed by the Call Center and Prevention and Health Promotion Department and reviewed by the Mammography/Pap Smear Committee.
August 1998	A letter was mailed to all Medicare-eligible women aged 40+ years informing them that they could self-refer for mammography.
August 1998	New mammography appointment slots were created—a 20-minute screening (routine) appointment and a 30-minute diagnostic (nonroutine) appointment.
August 1998	The Call Center staff was trained on how to schedule mammograms by phone for women who called and had no symptoms.
August 1998	Saturday hours for mammography added to Southwood Medical Office, and the template was made available to HCT and Call Center for scheduling.

Table 3. (Cont.)	
August 1998	IPC recommended orange (instead of fuchsia) chart reminders be placed in charts of unscreened women aged 52+ years as a readily recognized cue to alert practitioners during the visit of a woman overdue for guideline-recommended examinations. Prevention and Health Promotion Department developed chart reminder and implemented process for reminders to be placed in medical records.
August 1998	Call Center began outreach calls to women aged 52+ who had not had a mammogram since 1/1/95 and scheduled mammograms during that call.
August 1998	Prevention and Health Promotion Department supplied Obstetrics/Gynecology Department with adult prevention wall charts that were placed in all exam rooms.
September 1998	Call Center staff began reminder calls to women scheduled for mammograms at Southwood, Glenlake and Crescent Center Medical Offices to decrease the no-show rate.
September - December 1998	Obstetrics/Gynecology Department held twice-monthly Women's Health Day on Saturdays, when women had both Pap smear and mammogram (if indicated).
October 1998	New Regionwide monthly e-mail newsletter, *Ounce of Prevention*[8] featured the revised *Breast Cancer Screening Prevention Guidelines.*[2]
October 1998	Medical center staff placed posters promoting breast health and wore pins in celebration of Breast Cancer Awareness Month.[9]
October 1998	The *Breast Health and Cancer Detection*[10] brochure was revised and printed by Prevention and Health Promotion Department, then made available to HCTs for module distribution.
October 1998	*Adult Health Preventive Care Services Guidelines*[11] brochure was revised, printed, and mailed to all subscriber households. The brochure includes reminders about frequency of mammography.
October 1998	Procedure developed to expedite referral process for affiliated care members when contacted through Call Center outreach efforts.
November 1998	At the Affiliated Practitioners Advisory Council meeting, the *Adult Health Preventive Care Services Guidelines*[11] mailer and the *Healthwise Handbook*[12] were introduced, both of which include the mammogram guidelines.
November 1998	HEDIS mammogram results, goals, and the mammogram chart reminders were discussed at the Affiliated Practitioner Advisory Council Meeting, and practitioners were invited to participate in the guideline revisions.
November 1998	Affiliated Network chart data were abstracted to augment the administrative data.
November 1998	Chart reminders were inserted into all Affiliated Care charts that did not contain evidence of a guideline-recommended mammogram.
November 1998	Analysis of phone outreach calls and feedback from clinicians determined that some women in our target group identified by our administrative records did have a mammogram within the last two years. A chart review was authorized to validate the negative administrative data at some sites.
November 21, 1998	Mammography Days event was held at Southwood Medical Office for Cascade female members without transportation. Eligible women were transported by van to the facility on a Saturday to receive mammogram and Pap smear if needed. Because of short notice of scheduling, only four women took advantage of this service.
December 1998	Call Center outreach to women aged 52+ years without a mammogram since 1/1/95 was extended to the Affiliated Care members.
December 1998	Primary care practitioner-specific 8/98 year-to-date performance rates for Pap smears, mammography, and diabetes retinopathy screening were provided to each physician in Adult Medicine Department.
December 1998	A mammography machine began service at Gwinnett Medical Office.

