

Cancer Screening: Patient Navigation Services to Increase Screening for Colorectal Cancer

Summary Evidence Table

Abbreviations Used in This Document

- Intervention components:
 - CI: client incentive
 - CR: client reminder
 - GE: group education
 - OE: one-on-one education
 - PAF: provider assessment and feedback
 - PI: provider incentive
 - PR: provider reminder
 - ROPC: reducing out-of-pocket costs
 - RSB: reducing structural barriers
 - SM: small media
- Cancer types
 - BC: breast cancer
 - CC: cervical cancer
 - CRC: colorectal cancer
- Screening tests
 - FIT: fecal immunochemical blood test
 - FS: flexible sigmoidoscopy
 - FOBT: fecal occult blood test
- Others
 - ACS: American Cancer Society
 - CHC: community health centers
 - CHR: community health representative
 - CHW: community health worker
 - EHR: electronic health record
 - FPL: federal poverty line
 - FQHC: federally qualified health center
 - GED: General Educational Development
 - 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>Author year: Baker et al., 2014</p> <p>Study design: Individual RCT</p> <p>Suitability of design: Greatest</p> <p>Quality of execution: Good</p>	<p>Location: Chicago, Illinois, US</p> <p>Population density: urban</p> <p>Setting: clinic (FQHC)</p> <p>Intervention duration: 12 months</p> <p>Intervention details: Type of cancer addressed: CRC</p> <p>Type of services provided: CR (follow-up) + PAF + PI + ROPC + RSB, reduce admin barriers</p> <p><i>CR (follow-up):</i> letter sent to intervention patients due for CRC screening; automated phone calls and text messages 2 days later, to patients not returning kit 2 weeks later, and 3 months later</p> <p><i>PAF:</i> feedback to clinicians on their CRC screening rates</p> <p><i>PI:</i> CRC screening rates used as a quality metric to determine clinicians' incentive compensation formula</p> <p><i>RSB, reduce admin barriers:</i> mailed FIT kit and replacement sent if needed</p> <p><i>ROPC:</i> stamped envelope to return completed FIT kit</p> <p>Intervention intensity: 2 or more contacts</p> <p>Control group: CR (no follow-up) + PAF + PI</p>	<p>Type of deliverers engaged, and services delivered: Clinic staff: all intervention components PN: 3 months follow-up call</p> <p>Training: NR</p> <p>Supervision: NR</p> <p>Matching to population: NR</p> <p>Educational background: NR</p> <p>Payment: NR</p> <p>Methods used to interact with participants: Remote: telephone and text messages</p>	<p>Population of focus: Hispanic or Latino people without insurance</p> <p>Eligibility criteria: Patients 51-75 years of age, preferred language English or Spanish, negative FOBT results the previous year</p> <p>Exclusion: patients up to date with CRC screening, with medical conditions such as chronic diarrhea, inflammatory bowel disease, or iron deficiency</p> <p>Sample size: Intervention: 225 Control: 225</p> <p>Attrition: N/A</p> <p>Demographics for intervention group: <i>Age, mean:</i> 60 years <i>Gender:</i> 70% female, 30% male <i>Race/Ethnicity:</i> 88% Hispanic, 12% other <i>Employment:</i> NR <i>Income:</i> NR <i>Education:</i> NR <i>Insurance:</i> 23% insured, 77% uninsured <i>Established source of care:</i> 100% goes to the intervention clinics <i>Baseline screening:</i> 0%</p>	<p>Screening test: FOBT</p> <p>Up to date or repeat screening: repeat screening; patients all have had FOBT in the previous year, and completed FOBT or FIT screening test within 6 months of repeat screening deadline</p> <p>Self-report or medical record: medical records</p> <p>Follow-up Time: 6 months</p> <p>Results: FOBT screening: Intervention: Pre: 0% Post: 185/225 = 82.2% Change: 82.2 pct pts</p> <p>Control: Pre: 0% Post: 84/225 = 37.3% Change: 37.3 pct pts</p> <p>Absolute difference: +44.9 pct pts Relative difference: +120.2%</p> <p>Positive FOBT results: Intervention: 10/185 = 5.4% Control: 19/84 = 23%</p> <p>Diagnostic colonoscopy for patients with positive FOBT results: Intervention: 6/10 = 60% Control: 11/19 = 53%</p> <p>Absolute difference: +7 pct pts</p>

