The Guide to Community Preventive Services
THE COMMUNITY GUIDE
What Works to Promote Health

Cancer Prevention and Control, Client-Oriented Screening Interventions: Client Reminders – Breast Cancer (2008 Archived Review)

Table of Contents

Review Summary

Intervention Definition

Reminders include letters, postcards, or phone calls to alert clients that it is time for their cancer screening. Some note only that the test is due, while others include facts about the screening or offer to help set up an appointment.

Summary of Task Force Findings

The Community Preventive Services Task Force recommends interventions that use client reminders based on strong evidence of their effectiveness in increasing breast cancer screening by mammography.

The Task Force has related findings for client reminders specific to the following:

- Cervical cancer (recommended)
- Colorectal cancer screening by fecal occult blood testing (recommended)
- Colorectal cancer screening by flexible sigmoidoscopy, colonoscopy, or double contrast barium enema (insufficient evidence)

Results from the Systematic Reviews

Breast Cancer

Nineteen studies qualified for the systematic review.

- Client reminders: median increase of 14.0 percentage points in the proportion of study participants who were screened for breast cancer
- Printed reminders alone: median increase of 3.0 percentage points (12 studies or study arms)
- Printed reminders combined with other components or follow-up printed or telephone reminders: median increase of 23.5 percentage points (14 studies or study arms)

Reviewed studies were conducted in both rural and urban communities and among different racial, ethnic, and socioeconomic groups.

These findings were based on a systematic review of all available studies, conducted on behalf of the Task Force by a team of specialists in systematic review methods, and in research, practice and policy related to cancer prevention and control.

Economic Review

- Six studies qualified for the economic review. All monetary values are reported in 2008 US dollars. Reminder costs ranged from $4.89 to $100.61 per additional screening (six studies).
- Reminder involving physician participation: $43.12 to $100.61
- Reminder involving non-physician staff: $4.89 to $22.00
- Enhanced reminder including letters and educational material: $47.01 to $63.28
- The range of estimates for these six studies make it difficult to ascertain the most cost-effective approach, although based on relatively few studies, physician participation and enhancement of reminders seem to add to the cost of the intervention.

Publications

Baron RC, Rimer BK, Breslow RA, et al. Client-directed interventions to increase community demand for breast, cervical, and colorectal cancer screening: a systematic review [www.thecommunityguide.org/cancer/screening/client-oriented/Cancer2008_ClientDirected_Demand.pdf]. *Am J Prev Med* 2008;35(1S): S34-55.

Task Force on Community Preventive Services. Recommendations for client- and provider-directed interventions to increase breast, cervical, and colorectal cancer screening [www.thecommunityguide.org/cancer/screening/client-oriented/Cancer2008_TaskForceRecs.pdf]. *Am J Prev Med* 2008;35(1S): S21-5.

The following Task Force finding and supporting materials are for client reminders to increase breast, cervical, and colorectal cancer screening.

Task Force Finding

Intervention Definition

Client reminders or recalls (client reminders) are printed (letter or postcard) or telephone messages advising people that they are due (reminder) or late (recall) for screening. Client reminders may be enhanced by one or more of the following: a follow-up printed or telephone reminder; additional text or discussion with information about indications for, benefits of, and ways to overcome barriers to screening; or assistance in scheduling appointments. Tailored reminders (printed or verbal) address the individual's risk profile or other relevant characteristics, such as what keeps a specific client from seeking screening and what would encourage the client to be screened.

Task Force Finding (July 2008)*

The Task Force recommends the use of client reminders to increase screening for breast and cervical cancer (by mammography and Pap test, respectively), on the basis of strong evidence of effectiveness. The Task Force recommends the use of client reminders to increase screening for colorectal cancer by fecal occult blood test (FOBT) on the basis of sufficient evidence of effectiveness. Evidence is insufficient, however, to determine whether client reminders are effective in increasing colorectal cancer screening by flexible sigmoidoscopy, colonoscopy, or double contrast barium enema since no studies evaluating these screening procedures were identified.

*From the following publication:

Task Force on Community Preventive Services. Recommendations for client- and provider-directed interventions to increase breast, cervical, and colorectal cancer screening [www.thecommunityguide.org/cancer/screening/client-oriented/Cancer2008_TaskForceRecs.pdf]. *Am J Prev Med* 2008;35(1S): S21-5.