Table 3. (Cont.)	
December 1998	Call Center staff called women aged 50+ years without mammogram in two years and scheduled appointments at the Gwinnett Medical Office for Gwinnett and Alpharetta Medical Office members.
December 1998	The *Breast Health and Cancer Detection* brochure[10] was mailed to every TSPMG physician and associate provider to accompany an article on breast cancer screening in the *TSPMG Newsletter.*[13]
December 1998 - January 1999	The Prevention and Health Promotion Department placed the updated recommended screening and preventive services chart in exam rooms at each medical office.
January - February 1999	The Prevention and Health Promotion Department placed mammogram posters in women's bathrooms throughout all medical centers.
January 1999	The *Network Pulse Newsletter*[14] announced unveiling of a postage stamp to benefit breast cancer research, an effort spearheaded by KP surgeon Balasz Bodai, MD.
February 1999	*3rd Quarter 1998* HEDIS mammogram results[15] were distributed to the Affiliated Care practitioners.
March 1999	The *1998-1999 Core Catalog Health Education Publications*[16] was distributed at the Affiliated Practitioner Advisory Council meeting along with the Prevention wall charts and the *"Healthwise Handbook".*[12]
March 1999	The second annual Mammography Days event was held at the Panola and Cascade Medical Offices. Survey results ranged from fair to excellent. The fair rating was based on members desiring transportation be available during the week too.
April 1999	*Breast Health and Cancer Detection*[10] brochure was sent to the Affiliated Network practitioners and made available for distribution through *The 1998-1999 Core Catalog Health Education Publications,*[16] which was also distributed.
April 1999	*Network Pulse Newsletter* contained the newly created two-page insert entitled, *Quality Beat,*[17] which was devoted exclusively to quality of care and service issues. *Quality Beat* contained an article[18] encouraging compliance with the *Breast Cancer Screening Prevention Guidelines.*[2]
April 1999	Affiliated care quarterly mailing included the *Recommended Screening and Preventive Services for Adults* wall chart,[3] the *Preventive Checklist*,[19] and the mammogram posters, which contain the mammogram guidelines.
May 1999	A self-requested form for patients who "walk in" to the Radiology Department for a mammogram was developed.[20]
June 1999	*Mammogram Reminder Card: You Oughta Be in Pictures*[4] was mailed to all new members in target population and to members aged 50+ years who had never received the brochure in the past.
June 1999	The survey[21] from the June Mammography Days event at Cascade and Panola Medical Offices reflected positively that members are pleased with the free transportation provided to the medical offices and with Saturday hours.
June 1999	The breast health posters[9] and the brochure, *Breast Health and Cancer Detection,*[10] were revised to include the HealthLine number and information about the cost of a mammogram.
June 1999	*Access to Screening Mammography by Self-request* policy and procedure[22] was updated.
June 1999	The *Women's Health Advisor*[23] was rolled out to all Obstetrics/Gynecology Departments except for Crescent Center Medical Office.
June 1999	HCT lead RNs were trained on how to use the self-requested mammogram questionnaire.
June 1999	Orange chart reminders were revised and inserted in medical records of target population during chart review to remind physicians to order mammograms.
June 1999	Call Center began outreach calls to women aged 52-69 years in target populations who have not been screened.

Table 3. (Cont.)	
July 1999	The Call Center staff was trained on the ICS system and now has the capability to schedule women for mammograms.
July 1999	The Breast Cancer Screening Work Group confirmed activities for the October Breast Cancer Awareness Month, and activity owners were named.
August 1999	The Call Center asked to do another round of calls to women without mammograms in the target populations. Once calls were concluded, a list of women who were not scheduled for a mammogram was forwarded to HCT for follow-up.
August 1999	Two new breast health brochures were mailed to members who had already received the *Mammogram Reminder Card: You Oughta Be in Pictures*[4]—*Mammograms: Not Just Once, But For A Lifetime*[24] was sent to women aged 70+ years, and *Breast Cancer Facts*[25] was sent to women aged 52-69 years.
August 1999	Review of the *2nd quarter* HEDIS data[26] reflected a 6% increase in the midyear measurement compared with midyear 1998.

Table 4. Improved mammography screening rate, KP Georgia Region, 1996-1999

Comparison	Chi-Square	p value
1996-1997	0.38	0.5352
1997-1998	59.67	< 0.0001
1998-1999	67.29	< 0.0001

breast cancer screening rates as one of two clinically significant measures of quality performance for adjustment of each HCT's incentive reward. By Fall 1998, HCT-specific screening rates were reported on a quarterly basis—making HCTs aware of their relative performance and potential relative financial benefit.

System and process interventions made since inception of the KP Georgia Region's Breast Health and Cancer Detection Program are shown in (Table 3).

The observed improvement from 1996-1999 was statistically significant ($p < 0.0001$).

Program Impact

Program performance is currently measured by the HEDIS (version 3.0) breast cancer screening rate measure. This measure captures the screening rate of all women aged 52-69 years who have been continuously enrolled for two years preceding the reporting year. The possible confounding variables might include women who have had radical bilateral mastectomies and women with long breaks in enrollment.

The number of women defined by this measure has increased from 7017 in 1996 to 10,515 in 1999. The population targeted by this program is all women aged 50 years and older in the Georgia Region. Because the population in the measure specification covers most ages of women in the target population, we presume that program impact is accurately represented by the HEDIS rates.

