

# Cancer Screening: Patient Navigation Services to Increase Screening for Breast Cancer

## Summary Evidence Table

### Abbreviations Used in This Document

- Intervention components:
  - CR: client reminder
  - GE: group education
  - OE: one-on-one education
  - RSB: reducing structural barriers
  - SM: small media
- Cancer types
  - BC: breast cancer
  - CC: cervical cancer
  - CRC: colorectal cancer
- Screening tests
  - MAM: mammography
- Others
  - CHW: community health worker
  - FQHC: federally qualified health center
  - HS: high school
  - N/A: not applicable
  - NR: not reported
  - PCP: primary care provider
  - Pct pts: percentage points
  - PN: patient navigator
  - RCT: randomized control trial
  - USPSTF: United States Preventive Services Task Force

### Notes:

- **Suitability of design** includes three categories: greatest, moderate, or least suitable design. [Read more](#)
- **Quality of Execution** – Studies are assessed to have good, fair, or limited quality of execution. [Read more](#)
- **Race/ethnicity** of the study population: The Community Guide only summarizes race/ethnicity for studies conducted in the United States.

Study	Intervention Characteristics	Intervention Deliverer Details	Population Characteristics	Results
<p><b>Author year:</b> Braun et al., 2015</p> <p><b>Study design:</b> Individual RCT</p> <p><b>Suitability of design:</b> Greatest</p> <p><b>Quality of execution:</b> Fair</p>	<p><b>Location:</b> Moloka'i, Hawaii, US</p> <p><b>Population density:</b> rural</p> <p><b>Setting:</b> community and clinic</p> <p><b>Intervention duration:</b> 48 months</p> <p><b>Intervention details:</b> Type of cancer addressed: BC, CC, and CRC</p> <p>Type of services provided: CR + OE + RSB, appointment scheduling assistance + RSB, childcare assistance + RSB, reduce admin barriers + RSB, transportation assistance</p> <p><i>CR:</i> mailed reminders to patients due for a cancer screening <i>OE:</i> outreach education <i>RSB, appointment scheduling assistance:</i> made appointments and follow-up appointments for patients <i>RSB, childcare assistance:</i> made arrangements to take care of family while participants were at appointment <i>RSB, reduce admin barriers:</i> communicated with providers and completed paperwork <i>RSB, transportation assistance:</i> arranged transportation to appointments</p> <p><b>Intervention intensity:</b> 2 or more contacts</p> <p><b>Control group:</b> alternative education on nutrition and</p>	<p><b>Type of deliverers engaged, and services delivered:</b> CHWs (lay navigators): all intervention components</p> <p><b>Training:</b> an initial 48-hour evidence-based navigator training program, with quarterly continuing education sessions</p> <p><b>Supervision:</b> initial supervision by nurse, later by other healthcare professionals</p> <p><b>Matching to population:</b> recruited from local community, one Hawaiian and one Filipino</p> <p><b>Educational background:</b> NR</p> <p><b>Payment:</b> NR</p> <p><b>Methods used to interact with participants:</b> Both: CR by phone or mail and other services face-to-face</p>	<p><b>Population of focus:</b> Asian American or Pacific Islander living in Hawaii</p> <p><b>Eligibility criteria:</b> Medicare beneficiaries residing in Moloka'i, Hawaii</p> <p><b>Sample size:</b> Intervention: 242 Control: 246</p> <p><b>Attrition:</b> N/A</p> <p><b>Demographics for intervention group (for all cancer types):</b> <i>Age, mean:</i> 68 years <i>Gender:</i> 63% female; 47% male <i>Race/Ethnicity:</i> 50% Asian; 42% Native Hawaiian; 8% other <i>Employment:</i> NR <i>Income:</i> NR <i>Education:</i> 39% &lt;HS; 33% HS; 28% &gt;HS <i>Insurance:</i> 100% insured <i>Established source of care:</i> NR <i>Baseline screening of intervention group:</i> 25% for any CRC screening</p>	<p><b>Screening test:</b> MAM</p> <p><b>Up to date or repeat screening:</b> up to date</p> <p><b>Self-report or medical record:</b> self-report</p> <p><b>Follow-up Time:</b> NR</p> <p><b>Results:</b> <b>MAM:</b> Intervention: Pre: 48/128 = 37.5% Post: 73/128 = 57.0% Change: 19.5 pct pts</p> <p>Control: Pre: 52/132 = 39.4% Post: 48/132 = 36.4% Change: -3.0 pct pts</p> <p><b>Absolute difference:</b> +22.5 pct pts <b>Relative difference:</b> +64.5%</p>

