



Promoting better healthcare for women

THE SCREENING ADHERENCE FOLLOW-UP (SAFe) PROGRAM:

Patient navigation/Case management the SAFe Way

***A TOOLKIT FOR EVIDENCE-BASED PATIENT NAVIGATION/CASE
MANAGEMENT TO IMPROVE ADHERENCE TO ABNORMAL CANCER SCREEN
FOLLOW-UP***

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Preface

A SAFe pilot replication and randomized study project was funded by a cooperative agreement awarded in October, 1997 to the Institute for the Advancement of Social Work Research (IASWR) by the National Breast and Cervical Cancer Early Detection Program (NBCCEDP) of the Centers for Disease Control and Prevention (CDC). A SAFe implementation demonstration project was funded in January 2000 to IASWR by the Cancer Detection Section of the California Department of Health Services <http://www.dhs.ca.gov/cancerdetection/> under CDC funding for patient navigation/case management demonstration projects.

The CDC NBCCEDP was established with the Breast and Cervical Cancer Mortality Act passed by Congress in 1990. The NBCCEDP provides screening services, including clinical breast examinations, mammograms, pelvic examinations, and Pap test to medically underserved low-income women (for more information, see the NBCCEDP program website at: www.cdc.gov/cancer/nbccedp). The NBCCEDP also funds post-screening diagnostic services, such as surgical consultation and biopsy, to help ensure that all women with abnormal results receive timely and adequate referrals. The recent passage of the Breast and Cervical Cancer Treatment and Prevention Act of 2000 gives states the option to provide Medicaid coverage to women who have been screened through the NBCCEDP and found to have breast or cervical cancer or precancerous lesions.

Now in its 11th year, the NBCCEDP has served over 1.5 million women, providing more than 2.7 million screening examinations – diagnosing 8,600 breast cancers, 39,400 precancerous cervical lesions, and 660 cervical cancers. The NBCCEDP operates in all 50 states, the District of Columbia, 6 U.S. territories, and 12 American Indian/Alaska Native organizations. The NBCCEDP works with a variety of partners, particularly state-based programs.

In October 1998, Congress modified the legislative authority of the NBCCEDP to include patient navigation/case management as a program component in response to the demonstrated need for more intensive individualized intervention for high-risk women with special needs. In late 1999, CDC provided national guidelines for these patient navigation/case management services within NBCCEDP programs. SAFe patient navigation/case management is consistent with the CDC Patient navigation/case management Policy, as it addresses each element of the guidelines.

IASWR is a nonprofit national organization whose mission is to advance social work practice and education and to inform health and social policy through research. Founded by the five major national social work organizations: the Association of Baccalaureate Social Work Program Directors, the Council on Social Work Education, the Group for the Advancement of Doctoral Education, the National Association of Deans and Directors of Schools of Social Work, and the National Association of Social Workers. It is sponsored by those organizations and the Society for Social Work and Research. IASWR promotes and facilitates scientific testing and evaluation of health and social service interventions and programs and promotes empirically documented, effective interventions in social work practice. Thus SAFe testing and dissemination is responsive to IASWR primary practice goals (www.iaswresearch.org).

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The SAFe PATIENT NAVIGATION/CASE MANAGEMENT TOOL KIT

This Patient navigation/case management Tool Kit is a guide for health system administrators, providers, and cancer screening case managers. Specific Chapters detail the background and targeted aims of SAFe, and describe how to assess your program's need for SAFe, how to implement SAFe in your health care system, and how to evaluate SAFe service outcomes and monitor service quality. These tool kit materials address each of the seven elements of the Centers for Disease Control and Prevention patient navigation/case management policy (CDC 2000). Each tool kit Chapter is tabbed and has a table of contents for ease in referencing.

Executive Summary of Project SAFe

Chapter 1. An Overview of Non-Adherence and Interventions to Improve Adherence and Quality of Care

--- an overview of the problem of non-adherence to follow-up, barriers to adherence, and interventions to improve adherence.

Chapter 2. Strategies SAFe Program Goals, Target Population, Elements, Effectiveness, and Cost

--- provides an overview of specific aims, key elements, and evidence of effectiveness and cost.