Supporting Materials

Analytic Framework

See Figure 1 on page S36 of Baron RC, Rimer BK, Breslow RA, et al. Client-directed interventions to increase community demand for breast, cervical, and colorectal cancer screening: a systematic review [www.thecommunityguide.org/cancer/screening/client-oriented/Cancer2008_ClientDirected_Demand.pdf]. *Am J Prev Med* 2008;35(1S): S34-55.

Evidence Gaps

What are Evidence Gaps?

Each Community Preventive Services Task Force (Task Force) review identifies critical evidence gaps—areas where information is lacking. Evidence gaps can exist whether or not a recommendation is made. In cases when the Task Force finds insufficient evidence to determine whether an intervention strategy works, evidence gaps encourage researchers and program evaluators to conduct more effectiveness studies. When the Task Force recommends an intervention, evidence gaps highlight missing information that would help users determine if the intervention could meet their particular needs. For example, evidence may be needed to determine where the intervention will work, with which populations, how much it will cost to implement, whether it will provide adequate return on investment, or how users should structure or deliver the intervention to ensure effectiveness. Finally, evidence may be missing for outcomes different from those on which the Task Force recommendation is based.

Identified Evidence Gaps

General:

- How does the effectiveness of interventions to increase community demand for screening vary with the health literacy of a target population or subpopulation?
- How can newer methods of communication—including automated telephone calls and Internet-delivered applications—be used to improve delivery, acceptance, and effectiveness of these interventions?
- How effective are these interventions in increasing screening by colorectal endoscopy or by double contrast barium enema (for which no qualifying studies were identified)?
- What is required to disseminate and implement effective interventions in community settings across the United States?
- How can or should these approaches be applied to assure that screening, once initiated, is maintained at recommended intervals?
- With respect to interventions that may be tailored to individuals, how are effective tailoring programs adapted, disseminated, and implemented in community-based settings across the United States?

Client reminders

(effective in increasing breast, cervical, and colorectal [FOBT only] cancer screening):

- Does effectiveness of client reminders for cervical and colorectal cancer screening vary with use of supplemental components, such as follow-up printed materials, telephone calls, or scheduling assistance intended to overcome barriers to screening?

- Can client reminders be adapted or used in conjunction with techniques to reach people who have never been screened for breast, cervical, or colorectal cancer or who may be hard to reach for screening?
- What is the comparative cost effectiveness of tailored versus untailored client reminder messages?

Summary Evidence Table

Author (Pub year), Study Period, Interventions	Design, Category, Execution	Study Location, Setting type Population Description	Interventions Studied, Comparison, and Number of Participants	Outcome/Effect Size and Statistical Significance
Bankhead, 2001 (October 1996 – June 1997) **Intervention:** Client reminder	**Design:** Randomized trial (Individual) **Design Category:** Greatest suitability **Execution:** Fair	United Kingdom (NR) Office/clinic; Women registered with participating practices & failed to attend an appointment for routine 3rd round breast screening; mean age ~56 yrs - other patient info NR	1. Client reminder letter signed by all general practitioners in the practice encouraging women not attending previous screening to attend breast screening (included translation sheet and informational leaflet. N=291 **2.** Control no intervention n=289	Mammography completion based on attendance w/in 6 mo of randomization: Women Attending n % pct ptΔ p Control 17/287 5.9 - CR 31/288 10.8 4.9 <.05
Barr 2001 (1995) **Intervention:** Client reminder	**Design:** Randomized trial (Individual) **Design Category:** Greatest suitability **Execution:** Fair	Northeastern US, HMO Age 50-75, with prior mammogram during 1st quarter 1994, but no subsequent screening (18-21 months later); 2/3rds had commercial medical insurance; race/ethnicity NR	1. Reminder letter (n=630) vs. 2. Reminder phone call* (n=653) vs. 3. Usual care (n=625) *Included offer to schedule appointment with physician	Completed re-screening mammogram determined by medical chart review (3-6 months after intervention) 1 vs. 3 = 3.1 pct pt (NS) 2 vs. 3 = 15.2 pct pt (p<.05)
Binstock, 1997 (NR) **Intervention:** Client reminder	**Design:** Randomized trial (Individual) **Design Category:** Greatest suitability **Execution:** Fair	Southern California, HMO Age 25-49; no Pap in previous 3 years; race/ethnicity, income, education not reported	1. Reminder letter (n=403) vs. 2. Reminder phone call* (n=536) vs. 3. Usual care (n=249)	Completed Pap test based on electronic records (12 mo post intervention) 1 vs. 3 = 10.1 pct pt (p<.05) 2 vs. 3 = 18.8 pct pt (p<.05)
Bodiya 1999 (NR) **Intervention:** Client reminder	**Design:** Randomized trial (Individual) **Design Category:** Greatest suitability **Execution:** Fair	Michigan, Family Practice Ctr. Age 50+ w/ normal mammogram prior year and due for next one; "mixed" urban/ rural, race/ethnicity, and SES;	1. Letter reminder (n=120) vs. 2. Letter reminder + phone call to non-responders 8 weeks later (n=56) vs. 3. No reminders (n=110)	Completed mammogram based on radiology dept records 6 weeks post telephone intervention 1 vs. 3 = 2 pct pt (NS) 2 vs. 3 = 23 pct pt (p<.05)