Study	Intervention Characteristics	Intervention Deliverer Details	Population Characteristics	Results
	<p>relevant cancer education material from another healthcare facility on island</p>			
<p><b>Author year:</b> Dietrich et al., 2006</p> <p><b>Study design:</b> Individual RCT</p> <p><b>Suitability of design:</b> Greatest</p> <p><b>Quality of execution:</b> Fair</p>	<p><b>Location:</b> New York City, New York, US</p> <p><b>Population density:</b> urban</p> <p><b>Setting:</b> community and clinic (FQHC)</p> <p><b>Intervention duration:</b> 18 months</p> <p><b>Intervention details:</b> Type of cancer addressed: BC, CC, and CRC</p> <p>Type of services provided: OE + RSB, appointment scheduling assistance + RSB, reduce admin barriers + RSB, transportation assistance + SM</p> <p><i>OE:</i> trained prevention care manager provided information on screenings and barriers to care <i>RSB, appointment scheduling assistance:</i> prevention care manager helped with scheduling screening <i>RSB, reduce admin barriers:</i> for participants who reported difficulty communicating with their physicians, cards listing overdue screenings were sent as communication tools; provided direction to screening facilities <i>RSB, transportation assistance:</i> helped participants to find means of transportation to appointments</p>	<p><b>Type of deliverers engaged, and services delivered:</b> Prevention care manager: all intervention components</p> <p><b>Training:</b> 7 hours of training, including review of USPSTF recommendations, barriers to cancer screening, and role-playing telephone calls</p> <p><b>Supervision:</b> calls to patients monitored to ensure quality and consistency; call logs reviewed at monthly meetings to ensure intervention fidelity</p> <p><b>Matching to population:</b> based on patient language</p> <p><b>Educational background:</b> mostly college graduates</p> <p><b>Payment:</b> NR</p> <p><b>Methods used to interact with participants:</b> Remote: mail and telephone</p>	<p><b>Population of focus:</b> Females receiving care from FQHCs serving communities with high proportions of people who were from historically disadvantaged groups and had lower incomes</p> <p><b>Eligibility criteria:</b> Females 50-69 years of age who were overdue for at least 1 cancer screening, were patients of clinic for at least 6 months, had no plan to move or change clinic for 15 months, and spoke English, Spanish, or Haitian Creole</p> <p>Exclusion: females who were acutely ill or currently receiving cancer treatment</p> <p><b>Sample size:</b> Intervention: 696 Control: 694</p> <p><b>Attrition:</b> 1%</p> <p><b>Demographics for intervention group:</b> <i>Age, mean:</i> 58 years <i>Gender:</i> 100% female <i>Race/Ethnicity:</i> NR <i>Employment:</i> NR <i>Income per year:</i> based on median income at participants' zip code: 34%</p>	<p><b>Screening test:</b> MAM</p> <p><b>Up to date or repeat screening:</b> up to date</p> <p><b>Self-report or medical record:</b> medical records</p> <p><b>Follow-up Time:</b> 3 months</p> <p><b>Results:</b> <b>MAM:</b> Intervention: Pre: 404/696 = 58.0% Post: 473/696 = 68.0% Change: 10.0 pct pts</p> <p>Control: Pre: 416/694 = 60.0% Post: 403/694 = 58.0% Change: -2.0 pct pts</p> <p><b>Absolute difference:</b> +12.0 pct pts <b>Relative difference:</b> +21.3%</p>

Study	Intervention Characteristics	Intervention Deliverer Details	Population Characteristics	Results
	<p><i>SM</i>: prevention care manager sent accurate information about screening via mail</p> <p><b>Intervention intensity:</b> 2 more contacts</p> <p><b>Control group:</b> usual care</p>		<p>&lt;\$25,000; 39% \$25,000-\$40,000; 27% &gt;\$40,000  <i>Education:</i> NR  <i>Insurance:</i> 93% insured; 5% uninsured; 2% unknown  <i>Established source of care:</i> 100% go to the clinics  <i>Baseline screening of intervention group:</i> 39% up to date with any CRC test; 24% with FOBT</p>	
<p><b>Author year:</b> Fernandez-Esquer et al., 2020</p> <p><b>Study design:</b> Pre-post with comparison</p> <p><b>Suitability of design:</b> Greatest</p> <p><b>Quality of execution:</b> Fair</p>	<p><b>Location:</b> Houston, Texas, US</p> <p><b>Population density:</b> urban</p> <p><b>Setting:</b> community (FQHC)</p> <p><b>Intervention duration:</b> 36 months</p> <p><b>Intervention details:</b>                      Type of cancer addressed: BC and CC</p> <p>Type of services provided: OE1 or GE + OE2 + RSB, appointment scheduling assistance + RSB, reduce admin barriers + SM</p> <p><i>OE1 or GE:</i> brief educational sessions delivered one-on-one or in small groups by Vietnamese lay health workers to their nail salon peers  <i>OE2:</i> education and booster education; counseling on setting up appointment  <i>SM:</i> locally-developed cancer screening brochures given to each nail salon worker at the enrolled venues. Navigation services only provided to</p>	<p><b>Type of deliverers engaged, and services delivered:</b>                      Lay health workers: OE1 or GE                      PN: navigation services</p> <p><b>Training:</b> NR</p> <p><b>Supervision:</b> NR</p> <p><b>Matching to population:</b> NR</p> <p><b>Educational background:</b> NR</p> <p><b>Payment:</b> NR</p> <p><b>Methods used to interact with participants:</b>                      Both: face-to-face and telephone</p>	<p><b>Population of focus:</b>                      Vietnamese American females working in nail salons, majority with annual income &lt;\$40,000</p> <p><b>Eligibility criteria:</b>                      Aged 18 years or older, self-identified as Vietnamese, located in the Houston, Texas area for at least 3 years, and currently working in a nail salon in Houston in a neighborhood with a dense population of Asian businesses and residences</p> <p><b>Sample size (for both BC and CC):</b>                      Intervention: 186                      Control: N/A</p> <p><b>Attrition (for both BC and CC):</b> 10.2%</p> <p><b>Demographics for intervention group (for both BC and CC):</b>  <i>Age, mean:</i> 47 years  <i>Gender:</i> 100% female  <i>Race/Ethnicity:</i> 100% Asian</p>	<p><b>Screening test:</b> MAM</p> <p><b>Up to date or repeat screening:</b> up to date</p> <p><b>Self-report or medical record:</b> self-reported</p> <p><b>Follow-up Time:</b> 5 months</p> <p><b>Results:</b>  <b>MAM:</b>                      Intervention:                      Pre: 0%                      Post: 17/23 = 73.9%                      Change: 73.9 pct pts</p> <p>Control:                      Pre: 0%                      Post: 5/7 = 71.4%                      Change: 71.4 pct pts</p> <p><b>Absolute difference:</b> +2.5 pct pts  <b>Relative difference:</b> +3.5%</p>