Chapter 3. State Program Directors Implementation

Chapter 4. Administrative Steps Prior to Initiating SAFe Patient Navigation/Patient navigation/case management

--- guides clinic or health system administrators in answering key questions – What aspects of our organized system of care would be improved by patient navigation/case management services? Would adherence to follow-up be improved in our clinic by the addition of SAFe patient-centered patient navigation/case management? How would patients be selected for patient navigation/case management? What resources should be allocated to follow-up adherence patient navigation/case management? How would we go about preparing for and then implementing SAFe?

Chapter 5. Patient navigation/case management the SAFe Way: A Structured Service Manual

--- provides case managers and health system administrators a detailed step-by-step guide for providing SAFe patient navigation/case management intervention, including examples of options for program elements that provider programs might wish to consider in tailoring their SAFe program to meet local program needs.

Chapter 6. Evaluation and Quality Monitoring Guide

--- guides health system administrators and case managers in implementing program evaluation and monitoring patient adherence as well as organizational and patient barriers to providing SAFe patient navigation/case management.

Chapter 7. Patient navigation/case management Training Guide, Training Exercises, and Pre- and Post-Test

--- includes training vignettes and content that are designed to be used as a self-administered guide.

Project SAFe Executive Summary

Project SAFe tested a systematic evidence-based patient navigation/patient navigation/case management approach to improve patient cancer screening follow-up adherence. The target population was medically under-served low-income, ethnic minority women with abnormal breast and cervical screens. Controlled clinical trials had demonstrated the efficacy of interactive health education counseling and systems navigation for improving abnormal screening follow-up adherence. The SAFe project adapted these interventions for delivery in different service systems and diverse populations, added mental health screening and assessment, and included more intensive psychosocial counseling for women with special needs. Key study questions concerned the effectiveness, feasibility and utility of SAFe patient navigation/case management and identification of patient, provider and health systems barriers and facilitating processes to implementing SAFe in “real world” health care systems. Tested in three separate studies in multiple sites, SAFe patient navigation/case management improved patient adherence significantly over site baseline rates, non-enrollee rates, and control group rates, with adherence rates improving from 6% to 25%. The project developed a fully specified SAFe Tool Kit for dissemination.

THE CHALLENGE: WHY WAS PROJECT SAFE DEVELOPED?

Significant improvements have been made in providing breast and cervical cancer screening for low-income women. Unfortunately, when these women are screened and found to have suspicious or abnormal mammograms, they are most likely to miss follow-up diagnostic test appointments or to be lost to follow-up, thereby effectively delaying diagnosis and treatment at an early stage. This is of concern because later stage at diagnosis, morbidity, and mortality remain higher among low-income, minority women. Less than optimal or non-adherence rates to abnormal screening follow-up can be as high as 60% among medically under-served low-income, ethnic minority women.

Inadequate follow-up occurs when low-income women encounter health system, health provider, and personal barriers to optimal diagnostic follow-up. Low-income women are more likely to be uninsured or underinsured, to lack a regular source of medical care, and to receive fragmented screening, diagnostic resolution, and treatment services. Health systems serving these women may lack adequate patient tracking and record-keeping mechanisms, flexible appointment scheduling resources, and staffing resources. A breakdown in provider-patient communication due to time constraints and language and health literacy barriers may result in women never being adequately informed about their abnormal test or what specific follow-up is being recommended and why.

The health action a woman takes after being told that her screening test indicates a need for further testing or treatment will also be strongly influenced by: 1) her understanding of the meaning (and urgency) of the abnormal result; 2) what she believes is her risk of actually having cancer (including whether she has symptoms she believes are serious); 3) whether she believes that what is being recommended will make a difference (e.g., her perceptions about cancer prevention and survival); and 4) what problems, barriers, and costs she will face in following medical recommendations, such as perceived discomfort or embarrassment of follow-up procedures and difficulty in navigating fragmented systems of care and obtaining supportive resources. Women may be torn between wanting to know and being afraid to find out whether they have cancer. Women may take no action to learn the results of an initial screen or may place low priority on timely follow-up. Women’s personal assessment of their cancer risk as well as their choice of health behavior may also be strongly influenced by culturally determined beliefs, psychological distress (e.g., depressed women have been shown to be diagnosed at a later stage and to be less adherent to diagnostic follow-up), competing health and psychosocial problems in their daily lives, and out-of-pocket costs, including time away from work.