Table 4 shows statistical significance of the observed improvement in mammography screening rate from 1996 to 1999. The observed improvement from 1996-1999 was statistically significant ($p < 0.0001$).

Figure 1 illustrates the screening rate for 1996 through 1999. The 1999 rate was projected using the year-to-date screening rate. Analyses were retrospective and were conducted using EPI-INFO 6.02. The screening rate increased from 73.8% in 1996 to 84.3% in 1999 ($\chi^2 = 271.03$, $p < 0.01$, df = 1). During the period 1996-1999, the screening rate increased at approximately 3% per year (absolute). This change represents a sustained, linear trend ($\chi^2 = 337.87$, $p < 0.01$, df = 3).

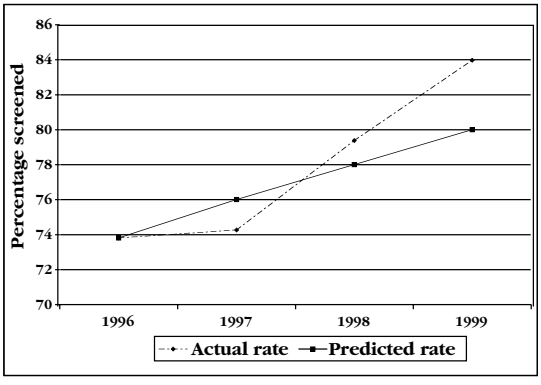

Figure 1. Mammography screening rates in KP Georgia Region.

Comment

Program Evaluation

The Breast Health and Cancer Detection Program has achieved demonstrable results. In 1997 and 1998, the IPC/CQI team (and in 1999, the EIQ Breast Cancer Work Group) systematically identified issues impeding performance improvement and have recommended innovations to motivate and accelerate improvement in breast cancer screening.

The program has achieved its objectives. The breast cancer screening rate for women rose from 74% in 1996 to 84% for all insurance product lines in 1999. National benchmarks for 1998 were 81% (90th percentile for commercial members) and 84% (90th percentile for Medicare-eligible members). Our 84.3% screening rate thus apparently makes the Georgia Region a KP national leader and puts the Georgia Region in the top 10% of all health plans in the country.

The program has achieved these results with a broad array of activities: Saturday hours, mobile mammography, medical record reminders, patient and physician reminders, Call Center outreach, practitioner feedback on performance, and practitioner financial incentives. Some of these activities are relatively low in cost (eg, the fuchsia inserts in medical records). Several other innovations demonstrate the ability to integrate improved care management into evolving service delivery within KP—such as use of Call Center technology and redesign of Primary Care delivery. Although we cannot point to any one of these innovations as a key driver of improvement, implementing this cluster of innovations can substantially improve care delivery.

In particular, the Call Center outreach was one of the most successful methods implemented by the Georgia Region. The purpose of this outreach tool was to call women aged 52-69 years who were past due for a mammogram and to schedule an appointment for them. In some instances, the Call Center was not able to reach the patient; if that were the case, those names and phone numbers were forwarded to the HCT for follow-up. At least three attempts at calling the patient were made before involving the HCT. This activity should be increased to maximize future return on these efforts.

The least successful activity was the mobile mammography van outreach. Although the mobile mammography van did not have the turnout in numbers that we had anticipated, two women were found in the early stages of cancer. The purpose of this outreach effort was to provide mammography services at sites without mammography equipment. This intervention was directed at women who needed transportation to a medical center to get a mammogram. The protocol for this intervention was to process the films at the end of the day. A problem occurred in some cases where incomplete views of the breast were taken, making the films inadequate. Forty (65%) of the women had to return for repeat views. No additional mobile mammography interventions have been implemented. However, one initiative that came out of this outreach was the Mammography Days event, in which vans are used to transport women to medical offices with onsite mammography equipment. Mammography Days occurs on a quarterly basis and has been successful. Plans to use the mobile mammography van are uncertain. But the initiative to provide van transportation should be increased as a feasible alternative to the mobile mammography van outreach.

The impact of improved mammography screening access on the rate of breast cancer diagnosis and breast cancer stage at diagnosis were not available when this article was prepared. The Georgia Region began developing a Breast Cancer Registry with stage-at-diagnosis information in 1996. The 1996 and 1997 data showed results comparable with other KP Regions. The 1998 and most recent data are currently undergoing data integrity checks related to our recently required state reporting and are not available at this time.