Study	Intervention Characteristics	Intervention Deliverer Details	Population Characteristics	Results
	<p>participants not up to date with screening  <i>RSB, appointment scheduling assistance:</i> outreach coordinator set up appointment  <i>RSB, reduce admin barriers:</i> teaching participants how to pose questions to the provider, requesting info about screening costs, and getting screening results, assist with paperwork</p> <p><b>Intervention intensity:</b> 1 or more contacts</p> <p><b>Comparison group:</b> OE1 or GE + SM</p>		<p><i>Employment:</i> 100% nail salon employees  <i>Income:</i> 46% &lt;\$20,000; 43% \$20,000-\$39,999; 11% ≥\$40,000  <i>Education:</i> 26% grade 9 or less; 55% grade 10-12; 18% some college or more  <i>Insurance:</i> 25% private; 3% Medicare; 23% county-level public insurance; 29% marketplace insurance; 2% self-pay; 17% uninsured; 2% other  <i>Established source of care:</i> 75% have PCP  <i>Baseline screening of intervention group:</i> 0%</p>	
<p><b>Author year:</b> Fiscella et al., 2011</p> <p><b>Study design:</b> Individual RCT</p> <p><b>Suitability of design:</b> Greatest</p> <p><b>Quality of execution:</b> Good</p>	<p><b>Location:</b> upstate New York, US</p> <p><b>Population density:</b> urban</p> <p><b>Setting:</b> clinic</p> <p><b>Intervention duration:</b> 19 months</p> <p><b>Intervention details:</b>                      Type of cancer addressed: BC and CRC                      Type of services provided: CR1 + CR2 + PR + RSB, reduce admin barriers</p> <p><i>CR1:</i> Letters were signed by PCP and indicated patient was overdue for MAM, CRC screening or both  <i>CR2:</i> automated phone call, 2<sup>nd</sup> letter</p>	<p><b>Type of deliverers engaged, and services delivered:</b>                      PN: CR1 + CR2 + RSB, reduce admin barriers                      Research or clinic staff: provider reminder</p> <p><b>Training:</b> formal training on the intervention, use of a database, health promotion, and assisting patients navigate health and social services</p> <p><b>Supervision:</b> social worker</p> <p><b>Matching to population:</b> recruited from community</p> <p><b>Educational background:</b> NR</p>	<p><b>Population of focus:</b> Females receiving care from safety net clinic serving people with lower incomes</p> <p><b>Eligibility criteria:</b> Females 40-75 years of age, past due for MAM with &gt;18 months from last MAM</p> <p>Exclusion: no visit to the clinic in past 2 years or high risk for BC based on personal or family history</p> <p><b>Sample size (BC only):</b>                      Intervention: 233                      Control: 236</p> <p><b>Attrition:</b> NR</p> <p><b>Demographics for intervention group (BC only):</b></p>	<p><b>Screening test:</b> MAM</p> <p><b>Up to date or repeat screening:</b> up to date</p> <p><b>Self-report or medical record:</b> medical records</p> <p><b>Follow-up Time:</b> 12 months</p> <p><b>Results:</b>  <b>MAM:</b>                      Intervention:                      Pre: 0%                      Post: 55/134 = 41.0%                      Change: 41.0 pct pts</p> <p>Control:                      Pre: 0%                      Post: 23/137 = 16.8%                      Change: 16.8 pct pts</p> <p><b>Absolute difference:</b> +24.2 pct pts  <b>Relative difference:</b> +144.0%</p>