Patient navigation/case management approaches are increasingly being used to promote patient adherence to recommended treatment and to monitor patient appointment keeping. Controlled clinical trials of patient navigation/patient navigation/case management interventions find that interactive counseling, education, monitoring and reminders, and resource navigation (in-person or telephonic) are effective in improving patient care management over usual care for a range of health conditions. **Controlled clinical trials have also shown that interactive health education counseling and systems navigation interventions significantly improve breast and cervical screening and abnormal screen follow-up adherence, particularly among low-income medically underserved populations.** Several of these studies find that low-income and ethnic minority patients are most likely to need and to benefit from more intensive counseling plus systems navigation resources. **In general, the evidence provides convincing support for providing a combination of services at different levels of intensity and cost (e.g., written educational materials and appointment reminders, brief telephone**

reminders, and interactive counseling). **Conducting an assessment of individual women’s risk for non-adherence and implementing methods to match educational counseling and service intensity to individual patient need is likely to be effective and cost sensitive.**

Despite the very promising results of these studies, critical questions remain.

- Are these interventions effective across culturally diverse patient populations and diverse health care systems?
- What barriers affect providing these interventions in real world and sometimes under-resourced primary care systems.
- What key intervention elements facilitate adherence and the efficient implementation of patient navigation/case management?
- Are there efficient and effective ways to match service type and intensity with individual women’s needs?
- Which intervention elements can be standardized to facilitate their delivery and provider staff training?
- Which intervention elements are adaptable for diverse patient populations and health systems and which are optional?
- What is the cost of patient navigation/case management services?

Project SAFe was developed and supported under a CDC initiative aimed at addressing these unanswered questions within diverse health systems that provide abnormal screen follow-up for ethnically diverse and medically disadvantaged populations. A series of SAFe studies aimed to:

- Evaluate a multifaceted patient navigation/case management intervention that combined interactive assessment and individually tailored counseling and systems navigation to improve abnormal screen follow-up among low-income, ethnic minority women.
- Evaluate the feasibility of mental health screening, assessment, and referral within breast and cervical screening and diagnostic programs.
- Evaluate the effectiveness of SAFe among diverse populations and in diverse health care systems.
- Identify patient, provider, and health systems barriers and facilitating processes to implementing the SAFe patient navigation/case management model in “real world” health care systems.
- Identify cultural competency elements in SAFe patient navigation/case management.
- Develop patient navigator/case manager training materials, implement training of staff in different health care systems, and evaluate training outcomes.
- Examine the cost of SAFe intervention.

WHAT IS SAFE?

SAFe’s **systematic evidence-based patient navigation/patient navigation/case management** approach to improve patient cancer screening follow-up adherence combines two effective interventions to reduce patient non-adherence to follow-up: interactive telephone assessment and counseling and systems navigation. Interactive telephone educational counseling, using trained patient guides, has been proven effective in randomized clinical studies of women at high risk for non-follow-up after an abnormal cancer screen and in improving mammography adherence. Systems navigation was developed to assist patients in navigating the hospital and human services systems to achieve optimal follow-up for cancer detection and treatment. SAFe adapted each of these interventions for delivery in different service systems and included mental health screening, assessment, and more intensive psychosocial counseling for women with special needs.

The SAFe patient navigation/patient navigation/case management service model provides patient-centered assessment and educational counseling, centralized interpersonal patient tracking, reminders, and follow-up assistance, and links to community resource programs. Individualized assessment of known barriers to follow-up determines the type of follow-up service plan – i.e., telephone reminders and interpersonal counseling. Interpersonal health education, counseling, skill enhancement in patient-doctor communication, and information about and assistance with the use of community based resources aim to empower women to act in their own best health interests. The goal is to improve diagnostic, treatment, and repeat screening adherence by enhancing women’s health care utilization knowledge and coping skills. Links to community resources aim to facilitate women’s access to services and effective clinic use of and communication with community based

programs. Centering patient follow-up tracking, reminders, and counseling services under the responsibility of a designated clinic staff case manager aims to achieve systematic coordination of abnormal screen follow-up services and monitoring of patient adherence. To address the special needs and barriers to follow-up experienced by a minority of women (i.e., women diagnosed with cancer, women with depression or high anxiety and psychosocial stress), brief counseling and mental health referral is provided by an onsite or community based master's degreed social worker in collaboration with the case manager. The SAFE model closely parallels the CDC patient navigation/case management guidelines. A baseline clinical decision-making algorithm is used to distinguish the women that require more intensive follow-up interventions from those who do not, and to assign a level of service consistent with individually assessed barriers.