Cost-effectiveness

Data from the Centers for Disease Control and Prevention[27] suggest that screening women aged 50-69 years for breast cancer every one to two years can lead to a 20% to 30% reduction in breast cancer mortality. One study[28] indicated that the combination of a clinical breast examination and an annual mammogram prevents premature death at a cost of $22,000 to $84,000 per life-year gained in women aged 55 to 65 years, depending on the effectiveness of screening. Our Georgia Region's data on the evaluation of cost-effectiveness of the described interventions are forthcoming. In the meantime, our annual budget for the KP-Georgia Breast Health and Cancer Detection Program is $71,000, a modest investment to achieve these substantial gains.

The breast cancer screening rate for women rose from 74% in 1996 to 84% ... in 1999.

Implications

The following activities have already become the normal practice for breast cancer screening outreach and are embedded in our ongoing processes of care. We therefore expect to sustain the gains made and possibly even improve our results.

- Each summer, the Call Center phones women aged 52-69 years who have not been screened for two or more years.
- Each May, the Prevention and Health Promotion Department will mail the "Mammography Reminder Card: You Oughta Be in Pictures"[4] or the "Mammograms: Not Just Once, But For A Lifetime"[24] brochure to women aged 50 years and older.
- During the second quarter of each year, the Prevention and Health Promotion Department will place colorful "chart reminders" with the Breast Cancer Screening Prevention Guidelines[2] on them in the medical records charts of women aged 50 years and older who have not had a mammogram in two or more years.
- The breast health posters with the Breast Cancer Screening Prevention Guidelines[2] will be revised and placed in the bathrooms during the second quarter of each year by the Prevention and Health Promotion Department as needed.
- The "Recommended Screenings and Preventive Services for Adults"[3] wall chart that is placed in all medical center exam rooms is revised every two years by the IPC and the Prevention and Health Promotion Department. The wall chart is sent to the network practitioners.
- The Radiology Department will continue to offer Saturday appointments that support routine mammograms and "Well Women" examinations and will provide transportation to the medical centers for women who need it.

The breast cancer screening rate for women rose from 74% in 1996 to 84% for all insurance product lines in 1999.

Transferability

None of our changes in process of care (with the possible exception of HCT incentives) are intrinsic to the Georgia Region. Some of the project processes, tools, and practices (eg, Saturday hours, self-referral, walk-in appointments, reminders) are common practice in many KP Regions.

The Georgia Region's Prevention and Health Promotion Department is dedicated to providing high-quality care to the members. In order to do this, this Department practices networking with other KP Regions and gleans from them initiatives that have proved successful. Some of the initiatives that KP Georgia uses for breast awareness were adapted from the KP Northwest Region. Specifically, the KP Northwest Region's EpicCare Health Maintenance Reminder became our paper version chart reminder; the Northern California Region's Clinic Visit Summary form to alert clinicians became our exam room wall chart, and the letter outreach became our "Mammography Reminder Card: You Oughta be in Pictures"[4] and "Mammograms: Not Just Once, But For A Lifetime"[24] brochure mailer; and the KP Northwest Region's Women's Safety Net gave us the idea to select a particular population to target.

The nature of the innovations we used in the Georgia Region make this Program a model of care both for other medical conditions and for other KP Regions. In the absence of an electronic medical record, medical record inserts are a low-cost method for prompting behavior on the part of patient and practitioner whenever a visit occurs. This simple activity can be used for promoting adherence to clinical practice guidelines for other diseases, such as asthma and diabetes. We have also focused recent efforts to develop a registry for our prostate and colorectal cancers and melanomas similar to our Breast Cancer Screening Registry. In addition, the Georgia Region mailed the large-print edition of the "Mammograms: Not Just Once, But For A Lifetime"[24] brochure to women aged 70 years and older. Dr Adrienne Mims and Kecia Leatherwood presented our results at the Kaiser Permanente Third Prevention & Self-Care Symposium in December 1999 with an exhibit called "Implementation of a Breast Health Screening Program for the Hard-to-Reach Woman."[28]

Conclusion

In conclusion, although we have no specific feedback information yet from other KP Regions that have adopted aspects of our Georgia Region project (either regarding their experience or with respect to quality improvement results with the inreach and outreach activities and educational programs), we believe that any KP Region can apply a similar cluster of interventions to achieve measurable, sustainable quality improvement. ❖

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Experience Is Interpretive

At its heart, what we call experience is an interpretive, not a perceptive, encounter. Seeing is one thing. But how we choose to interpret what we see will determine the story we tell and the life we lead.

Richard Stone, "The Healing Art of Storytelling"