Study	Intervention Characteristics	Intervention Deliverer Details	Population Characteristics	Results
	<p><i>PR</i>: clinician prompt sheet or electronic prompts to remind clinician that patients are past due for MAM, CRC screening, or both  <i>RSB, reduce admin barriers</i>: mailed out FOBT or FIT kits to unscreened patients</p> <p><b>Intervention intensity</b>: 2 or more contacts</p> <p><b>Comparison group</b>: usual care</p>	<p><b>Payment</b>: NR</p> <p><b>Methods used to interact with participants</b>: Both: clinical point of care prompts, mail, telephone</p>	<p><i>Age groups</i>: 37% 40-59 years of age; 43% 50-59 years of age; 21% ≥60 years of age  <i>Gender</i>: 100% female  <i>Race/Ethnicity</i>: 26% Black or African American; 67% White; 8% other  <i>Employment</i>: NR  <i>Income per year</i>: 17% &lt;\$30,000; 46% \$30,000-\$39,000; 37% &gt;\$40,000  <i>Education</i>: NR  <i>Insurance</i>: 43% private; 25% Medicaid; 24% Medicare; 8% uninsured  <i>Established source of care</i>: 100% go to the intervention clinic  <i>Baseline screening of intervention group</i>: 0%</p>	
<p><b>Author year</b>: Fortuna et al., 2014</p> <p><b>Study design</b>: Individual RCT</p> <p><b>Suitability of design</b>: Greatest</p> <p><b>Quality of execution</b>: Good</p>	<p><b>Location</b>: Rochester, New York, US</p> <p><b>Population density</b>: urban</p> <p><b>Setting</b>: clinic</p> <p><b>Intervention duration</b>: NR</p> <p><b>Intervention details</b>: Type of cancer addressed: BC and CRC</p> <p>Type of services provided: CR(SM) + OE + RSB, appointment scheduling assistance + RSB, reduce admin barriers</p> <p><i>CR(SM)</i>: single letter from practice sent to remind patients</p>	<p><b>Type of deliverers engaged, and services delivered</b>: Clinic staff: CR(SM) Outreach worker: OE + RSB, appointment scheduling assistance + RSB, reducing admin barriers</p> <p><b>Training</b>: NR</p> <p><b>Supervision</b>: NR</p> <p><b>Matching to population</b>: NR</p> <p><b>Educational background</b>: NR</p> <p><b>Payment</b>: NR</p>	<p><b>Population of focus</b>: Females receiving care from the intervention clinic, which served communities with high proportions of people who were from historically disadvantaged groups and had lower incomes</p> <p><b>Eligibility criteria</b>: Being a registered patient at the study clinic, having at least 1 visit to the practice in the last 2 years, female 40–74 years of age, past due for BC screening</p> <p>Exclusion: higher risk for cancer, including prior cancer, premalignant conditions, inadequately</p>	<p><b>Screening test</b>: MAM</p> <p><b>Up to date or repeat screening</b>: up to date</p> <p><b>Self-report or medical record</b>: medical records</p> <p><b>Follow-up Time</b>: 13 months</p> <p><b>Results</b>:  <b>MAM</b>:                      Intervention:                      Pre: 0%                      Post: 42/153 = 27.5%                      Change: 27.5 pct pts</p> <p>Control:                      Pre: 0%                      Post: 28/157 = 17.8%                      Change: 17.8 pct pts</p>

Study	Intervention Characteristics	Intervention Deliverer Details	Population Characteristics	Results
	<p>they are overdue for screening, with follow-up, automated calls  <i>OE</i>: trained outreach worker made telephone calls with up to 3 attempts, used motivational interview techniques to encourage screening  <i>RSB</i>, <i>appointment scheduling assistance</i>: outreach worker offered to assist with scheduling an appointment  <i>RSB</i>, <i>reduce admin barriers</i>: patients not wanting colonoscopy were offered a mailed FIT kit as an alternative method of CRC screening</p> <p><b>Intervention intensity:</b> 2 contacts</p> <p><b>Comparison group:</b> CR(SM)</p>	<p><b>Methods used to interact with participants:</b>  Remote: telephone</p>	<p>evaluated breast masses, or first-degree relative with a previous diagnosis of BC</p> <p><b>Sample size:</b>  Intervention: 158  Control: 157</p> <p><b>Attrition:</b> NR</p> <p><b>Demographics for intervention group:</b>  <i>Age groups</i>: 53% 40-49 years of age; 32% 50-59 years of age; 15% ≥60 years of age  <i>Gender</i>: 100% female  <i>Race/Ethnicity</i>: 36% Black or African American; 47% White; 17% other  <i>Employment</i>: NR  <i>Income</i>: 27% &lt;\$30,000; 44% \$30,000-39,000; 29% &gt;\$40,000  <i>Education</i>: NR  <i>Insurance</i>: 38% private; 34% Medicaid; 22% Medicare; 7% uninsured  <i>Established source of care</i>: 100% go to the intervention clinic  <i>Baseline screening of intervention group</i>: 0%</p>	<p><b>Absolute difference:</b> +9.7 pct pts  <b>Relative difference:</b> +54.5%</p>
<p><b>Author year:</b>  Marshall et al., 2016</p> <p><b>Study design:</b>  Individual RCT</p> <p><b>Suitability of design:</b></p>	<p><b>Location:</b> Baltimore, Maryland, US</p> <p><b>Population density:</b> urban</p> <p><b>Setting:</b> community and clinic</p> <p><b>Intervention duration:</b> 48 months</p>	<p><b>Type of deliverers engaged, and services delivered:</b>  PN: all intervention components</p> <p><b>Training:</b> 2-hour biweekly group meetings plus monthly one-hour</p>	<p><b>Population of focus:</b>  African American females with lower incomes</p> <p><b>Eligibility criteria:</b>  Aged 65 years or older, self-identified as African American, enrolled in fee-for-service Medicare Parts A</p>	<p><b>Screening test:</b> MAM</p> <p><b>Up to date or repeat screening:</b>  up to date</p> <p><b>Self-report or medical record:</b>  self-report</p> <p><b>Follow-up Time:</b> 17.8 months</p>