Patient Navigation Services to Increase Screening for Colorectal Cancer — Summary Evidence Table

Study	Intervention Characteristics	Intervention Deliverer Details	Population Characteristics	Results
<p>Author year: Blumenthal et al., 2010</p> <p>Study design: Group RCT</p> <p>Suitability of design: Greatest</p> <p>Quality of execution: Fair</p>	<p>Location: Atlanta, Georgia, US</p> <p>Population density: urban</p> <p>Setting: community and clinic</p> <p>Intervention duration: 27 months</p> <p>Intervention details: Type of cancer addressed: CRC</p> <p>Type of services provided: ROPC + RSB, reduce admin barriers + SM</p> <p><i>ROPC:</i> reimbursement up to \$500 for out-of-pocket costs incurred for CRC screening</p> <p><i>RSB, reduce admin barriers:</i> assistance for patients with negotiating direct payment; letters of introduction and guarantee of payment for patient to assist in scheduling test visit</p> <p><i>SM:</i> gift bags to all participants, including pamphlets on CRC and screening</p> <p>Intervention intensity: 2 or more contacts</p> <p>Control group: SM</p>	<p>Type of deliverers engaged, and services delivered: CHW: RSB, reduce admin barriers Research staff: SM + ROPC</p> <p>Training: researcher conducted training for staff responsible for recruiting participants and conducting interventions</p> <p>Supervision: NR</p> <p>Matching to population: NR</p> <p>Educational background: NR</p> <p>Payment: NR</p> <p>Methods used to interact with participants: Both: face-to-face, mail, and telephone</p>	<p>Population of focus: Black or African American</p> <p>Eligibility criteria: African American, over 49 years of age, no history of CRC, and no previous CRC screening test within the recommended time interval</p> <p>Sample size: Intervention: 84 Control: 88</p> <p>Attrition: 30.4%</p> <p>Demographics for intervention group: <i>Age, mean:</i> 66 years <i>Gender:</i> 73% female; 27% male <i>Race/Ethnicity:</i> 100% Black or African American <i>Employment:</i> NR <i>Income:</i> NR <i>Education:</i> 12% elementary school; 48% HS or technical; 40% ≥some college <i>Insurance:</i> 38% private; 58% Medicare or Medicaid; 4% uninsured <i>Established source of care:</i> NR <i>Baseline screening of intervention group:</i> 0%</p>	<p>Screening test: up to date using any CRC test</p> <p>Up to date or repeat screening: up to date</p> <p>Self-report or medical record: self-report</p> <p>Follow-up Time: 6 months</p> <p>Results: CRC screening with any test: Intervention: Pre: 0% Post: 14/84 = 16.7% Change: 16.7 pct pts</p> <p>Control: Pre: 0% Post: 11/88 = 12.5% Change: 12.5 pct pts</p> <p>Absolute difference: +4.2 pct pts Relative difference: +33.3%</p>
<p>Author year: Braun et al., 2015</p> <p>Study design: Individual RCT</p>	<p>Location: Moloka'i, Hawaii, US</p> <p>Population density: rural</p> <p>Setting: community and clinic</p>	<p>Type of deliverers engaged, and services delivered: CHWs (lay navigators): all intervention components</p>	<p>Population of focus: Asian American or Pacific Islander living in Hawaii</p> <p>Eligibility criteria: Medicare beneficiaries residing in Moloka'i, Hawaii</p>	<p>Screening test: colonoscopy or FOBT</p> <p>Up to date or repeat screening: up to date</p>