Author (Pub year), Study Period, Interventions	Design, Category, Execution	Study Location, Setting type Population Description	Interventions Studied, Comparison, and Number of Participants	Outcome/Effect Size and Statistical Significance
Buehler 1997 {51} (1993) **Intervention:** Client reminder	**Design:** Randomized trial (Individual) **Design Category:** Greatest suitability **Execution:** Fair	Newfoundland, Canada 2 Family Clinics Age 18-69, 61% age <40, race/ethnicity, SES NR; no pap in prev 3 years	1. Two recall letters, (baseline and 4 weeks), (n=178) vs. 2. No reminder (n=208)	Completed Pap through review of the Provincial Cytology registry (6 months after intervention began) 1 vs. 2 = 4.4 pct pt (NS)
Burack, 1996 (July 1992 – July 1993) **Intervention:** Client reminder	**Design:** Randomized trial (Individual) **Design Category:** Greatest suitability **Execution:** Fair	Detroit, MI (urban); 2 sites (HMO/clinics); Women ≥ 39.5 years who had visited either site w/in 18 months prior to intervention (site 1: 64% ever screened; site 2: 44% ever screened); ~96% African American study population; entitlement insurance more prevalent than commercial insurance at both sites	1. reminder letter to client (clinic1 n=226 ;clinic 2 n=162) 2. No reminder (clinic 1 n= 222; clinic 2 n=159)	Completed mammogram determined by records of test reports (20 months after intervention) 1 vs. 2: Site 1 = 4 pct pt (NS) Site 2 = -1 pct pt (NS)
Burack, 1998 (March 1993 – April 1994) **Intervention:** Client reminder	**Design:** Randomized trial (Individual) **Design Category:** Greatest suitability **Execution:** Fair	3 HMO sites in Detroit, MI Age 18-40 yrs with HMO visit w/in one year & not received 'abnormal' or 'insufficient cytology' test result) ~95% African-American; 87% eligible for Medicaid, 95% African-American, 87% eligible for Medicaid; one year since previous Pap test	1. Letter reminder (n=964) 2. No reminders (n=964)	Completed Pap test determined by records of test reports (1 year): 1 vs. 2 = 1 pct pt (NS)
Davis 1997 (1994) **Intervention:** Client reminder	**Design:** Randomized trial (Individual) **Design Category:** Greatest suitability **Execution:** Fair	HMO in Houston, Texas Age 50-64, race/ethnicity not reported; no mammogram in previous 1 ½ yr.	1. Phone call* (or letter if no phone contact) (n=1033) vs. 2. Usual care (n=454) *Caller offered to schedule mammogram & was trained to discuss specific barriers noted by patient	Completed mammogram determined by computerized medical record audit (5 months after intervention) 1 vs. 2 = 15.5 pct pt (p<.05)