Study	Intervention Characteristics	Intervention Deliverer Details	Population Characteristics	Results
<p>Greatest</p> <p><b>Quality of execution:</b> Fair</p>	<p><b>Intervention details:</b> Type of cancer addressed: BC</p> <p>Type of services provided: OE(SM) + RSB, appointment scheduling assistance + RSB reduce admin barriers</p> <p><i>OE(SM):</i> PN reviewed participants' baseline cancer screening status, discussed printed educational materials, identified potential barriers to cancer screening, using printed educational materials containing general information about cancer and preventive services covered by Medicare</p> <p><i>RSB, appointment scheduling assistance:</i> PN helped arrange appointments</p> <p><i>RSB, reduce admin barriers:</i> PN accompanied participants to screenings when necessary</p> <p><b>Intervention intensity:</b> 3 or more contacts</p> <p><b>Comparison group:</b> SM</p>	<p>individual meetings with supervisor</p> <p><b>Supervision:</b> program supervisor provided training, supervision, and evaluation of navigators</p> <p><b>Matching to population:</b> majority Black or African American women from Baltimore City and the greater Baltimore area</p> <p><b>Educational background:</b> minimum of HS education or equivalent</p> <p><b>Payment:</b> NR</p> <p><b>Methods used to interact with participants:</b> Both: face-to-face and telephone</p>	<p>&amp; B, and a Baltimore City resident</p> <p>Exclusion: enrolled in a Medicare managed care plan, a diagnosis of cancer within past 5 years, or a diagnosis of cancer not in remission, inability to provide informed consent, current residence in a chronic care facility or otherwise institutionalized</p> <p><b>Sample size:</b> Intervention: 638 Control: 720</p> <p><b>Attrition:</b> 32.1%</p> <p><b>Demographics for intervention group:</b> <i>Age groups:</i> 28% &gt;75 years of age; 72% ≤75 years of age <i>Gender:</i> 100% female <i>Race/Ethnicity:</i> 100% Black or African American <i>Employment:</i> NR <i>Income:</i> 52% &lt;\$20,000; 48% ≥\$20,000 <i>Education:</i> 27% &lt;HS; 26% HS graduate; 47% &gt;HS <i>Insurance:</i> 100% enrolled in Medicare; 15% Medicaid; 60% Medigap <i>Established source of care:</i> NR <i>Baseline screening of intervention group:</i> 88.7%</p>	<p><b>Results:</b> <b>MAM:</b> Intervention: Pre: 566/638 = 88.7% Post: 595/638 = 93.3% Change: 4.6 pct pts</p> <p>Control: Pre: 629/720 = 87.3% Post: 630/720 = 87.5% Change: 0.2 pct pts</p> <p><b>Absolute difference:</b> +4.4 pct pts <b>Relative difference:</b> +4.9%</p>



Study	Intervention Characteristics	Intervention Deliverer Details	Population Characteristics	Results
<p><b>Author year:</b> Paskett et al., 2006</p> <p><b>Study design:</b> Individual RCT</p> <p><b>Suitability of design:</b> Greatest</p> <p><b>Quality of execution:</b> Good</p>	<p><b>Location:</b> Robeson County, North Carolina, US</p> <p><b>Population density:</b> rural</p> <p><b>Setting:</b> community and clinic</p> <p><b>Intervention duration:</b> 48 months</p> <p><b>Intervention details:</b> Type of cancer addressed: BC</p> <p>Type of services provided: OE(SM) + RSB, appointment scheduling assistance</p> <p><i>OE(SM):</i> 3 in-person visits with educational materials, and follow up phone calls and mailings after each visit; covered individual cancer risk and ways to overcome barriers to MAM, discussed MAM, BC, self-examination, and scheduling MAM</p> <p><i>RSB, appointment scheduling assistance:</i> 2 phone calls to assist in making MAM appointments</p> <p><b>Intervention intensity:</b> &gt;2 contacts</p> <p><b>Comparison group:</b> received information about CC screening</p>	<p><b>Type of deliverers engaged, and services delivered:</b> CHW: all intervention components</p> <p><b>Training:</b> extensive training over 1 week period, included general project information, training on breast development and abnormalities, BC screening, diagnosis treatment, and risk factors</p> <p><b>Supervision:</b> weekly phone or in-person meetings with supervisor; supervisor periodically attended patient visits with each CHW</p> <p><b>Matching to population:</b> American Indian and Black or African American women who lived in community</p> <p><b>Educational background:</b> former nurse, social worker, and research study interviewer</p> <p><b>Payment:</b> NR</p> <p><b>Methods used to interact with participants:</b> Both: face-to-face and telephone</p>	<p><b>Population of focus:</b> Females who were from historically disadvantaged groups and had lower incomes</p> <p><b>Eligibility criteria:</b> Women over 40 years of age, visited clinic within last 2 years, had not had mammogram in past 12 months</p> <p><b>Sample size:</b> Intervention: 433 Control: 418</p> <p><b>Attrition:</b> 5.2%</p> <p><b>Demographics for intervention group:</b> <i>Age, mean:</i> 55 years <i>Gender:</i> 100% female <i>Race/Ethnicity:</i> 42% American Indian; 33% Black or African American; 24% White; 1% other <i>Employment:</i> NR <i>Income:</i> NR <i>Education:</i> 42% &lt;HS; 30% HS; 28% some college or more <i>Insurance:</i> 74% insured <i>Established source of care:</i> 100% go to the intervention clinic <i>Baseline screening of intervention group:</i> 0%</p>	<p><b>Screening test:</b> MAM</p> <p><b>Up to date or repeat screening:</b> up to date</p> <p><b>Self-report or medical record:</b> medical records</p> <p><b>Follow-up Time:</b> 12 months</p> <p><b>Results:</b> <b>MAM:</b> Intervention: Pre: 0% Post: 42.5% Change: 42.5 pct pts</p> <p>Control: Pre: 0% Post: 27.3% Change: 27.3 pct pts</p> <p><b>Absolute difference:</b> +15.2 pct pts <b>Relative difference:</b> +55.7%</p>