Patient Navigation Services to Increase Screening for Colorectal Cancer — Summary Evidence Table

Study	Intervention Characteristics	Intervention Deliverer Details	Population Characteristics	Results
<p>Suitability of design: Greatest</p> <p>Quality of execution: Fair</p>	<p>Intervention duration: 48 months</p> <p>Intervention details: 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>Intervention intensity: 2 or more contacts</p> <p>Control group: alternative education on nutrition and relevant cancer education material from another healthcare facility on island</p>	<p>Training: an initial 48-hour evidence-based navigator training program, with quarterly continuing education sessions</p> <p>Supervision: initial supervision by nurse, later by other healthcare professionals</p> <p>Matching to population: recruited from local community, one Hawaiian and one Filipino</p> <p>Educational background: NR</p> <p>Payment: NR</p> <p>Methods used to interact with participants: Both: face-to-face, mail, and telephone</p>	<p>Sample size: Intervention: 242 Control: 246</p> <p>Attrition: N/A</p> <p>Demographics for intervention group (for all cancer types): <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% <HS; 33% HS; 28% >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>Self-report or medical record: self-report</p> <p>Follow-up Time: NR</p> <p>Results: Colonoscopy: Intervention: Pre: 60/242 = 24.8% Post: 104/242 = 43.0% Change: 18.2 pct pts</p> <p>Control: Pre: 62/246 = 25.2% Post: 67/246 = 27.2% Change: 2.0 pct pts</p> <p>Absolute difference: +16.2 pct pts Relative difference: +60.4%</p> <p>FOBT: Intervention: Pre: 31/242 = 12.8% Post: 50/242 = 20.7% Change: 7.9 pct pts</p> <p>Control: Pre: 27/246 = 11.0% Post: 31/246 = 12.6% Change: 1.6 pct pts</p> <p>Absolute difference: +6.3 pct pts Relative difference: +41.2%</p>

Study	Intervention Characteristics	Intervention Deliverer Details	Population Characteristics	Results
<p>Author year: Christie et al., 2008</p> <p>Study design: Individual RCT</p> <p>Suitability of design: Greatest</p> <p>Quality of execution: Fair</p>	<p>Location: New York City, New York, US</p> <p>Population density: urban</p> <p>Setting: clinic</p> <p>Intervention duration: 5 months</p> <p>Intervention details: Type of cancer addressed: CRC</p> <p>Type of services provided: OE + RSB, appointment scheduling assistance + RSB, unspecified + SM</p> <p><i>OE:</i> provided over the phone to discuss purpose of the procedure, risk and benefits, preparation required, and answered additional questions <i>RSB, appointment scheduling assistance:</i> PN contacted the gastrointestinal scheduler to arrange the colonoscopy for the patient <i>RSB, unspecified:</i> PN contacted patient multiple times to address barriers and solve problems, especially if patient did not complete the scheduled screening <i>SM:</i> PN mailed colonoscopy preparation instructions</p> <p>Intervention intensity: 2 or more contacts</p> <p>Control group: RSB, appointment scheduling + SM</p>	<p>Type of deliverers engaged, and services delivered: PN: all intervention components</p> <p>Training: NR</p> <p>Supervision: NR</p> <p>Matching to population: NR</p> <p>Educational background: NR</p> <p>Payment: NR</p> <p>Methods used to interact with participants: Remote: mail and telephone</p>	<p>Population of focus: Black or African American and Hispanic or Latino people with annual income <\$20,000</p> <p>Eligibility criteria: Patients >50 years of age, asymptomatic for gastrointestinal symptoms, in need of screening, had primary care physician and referral for screening colonoscopy, not up to date with CRC screening</p> <p>Sample size: Intervention: 13 Control: 8</p> <p>Attrition: 0%</p> <p>Demographics for intervention and control group: <i>Age, mean:</i> 58 years <i>Gender:</i> 75% female; 25% male <i>Race/Ethnicity:</i> 21% Black or African American; 71% Hispanic or Latino; 8% other <i>Employment:</i> NR <i>Income per year:</i> 81% <\$20,000; 19% >\$20,000 <i>Education:</i> 71% <HS; 29% >HS <i>Insurance:</i> 36% Medicaid; 52% uninsured <i>Established source of care:</i> 100% attending community health clinic <i>Baseline screening of intervention group:</i> 0%</p>	<p>Screening test: colonoscopy</p> <p>Update or repeat screening: up to date</p> <p>Self-report or medical record: medical records</p> <p>Follow-up Time: 6 months</p> <p>Results: Colonoscopy: Intervention: Pre: 0% Post: 7/13 = 53.8% Change: 53.8 pct pts</p> <p>Control: Pre: 0% Post: 1/8 = 13.0% Change: 13.0 pct pts</p> <p>Absolute difference: +40.8 pct pts Relative difference: +313.8%</p>