WHAT WAS LEARNED?

Evidence that SAFE is Effective in Improving Follow-up Adherence (See Table 2)

- Tested in three separate studies in multiple real world service systems with diverse patient groups (multi-site pilot (n=753), randomized (n=371), and implementation (n=398) (see Table 2), SAFE patient navigation/case management **improved patient adherence significantly** over site baseline rates, non-enrollee rates, and control group rates, with rates of adherence improving from 6% to 25%.
- In most cases, receiving SAFE patient navigation/case management resulted in **significantly more timely adherence** over women receiving usual care as represented by site baseline, women never enrolled in the SAFE program, and randomized control group timeliness rates, with timeliness rates improving from 10% to 21%.
- In the SAFE randomized control trial, women receiving SAFE patient navigation/case management achieved equal or higher rates of both adherence and timely adherence across all classification categories for both mammography and PAP when compared to women in the control group. SAFE patient navigation/case management achieved the largest gains in both adherence and timely adherence for women with less severe initial screening classifications (ACR 3; LGSL).
- Adherence rates of women receiving SAFE patient navigation/case management were similar across ethnic groups.
- Improved adherence outcomes were achieved across urban and rural community based screening clinics, urban diagnostic and treatment medical centers, and geographic regions.
- Mental health screening identified 8-10% of women with depressive or anxiety disorders. These women and others with special needs achieved good adherence and were referred to community-based services.
- Rescreening rates were higher among women receiving SAFE services than non-enrolled women.
- Patient satisfaction with SAFE was high.

Majority of Women Identified Barriers to Follow-up: Most Frequently Identified Were

- Did not understand screening result and/or recommended follow-up
- Lacked a usual source of care and health care coverage
- Afraid of finding a serious problem
- Worry about recommended follow-up exam or treatment
- Concern about out-of-pocket cost
- Needed systems navigation assistance or transportation
- High distress

Evidence of Barriers to the Implementation of SAFE

- Significant percentages of women in all three studies ultimately could not be located. Random sampling of adherence rates for these women showed dramatically lower adherence rates.
- Difficulty in identifying women eligible for SAFE services in some systems. Depending on medical or nursing staff referral to the case manager failed to identify all women with an abnormal screen.
- Clinic system lack of a centralized patient tracking method resulted in failure to identify all women with an abnormal and required additional patient navigation/case management time in tracking women.
- Existing processes for informing women of their abnormal result did not routinely provide adequate or motivating information that led to prompt adherence. In some cases these processes were untimely and incomplete.
- Clinical time and staffing constraints resulted in delayed appointments for many women.

- Problematic transfer of patient information and communication between screening and diagnostic programs resulted in delayed follow-up and increased time of SAFe case manager.
- When the case manager is not viewed as a member of the clinic team, communication and other barriers impair efficiency and effectiveness.

Evidence Supporting Key Intervention Element

- Designating the patient navigator/case manager as a member of the clinic care team facilitates implementing SAFe.
- Integrating patient navigation/patient navigation/case management services with the process for informing women of results facilitates the navigation/patient navigation/case management service, improves time efficiency, and provides the opportunity to assess and counsel women on their understanding of the screen results, the subsequent diagnostic or treatment follow-up, and barrier reduction.
- Computerized appointment and results tracking improves follow-up and reduces patient navigation/patient navigation/case management service time.
- *Because the majority of women are likely to experience barriers to follow-up, routine interactive assessment of patient adherence barriers enables education and systems navigation counseling to be tailored for individual women. This is consistent with findings from other studies that tailoring educational and counseling messages is likely to be more effective.*
- Standardized scripted assessment and counseling and service tracking methods facilitate patient navigation/case management staff training, service quality monitoring, and ongoing evaluation of service costs, and barriers encountered.
- Assessment can be used to assign different levels of service follow-up. In SAFe, the case manager used a clinical decision-making algorithm to determine women's assigned level of service intensity. The algorithm was based on assessment of patient barriers. The finding that there were no differences in adherence rates across service levels supported the effectiveness of this method.
- SAFe patient navigators/case managers maintained linkage with community based resources that facilitated systems navigation.
- Brief counseling and referral to appropriate community based services were provided for a significant minority of women (15%-24%) who were assessed as having special needs – being diagnosed with cancer or depressive or anxiety disorder or experiencing significant current psychosocial stress. These women achieved rates of adherence similar to that of women without these needs.
- SAFe navigators/case managers reported that the scripted assessment and counseling responses facilitated their work and that empowerment strategies were most frequently undertaken.
- Initial case manager training must be augmented over time by specific supervisory support within clinic programs or by linking with other case managers through a telephone network.