Study	Intervention Characteristics	Intervention Deliverer Details	Population Characteristics	Results
<p><b>Author year:</b> Percac-Lima et al., 2012</p> <p><b>Study design:</b> Pre-post only</p> <p><b>Suitability of design:</b> Least</p> <p><b>Quality of execution:</b> Fair</p>	<p><b>Location:</b> Chelsea, Massachusetts, US</p> <p><b>Population density:</b> urban</p> <p><b>Setting:</b> community and clinic</p> <p><b>Intervention duration:</b> 12 months</p> <p><b>Intervention details:</b> Type of cancer addressed: BC</p> <p>Type of services provided: GE + OE + RSB, appointment scheduling assistance+ RSB, reduce admin barriers + RSB, transportation assistance</p> <p><i>GE:</i> PN organized breast health educational group sessions in community settings where women supported each other about getting their MAM</p> <p><i>OE:</i> initial contact was made over the phone or in person in patients' native language; discussed preventive care and the importance of routine MAM, explored each patient's specific barriers to screening</p> <p><i>RSB, appointment scheduling assistance:</i> supported patients in setting up a MAM appointment</p> <p><i>RSB, reduce admin barrier:</i> accompanied patients who were afraid or felt unable to navigate the MAM appointment on their own</p> <p><i>RSB, transportation assistance:</i> interventions may have included arranging transportation</p>	<p><b>Type of deliverers engaged, and services delivered:</b> PN: all intervention components</p> <p><b>Training:</b> extensive training in BC prevention, treatment and patient navigation, how to develop trusting relationships with patients, use motivational interviewing techniques to connect with and coach patients</p> <p><b>Supervision:</b> supervised by the principal researcher, the training coordinator and community health team director</p> <p><b>Matching to population:</b> young, bilingual people from former Yugoslavia</p> <p><b>Educational background:</b> college educated</p> <p><b>Payment:</b> NR</p> <p><b>Methods used to interact with participants:</b> Both: face-to-face and telephone</p>	<p><b>Population of focus:</b> Females who were immigrants and spoke Serbo-Croatian</p> <p><b>Eligibility criteria:</b> Women 40-79 years of age, self-identified as speaking Serbo-Croatian, receiving primary care at the health center and overdue or had never had a MAM</p> <p>Exclusion: acutely ill, had dementia, metastatic cancer, schizophrenia, end stage disease or bilateral mastectomy</p> <p><b>Sample size:</b> Intervention + Control: 95</p> <p><b>Attrition:</b> 4.2%</p> <p><b>Demographics for intervention group:</b> <i>Age, mean:</i> 54 years <i>Gender:</i> 100% female <i>Race/Ethnicity:</i> 100% Serbo-Croatian <i>Employment:</i> NR <i>Income:</i> NR <i>Education:</i> 58% HS graduate or more <i>Insurance:</i> 48% private insurance <i>Established source of care:</i> 100% go to the intervention clinic <i>Baseline screening of intervention group:</i> 42.1%</p>	<p><b>Screening test:</b> MAM</p> <p><b>Up to date or repeat screening:</b> up to date</p> <p><b>Self-report or medical record:</b> medical records</p> <p><b>Follow-up Time:</b> 12 months</p> <p><b>Results:</b> <b>MAM:</b> Intervention: Pre: 40/95 = 42.1% Post: 61/95 = 64.2%</p> <p><b>Absolute change:</b> +22.1 pct pts <b>Relative change:</b> +52.5%</p>