Study	Intervention Characteristics	Intervention Deliverer Details	Population Characteristics	Results
<p>Author year: Coronado et al., 2018</p> <p>Study design: Group RCT</p> <p>Suitability of design: Greatest</p> <p>Quality of execution: Good</p>	<p>Location: California and Oregon, US</p> <p>Population density: NR</p> <p>Setting: clinic (FQHCs)</p> <p>Intervention duration: 18 months</p> <p>Intervention details: Type of cancer addressed: CRC</p> <p>Type of services provided: CR(SM) + RSB, reduce admin barriers</p> <p><i>CR(SM):</i> adults due for CRC screening were identified; clinic staff generated mailing lists and materials for 3 sequential mailings: (1) an introductory letter; (2) a FIT kit packet that included wordless instructions on how to complete the test; and (3) a reminder letter</p> <p><i>RSB, reduce admin barriers:</i> FIT kits sent to patients due for a CRC screening</p> <p>Intervention intensity: 1 or more contact</p> <p>Control group: usual care</p>	<p>Type of deliverers engaged, and services delivered: Clinic staff: all intervention components</p> <p>Training: NR</p> <p>Supervision: NR</p> <p>Matching to population: NR</p> <p>Educational background: NR</p> <p>Payment: NR</p> <p>Methods used to interact with participants: Remote: mail</p>	<p>Population of focus: People with lower income receiving care from the intervention FQHCs</p> <p>Eligibility criteria: FQHC: willing to randomize clinics and use a single fecal test across all participating clinics, had an electronic interface with the lab that processed the kits, and had sufficient capacity for follow-up colonoscopy, among other factors</p> <p>Patients 50-74 years of age, had a clinic visit within the previous 12 months, due for CRC screening</p> <p>Exclusion: adults with evidence of relevant health conditions (e.g., colorectal cancer, colon disease, end-stage renal failure)</p> <p>Sample size: Intervention: 21,134 Control: 20,059</p> <p>Attrition: N/A</p> <p>Demographics for intervention group: <i>Age groups:</i> 80% 50-64 years of age <i>Gender:</i> 56% female; 44% male <i>Race/Ethnicity:</i> 8% Hispanic or Latino; 93% White; 3% other <i>Employment:</i> NR</p>	<p>Screening test: FIT</p> <p>Up to date or repeat screening: up to date</p> <p>Self-report or medical record: medical records</p> <p>Follow-up Time: 12 months</p> <p>Results: FIT: Intervention: Pre: 0% Post: 2938/21,134 = 13.9% Change: 13.9 pct pts</p> <p>Control: Pre: 0% Post: 2086/20,059 = 10.4% Change: 10.4 pct pts</p> <p>Absolute difference: +3.5 pct pts Relative difference: +33.7%</p>