Evidence of Adaptations and Optional Intervention Elements in Different Health Care Systems

- Having a script in English facilitated translation into Spanish and was helpful in adapting elements for the Chinese-speaking patients. Thus, having scripted tools was helpful in adapting materials for different cultural groups and facilitated responses that were sensitive to health literacy issues.
- Counseling services for women with special needs were provided through different organizational arrangements within the different health systems in which SAFe was studied. It is possible to distinguish the cost of these services from general patient navigation/case management.

Evidence of the Cost of SAFe

Cost breakdown found that case manager cost was \$11/month for mammogram patients and \$15/month for cervical patients, based on one year of service. Assuming an average of social work contacts ranging from 3-5 per patient, social work costs can be estimated using local hourly rates, which average \$35/hour. These figures include the cost of extensive outreach efforts - an average of 6 phone attempts to yield one enrolled woman - when calls to the many women who were never reached were factored in. The annual cost represents direct activities (time spent in interaction with a woman or collaterals) and indirect activities (appointment tracking and paperwork) of the peer counselor and MSW, as well as supervisory and consultation time (to the case manager) for the MSW.

KEY PATIENT NAVIGATION/CASE MANAGEMENT INTERVENTION ELEMENTS

Based on existing clinical trial evidence, key intervention elements should be considered when your program is planning to implement a quality patient navigation/case management program.

ORGANIZATIONAL PLANNING AND PREPARATION. KEY ELEMENTS INCLUDE:

- Is there a need to improve the follow-up adherence of women in your program?
- What are the socio-cultural characteristics of the women you serve - are they of predominantly low-income, of culturally diverse backgrounds, with limited health literacy?
- Would your clinic population benefit from being linked to community-based resources?
- Are there deficiencies in the current process of informing patients of abnormal results? Is the notification process centralized and systematic?
- Could your current processes for patient tracking and appointment reminders be improved? Is this process centralized and systematic?
- Could your clinic communication processes about patient follow-up among medical providers, with other provider systems, and with community programs be improved?
- Is your program making optimal use of existing state and local community program resources?

KEY INTERVENTION ELEMENTS

In designing a patient navigation/case management program, individual programs should design their intervention model to meet specific needs of its patient population and to enhance its organizational service strategies. While individual adaptations are recommended, the following key elements are supported by existing evidence from SAFe and other clinical trials reviewed above:

- Empower a designated individual and group of individuals to assume leadership for implementing patient navigation/case management.
- Designate a case manager.
- Develop a routine structured patient navigation/case management protocol for your clinic that includes:
 - Integrating patient navigation/case management with results reporting
 - Routine patient tracking and written and telephone reminder system
 - Scripted or structured assessment of barriers to follow-up that includes suggested counseling and systems navigation responses
 - A method to match follow-up service intensity (e.g., counseling reminder calls or mailed reminders) with a woman's assessed risk of barriers to adherence
 - Barrier and educational counseling guidelines
 - Systems navigation and community resource linkages
 - Cultural competency elements
 - Service guidelines for women with special needs

THE SAFE TOOL KIT: AN ADAPTABLE RESOURCE FOR PATIENT NAVIGATION/CASE MANAGEMENT PRACTICE

The SAFe Tool Kit can be adapted for a specific service system or community based clinic or can be used to modify patient navigation/case management practice already in practice. The Tool Kit provides guidelines for assessing need, planning, and staff preparation. Training materials can be self-administered and adapted to the specific care system. Individual elements of the SAFe patient navigation/case management model can be selected for implementation and others can be adapted. Materials and tools can be used as resources to adapt or modify patient navigation/case management materials already in use. The Tool Kit includes resources related to each element of the CDC case management Policy for the National Breast and Cervical Cancer Early Detection Program www.cdc.gov/cancer/nbccedp/about.htm.