Author (Pub year), Study Period, Interventions	Design, Category, Execution	Study Location, Setting type Population Description	Interventions Studied, Comparison, and Number of Participants	Outcome/Effect Size and Statistical Significance
Hogg 1998 (1990-1991) **Intervention:** Client reminder	**Design:** Randomized trial (group) **Design Category:** Greatest suitability **Execution:** Fair	Quebec, Canada, Family medicine clinic; Mean family age approximately 40, race/ethnicity not reported (screening status not clearly stated, but assumed patients were due)	1. Customized letter reminding family members of outstanding preventive procedures (n=613) vs. 2. No letter (n=682)	Outcome determined by patient record audit (6 months after intervention) Completed mammogram: 1 vs. 2 = 1.8 pct pt (NS) Completed Pap: 1 vs. 2 = 9.4 pct pt (p<.05) Completed FOBT: 1 vs. 2 = 2.8 pct pt (NS)
Irwig 1990 (1989) **Intervention:** Client reminder	**Design:** Randomized trial (Individual) **Design Category:** Greatest suitability **Execution:** Fair	Sydney, Australia, 5 general practices Age 45-70, due for mammogram; race/ethnicity, SES not reported, due or overdue for mammography	1. reminder invite letter and scheduled appt (n=162) 2. reminder invite letter, no scheduled appt (n=126) 3. no letter no appt (from same 4 practices as group 1; n=82) 4. no letter, no appt (from same practice as group 2; n=70)	Completed mammogram w/in 5 weeks determined by record review: 1 vs. 3 = 33 pct pt (p<.05) 2 vs. 4 = 14 pct pt (p<.05)
Johnston 2003 June 1998 – April 1999 **Intervention:** Client reminder	**Design:** Non-randomized (Individual) **Design Category:** Greatest suitability **Execution:** Fair	Cape Breton Island, Clinic/Office; Women 29-75 years old, with Health Card #, residing in Nova Scotia and not screened in past 10 years OR screened previously but not in the last 3 years	1. Reminder letter (n=21,601) 2. No reminder (n=91,825)	Completed Pap test as tracked through registry (6 months after intervention): 1 vs. 2 OR = 1.64 (1.53-1.74)
King 1994 (NR) **Intervention:** Client reminder	**Design:** Randomized trial (Individual) **Design Category:** Greatest suitability **Execution:** Fair	Women 55 – 75 years old and HMO members; had not utilized annual free mammogram referral 45 days after mailing. Step 2 characteristics: Married 68%, employed 73% and had at least a high school education 52%, white 88% (nonwhite 12%)	All women in study received breast ca information packet and free mammography. Step 2. Forty-five days after packet was mailed, women who had not sought referral were randomized to reminder (n=382) or no reminder group (n=364). Brief reminder sent to those in former group.	Completed mammogram determined by self report verified by medical records: 1 vs. 2 = 14 pct pt (p<.05)
Landis, 1992 (Jan – May 1990) **Intervention:** Client reminder	**Design:** Randomized trial (Individual) **Design Category:** Greatest suitability **Execution:** Fair	Ashville, NC (mixed urbanicity) Office/clinic; Age 50 – 70 yrs; no history of breast disease; seen in the practice previous two years; no mammography within previous yr; ~ 13% African-American; ~ 40% uninsured	1. Reminder letter to client n=41 2. No reminder n =43	Completed mammogram determined by medical chart review (5 month f/u), 1 vs. 2 = 10 pct pt (p>0.05)