Study	Intervention Characteristics	Intervention Deliverer Details	Population Characteristics	Results
			<p><i>Income per year:</i> 47% <FPL; 28% with 100-200% of FPL; 10% ≥200% of FPL; 17% unknown <i>Education:</i> NR <i>Insurance:</i> 10% private; 36% Medicaid; 24% Medicare; 26% uninsured <i>Established source of care:</i> 100% of patients from clinic <i>Baseline screening of intervention group:</i> 0%</p>	
<p>Author year: Davis et al., 2013</p> <p>Study design: Group RCT</p> <p>Suitability of design: Greatest</p> <p>Quality of execution: Fair</p>	<p>Location: Louisiana, US</p> <p>Population density: urban and rural</p> <p>Setting: clinic (FQHC)</p> <p>Intervention duration: 40 months</p> <p>Intervention details: Type of cancer addressed: CRC</p> <p>Type of services provided: OE(SM) + ROPC + RSB, unspecified</p> <p><i>OE(SM):</i> provided if patients did not return their FOBT kit, called patients by telephone within 2 weeks and again in 1 month <i>ROPC:</i> pre-stamped envelope to mail back the completed FOBT kit <i>RSB, unspecified:</i> nurse manager used motivational interviewing techniques to identify and problem-solve barriers and motivate patients to complete FOBT</p>	<p>Type of deliverers engaged, and services delivered: Nurse manager: all intervention components</p> <p>Training: 2-hr in-service training on CRC screening and an orientation to study during a quarterly clinic meeting; nurse manager training included motivational interviewing techniques, use of a tracking system, and a protocol for contacting patients and assisting them with navigation if a test was positive</p> <p>Supervision: quarterly clinic meetings</p> <p>Matching to population: NR</p> <p>Educational background: nursing</p>	<p>Population of focus: People with lower income without insurance receiving care from FQHCs that serve communities with majority Black or African American population</p> <p>Eligibility criteria: Patients 50-85 years of age, English speaking, current clinic patient, not requiring screening at an earlier age according to ACS guidelines, not up to date with USPSTF CRC screening recommendations, and not having an acute medical concern</p> <p>Sample size: Intervention: 404 Control: 275</p> <p>Attrition: N/A</p> <p>Demographics for intervention group: <i>Age, mean:</i> 59 years</p>	<p>Screening test: FOBT</p> <p>Up to date or repeat screening: up to date</p> <p>Self-report or medical record: medical records</p> <p>Follow-up Time: 3 months</p> <p>Results: FOBT: Intervention: Pre: 0% Post: 245/404 = 60.6% Change: 60.6 pct pts</p> <p>Control: Pre: 0% Post: 106/275 = 38.5% Change: 38.5 pct pts</p> <p>Absolute difference: +22.1 pct pts Relative difference: +57.3%</p>