Table 1: Clinical Trials of Patient navigation/Case management, Interactive Counseling and Systems Navigation

Reference	Patient Group	Health System	Targeted Behavior	Key Interventions	Comparison Group	Outcome
Hunkeler et al., 2000	302 adult primary care patients	HMO	Improve depression care management	Emotional support and focused behavioral interventions in 10 6-minute tel calls over 4 months by clinic RNs	Randomized control	Intervention patients experienced clinically significant improvement at 6 weeks and at 6 months and reported greater satisfaction with care
Piette, et al., 2001	272 VA patients with diabetes	VA general medical and diabetes clinics	Glycemic control and serum glucose testing	Automated telephone patient assessment (touch-tone key-pad); RN telephone ed. and follow-up calls; RN communication with PMD	Randomized control	HbA _{1c} levels lower and fewer symptoms, and greater satisfaction with care in intervention group
Resnicow, et al., 2001	1011 predominantly African-Am women	14 churches	Increase fruit and vegetable intake	3 intervention conditions: comparison, self-help intervention with 1 tel cue call, and self-help with 1 cue call and 3 motivational counseling calls	Churches were randomized	Improvement was significantly greater in the motivational interviewing group than in the comparison and self-groups
Riegel, et al., 2002	358 Older adults with chronic heart failure, 25% Spanish speaking	Physician Practices	Facilitate patient care for chronic heart failure	Standardized telephone assessment, ed, counseling, monitoring, resource info; length of intervention – 6 mo.	Randomized control	HF hospitalization rate 45.5% lower in intervention group, hosp days and multiple readmissions significantly lower; cost saving realized
Tutty, et al., 1999	122 primary care adults	HMO	Facilitate depression care and increase adherence to antidepressant medication use	Tel counseling and support over 6 weeks; written educational materials	Contemporaneous control group	Tel counseling patients had significantly lower depressive symptoms at 3 and 6 months and were 2x more likely to adhere to antidepressant medication
Bowland, L et al., 2003	216 women; 55% having completed high school	Breast screen center Melbourne Australia	Psychological distress associated with screening mammography	Tel or in-person home visit counseling	Randomized groups: tel, vs in-person, vs usual care	Receipt of counseling was associated with significantly better psychosocial functioning; 32% of women randomized to home visit refused in-person counseling, only 1% refused tel counseling
Champion, et al., 2003	803 low-income African-American	HMO gen med	Mammography screen	Standardized assessment, telephone and in-person counseling	Randomized control and more modest intervention groups	Personal and telephone counseling increased adherence 60%-50%
Costanza, et al., 2000	1655 underusers of mammography age 50-80	HMO	Mammography screen	Barrier specific telephone counseling, up to 3 calls of average duration of 5.5 minutes; physician education; reminder control condition	Randomized control	BSTC was effective and MD education was marginally effective for women who had prior but not recent mammograms; cost was \$726 per additional regular user
Crane, et al., 2000	4,000 women age 50 or more	Low-income and minority neighborhoods	Mammogram	Telephone assessment and barriers counseling plus follow-up counseling calls	Non-randomized intervention group; a cohort group randomized to either single tel call, usual care, or single call	27% of intensive tel intervention patients obtained mammogram within 6 months vs 11-16% in randomized cohort
Duan, et al., 2000	813 ethnically diverse urban women	30 churches	Annual mammogram	Individualized annual ed and behavioral tel counseling; conducted for 2 years	Randomized church groups	Among tel counseling recipients, mammography adherence was maintained among baseline-adherent participants; reduced nonadherence rate from 23% to 16%
Engelstad, et al., 2002	108 women, 80% ethnic minority	Public y room	Abnormal cervical screen follow-up	Women notified of results by tel; RN case manager made reminder calls before and after each appt and missed appt; computerized tracking	Randomized control	Of women in intervention group, 65% vs 41% in controls kept at least one follow-up appt by 6 months; 50% of intervention vs 19% of controls had 6 mo follow-up and diagnostic resolution in 18 mo.
Engelstad, 2002	348 low-income African-American and Hispanic women with abnormal pap screen	Urban public medical center	Abnormal follow-up test by 6 months	Standardized barrier assessments; individually tailored education, system navigation, counseling, and referral; systematic tracking system	Randomized control group	62% follow-up by 6 mo vs 35% in control group; no follow-up for 25% of intervention group vs 65% of control group
Freeman, et al., 1995	131 screening patients and 77 cancer patients; 64% African-Am and 26% Hispanic	Harlem Medical Center	Abnormal follow-up diagnostic biopsy	Designated navigator, tracking forms, outreach through diagnosis and psychosocial support for patients with cancer	Non-randomized group of patients who never received systems navigation	85.7% of patients receiving the intervention completed biopsies vs 56.5% of non-navigated; 71.4% vs 38.5% completed
Janz, et al., 1997	460 women age 65-85, nearly 24% African-American	Primary care practices	Mammogram	MD letter; standardized tel counseling by peer for woman who did not respond within 2 months	Randomized control group	39% in intervention group vs 16% in control group obtained confirmed mammogram
Lerman, et al., 1992	90 low-income minority women who missed colposcopy appt	Urban medical clinic	Abnormal follow-up completion of colposcopy for HGSIL, invasive ca	Scripted interpersonal telephone counseling	Randomized control	67% of women in intervention group were adherent to new appt vs 43% in control group; 74% in intervention group adhered to treatment vs 53% in control group