Study	Intervention Characteristics	Intervention Deliverer Details	Population Characteristics	Results
	<p><b>Intervention intensity:</b> 2 or more</p> <p><b>Comparison group:</b> pre intervention</p>			
<p><b>Author year:</b> Phillips et al., 2011</p> <p><b>Study design:</b> Group RCT</p> <p><b>Suitability of design:</b> Greatest</p> <p><b>Quality of execution:</b> Good</p>	<p><b>Location:</b> Boston, Massachusetts, US</p> <p><b>Population density:</b> urban</p> <p><b>Setting:</b> clinic</p> <p><b>Intervention duration:</b> 9 months</p> <p><b>Intervention details:</b> Type of cancer addressed: BC</p> <p>Type of services provided: OE(CR) + RSB, appointment scheduling assistance + RSB, transportation assistance</p> <p><i>OE(CR):</i> outreach telephone call to inform women of their need for MAM and the availability of the navigator to support them <i>RSB, appointment scheduling assistance:</i> PN scheduled MAM directly <i>RSB, transportation assistance:</i> PN inquired about and addressed individual barriers to accessing care, including transportation needs</p> <p><b>Intervention intensity:</b> 2 or more</p> <p><b>Comparison group:</b> usual care</p>	<p><b>Type of deliverers engaged, and services delivered:</b> PN: all intervention components</p> <p><b>Training:</b> training provided but no detailed description</p> <p><b>Supervision:</b> NR</p> <p><b>Matching to population:</b> bilingual English and Spanish; and English and Portuguese and Cape Verdean Creole</p> <p><b>Educational background:</b> NR</p> <p><b>Payment:</b> NR</p> <p><b>Methods used to interact with participants:</b> Remote: mail and telephone</p>	<p><b>Population of focus:</b> Females receiving care from an inner-city safety net clinic serving a largely underinsured population from historically disadvantaged groups</p> <p><b>Eligibility criteria:</b> Females 51-70 years of age, assigned a PCP, had a documented visit with that PCP in the previous 2 years</p> <p>Exclusion: documentation of bilateral mastectomy</p> <p><b>Sample size:</b> Intervention: 1,817 Control: 2,078</p> <p><b>Attrition:</b> N/A</p> <p><b>Demographics for intervention group:</b> <i>Age, mean:</i> 60 years <i>Gender:</i> 100% female <i>Race/Ethnicity:</i> 51% Black or African American; 7% Hispanic or Latino; 28% White; 14% other <i>Employment:</i> NR <i>Income:</i> NR <i>Education:</i> 7% no school; 36% &lt;HS; 20% HS or GED; 16% some college, vocational school, or</p>	<p><b>Screening test:</b> MAM</p> <p><b>Up to date or repeat screening:</b> up to date</p> <p><b>Self-report or medical record:</b> medical records</p> <p><b>Follow-up Time:</b> NR</p> <p><b>Results:</b> <b>MAM:</b> Intervention: Pre: 1,412/1,817 = 77.7% Post: 1,575/1,817 = 86.7% Change: 9.0 pct pts</p> <p>Control: Pre: 1,631/2,078 = 78.0% Post: 1,589/2,078 = 76.0% Change: -2.0 pct pts</p> <p><b>Absolute difference:</b> +11.0 pct pts <b>Relative difference:</b> +14.5%</p>

Study	Intervention Characteristics	Intervention Deliverer Details	Population Characteristics	Results
			technical school; 16% ≥college graduate <i>Insurance:</i> 37% private; 63% public <i>Established source of care:</i> 100% go to the intervention clinic <i>Baseline screening of intervention group:</i> 77.7%	
<p><b>Author year:</b> Russell et al., 2010</p> <p><b>Study design:</b> Individual RCT</p> <p><b>Suitability of design:</b> Greatest</p> <p><b>Quality of execution:</b> Good</p>	<p><b>Location:</b> Indianapolis, Indiana, US</p> <p><b>Population density:</b> urban</p> <p><b>Setting:</b> clinic (FQHC)</p> <p><b>Intervention duration:</b> 4.5 months</p> <p><b>Intervention details:</b> Type of cancer addressed: BC</p> <p>Type of services provided: OE(SM) + SM1 + RSB, appointment scheduling assistance + RSB, transportation assistance</p> <p><i>OE(SM):</i> interactive computer program with information targeting individuals with little formal education, provided tailored message in response to knowledge and health beliefs, CHWs assessed understanding of program, reviewed barriers and provided tailored messages addressing each barrier  <i>SM1:</i> after first intervention session, CHWs mailed post card tailored by stage of screening adoption to participants</p>	<p><b>Type of deliverers engaged, and services delivered:</b> CHW: all intervention components</p> <p><b>Training:</b> 2-hour training</p> <p><b>Supervision:</b> periodic audiotape evaluation of counseling sessions to assure intervention fidelity throughout study</p> <p><b>Matching to population:</b> recruited CHW from local communities</p> <p><b>Educational background:</b> NR</p> <p><b>Payment:</b> small stipend, amount not specified</p> <p><b>Methods used to interact with participants:</b> Both: face-to-face, mail, and telephone</p>	<p><b>Population of focus:</b> Black or African American females with lower incomes</p> <p><b>Eligibility criteria:</b> African American females, 41-75 years of age, at or below 250% FPL, with no MAM within last 15 months, or history of BC, current patients at intervention clinic</p> <p><b>Sample size:</b> Intervention: 89 Control: 90</p> <p><b>Attrition:</b> 2.2%</p> <p><b>Demographics for intervention group:</b>  <i>Age, mean:</i> 51 years  <i>Gender:</i> 100% female  <i>Race/Ethnicity:</i> 100% Black or African American  <i>Employment:</i> 49% employed  <i>Income per year:</i> mean of \$10,984  <i>Education:</i> mean highest grade was 12<sup>th</sup> grade  <i>Insurance:</i> 60% insured  <i>Established source of care:</i> 80% reported regular PCP</p>	<p><b>Screening test:</b> MAM</p> <p><b>Up to date or repeat screening:</b> up to date</p> <p><b>Self-report or medical record:</b> medical records</p> <p><b>Follow-up Time:</b> 1.5 months</p> <p><b>Results:</b>  <b>MAM:</b>                      Intervention:                      Pre: 0%                      Post: 45/89 = 50.6%                      Change: 50.6 pct pts</p> <p>Control:                      Pre: 0%                      Post: 16/90 = 17.8%                      Change: 17.8 pct pts</p> <p><b>Absolute difference:</b> +32.8 pct pts  <b>Relative difference:</b> +184.4%</p>