Study	Intervention Characteristics	Intervention Deliverer Details	Population Characteristics	Results
	<p>Intervention intensity: 1 or more contact</p> <p>Control group: ROPC</p>	<p>Payment: nurse salary; for 2 nurses \$106,280 (40% nurse salary, not full-time)</p> <p>Methods used to interact with participants: Both: face-to-face and telephone</p>	<p><i>Gender:</i> 77% female; 23% male <i>Race/Ethnicity:</i> 83% Black or African American; 17% White or Hispanic <i>Employment:</i> NR <i>Income:</i> NR <i>Education:</i> 31% ≤HS; 47% HS graduate; 17% some college; 6% ≥college graduate <i>Insurance:</i> NR <i>Established source of care:</i> 100% patients attend the clinic <i>Baseline screening of intervention group:</i> 0%</p>	
<p>Author year: DeGroff et al., 2017</p> <p>Study design: Individual RCT</p> <p>Suitability of design: Greatest</p> <p>Quality of execution: Good</p>	<p>Location: Boston, Massachusetts, US</p> <p>Population density: urban</p> <p>Setting: clinic (safety net clinic)</p> <p>Intervention duration: 33 months</p> <p>Intervention details: Type of cancer addressed: CRC</p> <p>Type of services provided: OE + RSB, appointment scheduling assistance + RSB, reduce admin barriers + RSB, transportation assistance</p> <p><i>OE:</i> informed and educated patients about colonoscopy procedure, bowel preparation, emotional concerns about the procedure</p>	<p>Type of deliverers engaged, and services delivered: PN: all intervention components</p> <p>Training: additional training in motivational interviewing</p> <p>Supervision: NR</p> <p>Matching to population: bilingual and familiar with population</p> <p>Educational background: one navigator trained at Outreach Worker Training Institute and motivational interviewing training through Cambridge Health Alliance; the other navigator trained through</p>	<p>Population of focus: People from historically disadvantaged population groups who have lower incomes and receive care from the intervention clinic</p> <p>Eligibility criteria: Referral by a primary care provider for colonoscopy screening, English or Spanish speaking, 50–75 years of age; no previous diagnosis of colon cancer or adenomatous polyps, and no active substance abuse or acute psychiatric diagnosis as determined by medical records or primary care provider</p> <p>Sample size: Intervention: 419 Control: 421</p>	<p>Screening test: colonoscopy</p> <p>Up to date or repeat screening: up to date</p> <p>Self-report or medical record: medical records</p> <p>Follow-up Time: 6 months</p> <p>Results: Colonoscopy: Intervention: Pre: 0% Post: 256/419 = 61.1% Change: 61.1 pct pts</p> <p>Control: Pre: 0% Post: 224/421 = 53.2% Change: 53.2 pct pts</p> <p>Absolute difference: +7.9 pct pts Relative difference: +14.8%</p>

Study	Intervention Characteristics	Intervention Deliverer Details	Population Characteristics	Results
	<p><i>RSB, appointment scheduling assistance:</i> made appointments, with follow up calls to participants to remind them of the appointment</p> <p><i>RSB, reduce admin barriers:</i> assisted participants with obtaining bowel preparation materials, picked up the medication along with the appropriate type of liquid to mix with the medication and, if needed, accompanied them to the pharmacy</p> <p><i>RSB, transportation assistance:</i> arranged for escorts and transportation services</p> <p>Intervention intensity: 3 contacts, on average navigators spent 14 minutes per patient</p> <p>Comparison group: RSB, appointment scheduling assistance</p>	<p>2-day PN training at Harold P. Freeman Patient Navigation Institute</p> <p>Payment: NR</p> <p>Methods used to interact with participants: Both: mainly through telephone, but also face-to-face and mail</p>	<p>Attrition: N/A</p> <p>Demographics for intervention group:</p> <p><i>Age groups:</i> 53% 50-54 years of age; 34% 55-64 years of age; 13% 65-74 years of age</p> <p><i>Gender:</i> 55% female; 46% male</p> <p><i>Race/Ethnicity:</i> 41% Black or African American; 39% Hispanic or Latino; 15% White; 5% other</p> <p><i>Employment:</i> 44% employed; 14% out of work; 14% not in labor force (student, retired, housewife); 29% unable to work</p> <p><i>Income per year:</i> 32% \$0-\$9,999; 27% \$10,000 - \$19,999; 15% \$20,000 - \$34,999; 7% \$35,000-\$49,999; 9% \$50,000 or more; 11% NR</p> <p><i>Education:</i> 34% <HS; 35% HS diploma or GED; 18% some college; 14% college degree or higher</p> <p><i>Insurance:</i> 98% insured; 2% uninsured</p> <p><i>Established source of care:</i> 100% go to BMC</p> <p><i>Baseline screening of intervention group:</i> 0%</p>	
<p>Author year: Dietrich et al., 2006</p> <p>Study design: Individual RCT</p>	<p>Location: New York City, New York, US</p> <p>Population density: urban</p>	<p>Type of deliverers engaged, and services delivered: Prevention care manager: all intervention components</p>	<p>Population of focus: People receiving care from FQHCs that serve communities with high proportions of people who were from historically</p>	<p>Screening test: up to date using any CRC test, FOBT</p> <p>Up to date or repeat screening: up to date</p>