Author (Pub year), Study Period, Interventions	Design, Category, Execution	Study Location, Setting type Population Description	Interventions Studied, Comparison, and Number of Participants	Outcome/Effect Size and Statistical Significance
Lantz 1995 (NR) **Intervention:** Client reminder	**Design:** Randomized trial (Individual) **Design Category:** Greatest suitability **Execution:** Fair	Wisconsin, 30 community health centers; Age 40-79, low income, 100% white, approx 1/3rd <HS education, no mammography claim in past 18 months, no Pap claim in past 3 years	1. Letter + phone call (or 2nd letter if no phone) N= 104 needed only mamm* N= 60 needed only Pap* 2. Usual N= 82 needed only mamm* N= 79 needed only Pap*	Outcome determined by medical claims audit (6 months after intervention) Completed mammogram: 1 vs. 2 = 33.1 pct pt (p<.05) Completed Pap test: 1 vs. 2 = 17.9 pct pt (p<.05) Completed * Among women who needed both Pap and mammogram, study reported only those who received both and did not distinguish those who received only one or the other.
Mayer 1994 (NR) **Intervention:** Client reminder	**Design:** Randomized trial (Individual) **Design Category:** Greatest suitability **Execution:** Fair	California, two mammography facilities; Age 50 and older, mean age approximately 64, race/ethnicity not reported, due for mammography	Only "study 3" used from this article 1. letter reminder (n=32), vs. 2. no reminder (n=31)	Completed mammogram determined by medical record audit (1 month): 1 vs. 2 = 28 pct pt (p<.05)
McDowell 1989 (1985) **Intervention:** Client reminder	**Design:** Randomized trial (Individual) **Design Category:** Greatest suitability **Execution:** Fair	Ottawa, Canada, 6 family medicine centers Age 18-35, race/ethnicity, SES, not reported; at least one year since last Pap test	1. Letter reminder w/ small media and 2nd letter if no response in 3 wks (n=293) 2. Phone reminder w/ 1-on-1 counseling (same information as letter) (n=300) 3. Usual care (n=255)	Completed Pap test determined by computerized record (or other confirmation if done elsewhere): 1 vs. 3 = 12.2 pct pt (p<.05) 2 vs. 3 = 6.3 pct pt (p<.05)
Mohler 1995 (NR) **Intervention:** Client reminder	**Design:** Randomized trial (Individual) **Design Category:** Greatest suitability **Execution:** Fair	Colorado, private practice Age 50-59, mostly white and middle class (8% Hispanic, <1% Afro- or Asian- American). %50% insured by local HMO; 30% Medicare; 7% Medicaid; all had mammogram in the past but not w/in previous 2 yrs	1. Letter reminder (n=38) 2. Phone reminder, by MD (n=38) 3. Phone reminder, by med asst (n=37) 4. No reminder (n=38)	Completed mammogram determined by medical chart audit (2 months after intervention): 1 vs. 4 = 7 pct pt (NS) 2 vs. 4 = 18 pct pt (p<.05) 3 vs. 4 = 32 pct pt (p<.05)

Author (Pub year), Study Period, Interventions	Design, Category, Execution	Study Location, Setting type Population Description	Interventions Studied, Comparison, and Number of Participants	Outcome/Effect Size and Statistical Significance
Myers 1991 1989 **Intervention:** Client reminder	**Design:** Randomized trial (Individual) **Design Category:** Greatest suitability **Execution:** Fair	HMO in US Men and women ages 50-74; 59% male; members of HMO; race and SES NR; eligible for annual FOBT	1. Phone call – 30 days after mailed reminder (n=450) 2. Phone call – 30 days after mailed reminder + self-held screening booklet (n=450 3. Usual care (n=601)	Completed FOBT (returned w/in 90 days of distribution): 1 vs. 3 = 9.7 pct pt (p<.05) 2 vs. 3 = 9.9 pct pt (p<.05)
Pierce 1989 (1 year) **Intervention:** Client reminder	**Design:** Randomized trial (Individual) **Design Category:** Greatest suitability **Execution:** Fair	Group practice in England Women born between 1925 and 1952, race/ethnicity NR, predominantly low SES; only never-screened or screened >5 years before	1. Letter reminder (n=140) 2. No reminder (n=134)	Completed Pap test based on office records (1 year, immediately after study period): 1 vs. 2 = 17.0 pct pt p<.05)
Pritchard 1995 (1991) **Intervention:** Client reminder	**Design:** Randomized trial (Individual) **Design Category:** Greatest suitability **Execution:** Fair	Perth, Australia, University of Western Australia General Practice; Patients age 36 - 69 years, no hysterectomy, attendance at this practice w/in 3 years, not known to attend another practice, no record of Pap in the past 2 years	1. Letter only (n=206) 2. Control (n=185)	Completed Pap test determined by medical record audit & questionnaire (within 1 year): 1 vs. 2 = 8.9 pct pt (p<.05)
Richards, SH (2001) July 1997 – August 1998 **Intervention:** Client reminder	**Design:** Randomized trial (Individual) **Design Category:** Greatest suitability **Execution:** Good	General practices in urban Northwest London and West Midlands (var. urbanicity), UK; 24 practices with <60% uptake in second round screening. Women 50 – 64, registered with the general practice and due for third round screening between July 1997 and August 1998; Race/Ethnicity – NR; SES - NR	1. Client reminder letter signed by all general practitioners in the practice encouraging women to attend breast screening (included translation sheet and informational leaflet. N=1818 2. Control neither intervention n=1621	Attendance at third round breast cancer screening (chart audit) w/in 6 mo of randomization: **Cancer Screening Outcomes:** **<u>Uptake rates</u>** Women Attending % attending pct pt diff p Control 55.3 - - CR 64.4 9.1 <.05