Lipkus, et al., 2000	1,099 women	HMO	Mammograms on schedule	Tailored telephone counseling; tailored print communications; usual care	Randomized control group	Tel counseling resulted in 71% vs 61% for usual care; tailored print resulted in 67% ; tel counseling was particularly effective among previously nonadherent women
Marcus, et al., 1992	>=25% African-Am, >+25% Hisp, >+25% non-Hisp White		Completion of at least 1 visit for abnormal smear	Transportation incentives; personalized follow-up letter/pamphlet; waiting room slide-tape	Randomized factorial design	Positive effect for transportation among low-income patients; positive effect for personalized letters and slide show for higher income women
Marcus, et al., 1998	1,453, low-income, primarily Hispanic	Public hospital	Completion of at least 1 visit for abnormal smear, invasive ca	Intensive mail and telephone follow-up; vouchers to offset out-of-pocket costs	Randomized factorial design	Both interventions associated with higher return rates vs control group
Melnikow, et al.,	243 uninsured or Medicaid; 9% African-Am, 15% Hispanic	Family planning clinics	Abnormal pap test follow-up	3 telephone reminder calls	Retrospective cohort, no comparison group	Overall adherence rate was 56%; 39% after 1 tel contact with improvement after 2-3 tel contacts
Miller, et al., 1997	828 English-speaking, predominantly low-income, 86% African-American, with abnormal pap test	Colposcopy clinics	Initial & 6-month diagnostic follow-up	Scripted telephone counseling; telephone counseling + booster tel counseling at 6 months; tel confirmation	Randomized to 3 intervention groups or usual care group	Telephone counseling increased initial adherence over both tel confirmation and UC (76% vs 68% or 50% and increased 6-month follow-up 61% vs 36% and 30%
Taplin, et al., 2000	1765 women who had not scheduled a mammogram; majority with high school or greater ed and middle or upper income	HMO	Adherence to mammography screening	3 intervention groups: a reminder postcard, reminder tel call, a motivational tel call addressing barriers; tel callers could schedule mammography	Randomized 3 intervention groups	Tel calls increased scheduling of mammogram; no difference in type of call; higher income associated with greater adherence
Thompson, et al., 2002	196 women age 50-74	Inner city public health hospital	Mammogram within 8 weeks	RN prompt and barrier specific counseling, video, pamphlet, reminder call, bus tokens	Randomized group	49% of intervention women had mam vs 22% of controls
Weber & Reilly, 1997	376 patients, age 52-77, who had not had mammogram in at least 2 years; ethnically diverse	Urban teaching hospital	Mammogram	Culturally sensitive, interactive pt ed, reminders, and systems navigation; designated community health education; practice based data managers maintained clinical database and provided reports to PMD, MD; sequenced level of intervention - reminder letter, 3 tel calls, letter 2, CHE home visit	Randomized control group	Women in intervention group were nearly 3 times as likely to receive a mammogram; benefit persisted across age, race, and prior screening behavior