Study	Intervention Characteristics	Intervention Deliverer Details	Population Characteristics	Results
<p>Suitability of design: Greatest</p> <p>Quality of execution: Fair</p>	<p>Setting: community and clinic (FQHC)</p> <p>Intervention duration: 18 months</p> <p>Intervention details: 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 <i>SM:</i> prevention care manager sent accurate information about screening via mail</p> <p>Intervention intensity: 2 more contacts; series of telephone support calls</p> <p>Control group: usual care</p>	<p>Training: 7 hours of training, including review of USPSTF recommendations, barriers to cancer screening, and role-playing telephone calls</p> <p>Supervision: calls to patients monitored to ensure quality and consistency; call logs reviewed at monthly meetings to ensure intervention fidelity</p> <p>Matching to population: based on patient language</p> <p>Educational background: mostly college graduates</p> <p>Payment: NR</p> <p>Methods used to interact with participants: Remote: mail and telephone</p>	<p>disadvantaged groups and had lower incomes</p> <p>Eligibility criteria: Females 50 to 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>Sample size: Intervention: 696 Control: 694</p> <p>Attrition: 1%</p> <p>Demographics for intervention group (for all cancer types): <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% <\$25,000; 39% \$25,000-\$40,000; 27% >\$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</p>	<p>Self-report or medical record: medical records</p> <p>Follow-up Time: 3 months</p> <p>Results: Up to date with any CRC test: Intervention: Pre: 271/696 = 39.0% Post: 438/696 = 63.0% Change: 24.0 pct pts</p> <p>Control: Pre: 271/694 = 39.0% Post: 347/694 = 50.0% Change: 11.0 pct pts</p> <p>Absolute difference: +13.0 pct pts Relative difference: +26.0%</p> <p>FOBT: Intervention: Pre: 166/696 = 23.9% Post: 296/696 = 42.5% Change: 18.7 pct pts</p> <p>Control: Pre: 177/694 = 25.5% Post: 213/694 = 30.7% Change: 5.2 pct pts</p> <p>Absolute difference: +13.5 pct pts Relative difference: +48.2%</p>

Study	Intervention Characteristics	Intervention Deliverer Details	Population Characteristics	Results
			to date with any CRC test; 24% with FOBT	
<p>Author year: Dietrich et al., 2013</p> <p>Study design: Individual RCT</p> <p>Suitability of design: Greatest</p> <p>Quality of execution: Fair</p>	<p>Location: New York City, New York, US</p> <p>Population density: urban</p> <p>Setting: community and clinic (FQHC)</p> <p>Intervention duration: 18 months</p> <p>Intervention details: Type of cancer addressed: CRC</p> <p>Type of services provided: CR(SM) + OE + PR + RSB, appointment scheduling assistance</p> <p>CR(SM): women overdue for cancer screening were mailed language-appropriate educational materials and OE: mailed a personalized letter introducing Prevention Care Manager, strongly recommended cancer screening tests, and listed overdue screenings; telephone outreach began a week later using a script to confirm screening history, address barriers, and collect demographic information PR: women overdue for cancer screening were mailed a card listing overdue screenings to share with PCP RSB, appointment scheduling assistance: Prevention Care Managers scheduled</p>	<p>Type of deliverers engaged, and services delivered: Preventive care manager: all intervention components</p> <p>Training: initial half day training plus 4 additional trainings</p> <p>Supervision: NR</p> <p>Matching to population: NR</p> <p>Educational background: NR</p> <p>Payment: NR</p> <p>Methods used to interact with participants: Remote: mail and telephone</p>	<p>Population of focus: Females in Medicaid management system</p> <p>Eligibility criteria: Females speaking English, Spanish, or Russian as their primary language, 50-63 years of age, continuously enrolled with a participating clinic for at least 12 months</p> <p>Exclusion: up to date for CRC screening according to USPSTF recommendations or with claims indicating any history of CRC, recent active cancer treatment, or a recent breast, cervical or lung cancer diagnosis</p> <p>Sample size: Intervention: 562 Control: 1,678</p> <p>Attrition:</p> <p>Demographics for intervention group: Age, mean: 56 years Gender: 100% women Race/Ethnicity: NR Employment: NR Income: NR Education: NR Insurance: 100% insured Established source of care: 100% go to the clinics Baseline screening of intervention group: 0%</p>	<p>Screening test: up to date using any CRC, colonoscopy, FOBT</p> <p>Up to date or repeat screening: up to date</p> <p>Self-report or medical record: medical records</p> <p>Follow-up Time: >6 months</p> <p>Results:</p> <p>Up to date using any CRC test:</p> <p>Intervention: Pre: 0% Post: 206/562 = 36.7% Change: 36.7 pct pts</p> <p>Control: Pre: 0% Post: 514/1678 = 30.6% Change: 30.6 pct pts</p> <p>Absolute difference: +6.1 pct pts Relative difference: +19.9%</p> <p>Colonoscopy:</p> <p>Intervention: Pre: 0% Post: 148/562 = 26.3% Change: 26.3 pct pts</p> <p>Control: Pre: 0% Post: 341/1678 = 20.3% Change: 20.3 pct pts</p> <p>Absolute difference: +6.0 pct pts Relative difference: +29.6%</p>