Author (Pub year), Study Period, Interventions	Design, Category, Execution	Study Location, Setting type Population Description	Interventions Studied, Comparison, and Number of Participants	Outcome/Effect Size and Statistical Significance
Saywell 2003 (1999) (NR) **Intervention:** Client reminder	**Design:** Randomized trial (Individual) **Design Category:** Greatest suitability **Execution:** Fair	~ Indiana, HMO and general medicine clinic Age 50-85, 68% white, 42% high school graduates, 15% college graduates, typical income 20-30K; no mammogram in 15 months	1. Letter from MD (n= 110) 2. Phone+letter (n= 115) 3. F-to-f+letter (n= 114) 4. no intervention (n=108)	Outcome determined by self-report (6 months after intervention) Completed mammogram (all): 1 vs. 4 = 16.7 pct pt (p<.05) 2 vs. 4 = 18.9 pct pt (p<.05) 3 vs. 4 = 29.0 pct pt (p<.05) Never had mamm: 1 vs. 4 = - 3.4 pct pt (NS) 2 vs. 4 = 13.3 pct pt (NS) 3 vs. 4 = 41.6 pct pt (p<.05) Ever had mamm: 1 vs. 4 = 19.0 pct pt (p< .05) 2 vs. 4 = 18.7 pct pt (p<.05) 3 vs. 4 = 27.5 pct pt (p<.05)
Simon 2001 10/1/92 – 9/30/93 **Intervention:** Client reminder	**Design:** Randomized trial (Individual) **Design Category:** Greatest suitability **Execution:** Fair	Detroit, MI, 2 Clinics/offices Aged 39 ½ years and older who became due during study, predominantly African-American and 91% at or below poverty level	1. Reminder letter with referral to 1^0 care provider(n~322 site 1, n = 250 site 2) 2. Reminder letter with direct access referral (n~322 site 1, n = 250 site 2) 3. No reminder (n~322 site 1, n = 250 site 2)	Completed mammogram determined by medical record review (1 month): 1 vs 3: site 1 = 2 pct pt (NS) site 2 = 0 pct pt (NS) 2 vs 3: site 1 = 3 pct pt (NS) site 2 = 3 pct pt (NS)
Somkin 1997 (NR) **Intervention:** Client reminder	**Design:** Randomized trial (Individual) **Design Category:** Greatest suitability **Execution:** Fair	HMO clinics in California Age 50-74 (mammography) and no mammogram in prev 30 mo;, or 20-64 (Pap) and no Pap in prev 36 mo (only ~ 25% of eligible pop not current for either test); race/ethnicity, SES – NR	1. Letter reminder including small media with offer to facilitate screening appointment (n=1171 for mamm; n=1188 for Pap) 2. No reminder (n=1171 for mamm; n=1188 for Pap)	Outcome based on database record of completed screening w/in 6 months of entry into study Completed mammogram: 1 vs. 2 = 10.5 pct pt (p<.05) Completed Pap test: 1 vs. 2 = 10.3 pct pt (p<.05)