Study	Intervention Characteristics	Intervention Deliverer Details	Population Characteristics	Results
	<p><i>RSB, appointment scheduling assistance:</i> assistance with scheduling screening appointments</p> <p><i>RSB, transportation assistance:</i> assistance with transportation, including free bus passes and agency referrals</p> <p><b>Intervention intensity:</b> 2 or more contacts</p> <p><b>Comparison group:</b> SM2, received culturally appropriate pamphlet about BC and MAM screening and recommendation from CHW to contact clinic referral nurse to schedule MAM screening appointment</p>		<p><i>Baseline screening of intervention group:</i> 0%</p>	
<p><b>Author year:</b> Weber et al., 1997</p> <p><b>Study design:</b> Individual RCT</p> <p><b>Suitability of design:</b> Greatest</p> <p><b>Quality of execution:</b> Good</p>	<p><b>Location:</b> Rochester, New York, US</p> <p><b>Population density:</b> urban</p> <p><b>Setting:</b> clinic (St Mary’s Hospital 6 primary care practices in inner city Rochester)</p> <p><b>Intervention duration:</b> 4 months</p> <p><b>Intervention details:</b> Type of cancer addressed: BC</p> <p>Type of services provided: CR + OE + RSB, appointment scheduling assistance + RSB, childcare assistance + RSB, reduce admin barriers + RSB, transportation assistance</p>	<p><b>Type of deliverers engaged, and services delivered:</b> CHW: all intervention components</p> <p><b>Training:</b> NR</p> <p><b>Supervision:</b> NR</p> <p><b>Matching to population:</b> CHWs self-identified as Black or African American, Latino or Hispanic, and White, concordant with majority of the patients in the assigned practice</p> <p><b>Educational background:</b> major recruitment criteria included literacy,</p>	<p><b>Population of focus:</b> Females receiving care from intervention clinics serving communities with lower incomes</p> <p><b>Eligibility criteria:</b> Females 52-77 years of age, visited 1 of the clinics at least once in previous 2 years, not up to date with MAM in at least 2 years; no prior breast cancer or mastectomy</p> <p><b>Sample size:</b> Intervention: 186 Control: 190</p> <p><b>Attrition:</b> 12.4%</p> <p><b>Demographics for intervention group:</b></p>	<p><b>Screening test:</b> MAM</p> <p><b>Up to date or repeat screening:</b> up to date</p> <p><b>Self-report or medical record:</b> medical records</p> <p><b>Follow-up Time:</b> 4 months</p> <p><b>Results:</b> <b>MAM:</b> Intervention: Pre: 23/186 = 12.4% Post: 41/163 = 25.2% Change: 12.8 pct pts</p> <p>Control: Pre: 16/190 = 8.4% Post: 17/174 = 9.8% Change: 1.3 pct pts</p> <p><b>Absolute difference:</b> +11.4 pct pts</p>

Study	Intervention Characteristics	Intervention Deliverer Details	Population Characteristics	Results
	<p><i>CR</i>: personalized letter from patients' PCP reminding they are overdue for MAM  <i>OE</i>: structured outreach, using telephone calls, home visits, office visits, and mailed cards to provide patient education  <i>RSB, appointment scheduling assistance</i>: facilitation of appointment scheduling  <i>RSB, childcare assistance</i>: facilitation of dependents' care  <i>RSB, reduce admin barriers</i>: accompanying patients to primary care office to diminish patients' fear of breast exam or MAM; practice's sliding scale fee application assistance  <i>RSB, transportation assistance</i>: facilitation of transportation</p> <p><b>Intervention intensity</b>: 2 or more contacts</p> <p><b>Comparison group</b>: CR</p>	<p>communication skills, personal charisma, and concern about community health care</p> <p><b>Payment</b>: personnel cost for 6 CHWs for the 16-week intervention was \$8294</p> <p><b>Methods used to interact with participants</b>: Both: face-to-face and telephone</p>	<p><i>Age, mean</i>: 63 years  <i>Gender</i>: 100% female  <i>Race/Ethnicity</i>: 4% Asian; 39% Black or African American; 40% White; 13% unknown  <i>Employment</i>: NR  <i>Income</i>: NR  <i>Education</i>: NR  <i>Insurance</i>: 30% private; 34% Medicare plus other; 6% Medicare alone; 5% uninsured; 0.5% unknown  <i>Established source of care</i>: 100% go to the intervention clinics  <i>Baseline screening of intervention group</i>: 12.4%</p>	<p><b>Relative difference</b>: +75.3%</p>