Author (Pub year), Study Period, Interventions	Design, Category, Execution	Study Location, Setting type Population Description	Interventions Studied, Comparison, and Number of Participants	Outcome/Effect Size and Statistical Significance
Thompson 1986 (NR) **Intervention:** Client reminder	**Design:** Randomized trial (Individual) **Design Category:** Greatest suitability **Execution:** Fair	Puget Sound, Washington Group Health Cooperative Men (38%) and women, age 45-54 (25%), 55-64 (39%), 65-74(30%), 75+(5%), majority had college or higher education, about 50% had income <20K, about 30% had income >30K,status of FOBT screening NR (but presume due)	1. phone call (n=55) 2. letter (n=55) 3. letter + phone call (n=45) 4. No reminders (n=56) Everyone received hemmoccult package with instructions at initial visit	Completed FOBT determined by chart audit (3mo after provider visit): 1 vs. 4 = 15.7 pct pt (p<.05) 2 vs. 4 = 24.8 pct pt (p<.05) 3 vs. 4 = 25.4 pct pt (p<.05)
Turnbull 1991 (1989) **Intervention:** Client reminder	**Design:** Randomized trial (Individual) **Design Category:** Greatest suitability **Execution:** Fair	New South Wales, Australia Drummoyone local gov't area Age 45-69, race/ethnicity not reported; had not previously responded to invitations to attend mobile screening program, never-screened	1. Letter reminder + assigned appointment (n=163) 2. No reminder (n=80) in the context of a larger-scale intervention	Completed mammogram determined by computerized records (~9 weeks): 1 vs. 2 = 24 pct pt (p<.05)
Vinker 2002 (NR) **Intervention:** Client reminder	**Design:** Randomized trial (group) **Design Category:** Greatest suitability **Execution:** Fair	Tel Aviv, Israel medical clinics Age: 61.3 +/-7.4, Gender: Women: 52.2%, Men: 47.8%, FOBT screening status NR (presumed due)	1. Phone reminder (n=312) 2. Letter reminder (n=337) 3. Usual care (n=913)	Completed FOBT(chart audit) 1 yr after randomization: 1 vs. 3 = 13.1 pct pt (p<.05) 2 vs. 3 = 8.0 pct pt (p<.05)
Vogt 2003 ~1993 **Intervention:** Client reminder	**Design:** Randomized trial (Individual) **Design Category:** Greatest suitability **Execution:** Good	Portland, OR, HMO Women enrolled in Northwest Kaiser Permanente. None of the women had received mammography or Pap smear in 3 years	1. Reminder Letter/2nd Letter 2. Reminder letter then phone call 3. Reminder phone call/ 2nd phone call 4. No reminder n=1200 randomized to the 4 groups for each (mamm/Pap) screening test	Determined by radiology & pathology database records (12 wks): Completed mammogram: 1 vs. 4 = 14 pct pt (p<.05) 2 vs. 4 = 41 pct pt (p<.05) 3 vs. 4 = 40 pct pt (p<.05) Completed Pap test: 1 vs. 4 = 5 pct pt (NS) 2 vs. 4 = 37 pct pt (p<.05) 3 vs. 4 = 33 pct pt (p<.05)

Author (Pub year), Study Period, Interventions	Design, Category, Execution	Study Location, Setting type Population Description	Interventions Studied, Comparison, and Number of Participants	Outcome/Effect Size and Statistical Significance
West 2004 October 1997 – May 1999 **Intervention:** Client reminder	**Design:** Randomized trial (Individual) **Design Category:** Greatest suitability **Execution:** Fair	Rural Alabama, community; low-income African American women; 50-80 yrs of age; no mammogram in ≥ 2 yrs	1. Personalized reminder letter (n=159) 2. No reminder (n=161)	Completed mammography (self-reported by phone survey 6 months after randomization): 1 vs. 2 = 0 pct pt

Included Studies

Breast Cancer

Barr JK, Franks AL, Lee NC, et al. A randomized intervention to improve ongoing participation in mammography. *Am J Manag Care* 2001;7(9):887-94.

Bodiya A, Vorias D, Dickson H. Does telephone contact with a physician's office staff improve mammogram screening rates? *Fam Med* 1999;31(5):324-6.

Burack R, Gimotty P, George J, et al. The effect of patient and physician reminders on use of screening mammography in a health maintenance organization: results of a randomized controlled trial. *Cancer* 1996;78:1708-21.

Davis N, Lewis M. Evaluation of phone intervention to promote mammography in a managed care plan. *Am J Heath Promot* 1997;11:247-9.

Hogg W, Bass M, Calonge N, Crouch H. Randomized controlled study of customized preventive medicine reminder letters in a community practice. *Can Fam Physician* 1998;44:81-8.

Irwig L, Turnbull D, McMurchie M. A randomized trial of general practitioner-written invitations to encourage attendance at screening mammography. *Community Health Stud* 1990;14:357-64.

King E, Rimer B, Seay J, Balshem A. Promoting mammography use through progressive interventions: is it effective? *Am J Public Health* 1994;84:104-6.

Lantz P, Stencil D, Lippert M, et al. Breast and cervical cancer screening in a low-income managed care sample: the efficacy of physician letters and phone calls. *Am J Public Health* 1995;85(6):834-6.

Mayer J, Bartholomew S, Clapp E, Elder J. Facility-based inreach strategies to promote annual mammograms. *Am J Prev Med* 1994;10(6):353-6.

Mohler P. Enhancing compliance with screening mammography recommendations: a clinical trial in a primary care office. *Fam Med* 1995;27(2):117-21.

Saywell RM, Jr., Champion VL, Zollinger TW, et al. The cost effectiveness of 5 interventions to increase mammography adherence in a managed care population. *Am J Manag Care* 2003;9(1):33-44.

Simon MS, Gimotty PA, Moncrease A, et al. The effect of patient reminders on the use of screening mammography in an urban health department primary care setting. *Breast Cancer Res Treat* 2001;65(1):63-70.

Somkin C, Hiatt R, Hurley L, et al. The effect of patient and provider reminders on mammography and Papanicolaou smear screening in a large health maintenance organization. *Arch Intern Med* 1997;157(15):1658-64.

Turnbull D, Irwig L, Adelson P. A randomised trial of invitations to attend for screening mammography. *Aus J Public Health* 1991;15(1):33-6.

Vogt TM, Glass A, Glasgow RE, et al. The safety net: a cost-effective approach to improving breast and cervical cancer screening. *J Womens Health* 2003;12(8):789-98.

West DS, Greene P, Pulley L, et al. Stepped-care, community clinic interventions to promote mammography use among low-income rural African American women. *Health Educ Behav* 2004;31(4 Suppl):29S-44S.

Search Strategy

The following outlines the search strategy used for reviews of these interventions to increase breast, cervical, and colorectal cancer screening: Client Reminders (archived); Client Incentives (archived); Mass Media Targeting Clients (archived); Small Media Targeting Clients; Group Education for Clients (archived); One-on-One Education for Clients (archived); Reducing Structural Barriers for Clients (archived); Reducing Client Out-of-Pocket Costs (archived); Provider Assessment and Feedback (archived); Provider Incentives (archived).

To establish the evidence base the team searched five computerized databases from the earliest entries in each through November 2004: MEDLINE, database of the National Library of Medicine (from 1966); the Cumulative Index to Nursing and Allied Health database (CINAHL, from 1982); the Chronic Disease Prevention database (CDP, Cancer Prevention and Control subfield, from 1988); PsycINFO (from 1967); and the Cochrane Library databases. Medical subject headings (MeSH) searched (including all subheadings) are shown below. The team also scanned bibliographies from key articles and solicited other citations from other team members and subject-matter experts. Conference abstracts were not included because, according to Community Guide criteria, they generally do not provide enough information to assess study validity and to address the research questions.

The search identified over 9000 citations whose titles and abstracts were screened for potential relevance to interventions and outcomes of interest; of these, 580 articles were retrieved for full-text review.

Search terms used in five electronic databases to find studies for inclusion in the systematic reviews of cancer screening. Searches were conducted to find all studies of cancer screening including those specific to screening for breast, cervical, or colorectal cancer.

General

Neoplasms—combined with any of the following headings:
Early detection
Mass screening
Multiphasic screening
Preventive health services
Screening

Breast cancer

Breast neoplasms
Mammography

Cervical cancer

Cervical intraepithelial neoplasia
(Uterine) cervical neoplasms
Cervix dysplasia
Vaginal smears

Colorectal cancer

Colonic neoplasms
Colorectal neoplasms
Occult blood
Sigmoid neoplasms
Sigmoidoscopy

From: Baron RC, Rimer BK, Coates RJ, et al. Methods for conducting systematic reviews of evidence on effectiveness and economic efficiency of interventions to increase screening for breast, cervical, and colorectal cancers. *Am J Prev Med* 2008;35(1S):26-33.

Disclaimer

The findings and conclusions on this page are those of the Community Preventive Services Task Force and do not necessarily represent those of CDC. Task Force evidence-based recommendations are not mandates for compliance or spending. Instead, they provide information and options for decision makers and stakeholders to consider when determining which programs, services, and policies best meet the needs, preferences, available resources, and constraints of their constituents.

Document last updated September 25, 2013