Study	Intervention Characteristics	Intervention Deliverer Details	Population Characteristics	Results
	<p>appointments if women specifically requested help</p> <p>Intervention intensity: 2 or more contacts; telephone outreach with initial calls averaging 13.5 minutes and subsequent calls averaging 6.6 minutes</p> <p>Comparison group: usual care</p>			<p>FOBT:</p> <p>Intervention: Pre: 0% Post: 70/562 = 12.5% Change: 12.5 pct pts</p> <p>Control: Pre: 0% Post: 205/1678 = 12.2% Change: 12.2 pct pts</p> <p>Absolute difference: +0.3 pct pts Relative difference: +2.5%</p>
<p>Author year: Enard et al., 2015</p> <p>Study design: Individual RCT</p> <p>Suitability of design: Greatest</p> <p>Quality of execution: Fair</p>	<p>Location: Houston, Texas, US</p> <p>Population density: urban</p> <p>Setting: community and clinic</p> <p>Intervention duration: 36 months</p> <p>Intervention details: Type of cancer addressed: BC, CC, CRC, lung, and prostate (only reported CRC screening)</p> <p>Type of services provided: GE + OE + RSB, appointment scheduling assistance + RSB, reduce admin barriers</p> <p><i>GE:</i> information and counseling offered at family level <i>OE:</i> educated participants about screening tests available through Medicare, screening guidelines, Medicare's coverage of CRC screening; information and counseling offered to individuals <i>RSB, appointment scheduling assistance:</i> services offered; 18%</p>	<p>Type of deliverers engaged, and services delivered: PN: all intervention components</p> <p>Training: 80 hours of standardized training on core PN competencies, attended at least one 3-day continuing education conference sponsored by ACS</p> <p>Supervision: NR</p> <p>Matching to population: bilingual</p> <p>Educational background: bachelor's degree in public health or related field and 2 years or more experience facilitating community-based support services or case management</p> <p>Payment: NR</p>	<p>Population of focus: Hispanic or Latinos, majority with less than HS education</p> <p>Eligibility criteria: Latino Medicare enrollees outside of primary care provider setting, 50 years or older, covered by Medicare parts A and B, could participate in English or Spanish, not diagnosed with any type of cancer within last 5 years</p> <p>For current study, focused on screening arm participants at the cancer center recruitment site, who were not adherent to CRC screening</p> <p>Sample size: Intervention: 135 Control: 168</p> <p>Attrition: 38%</p>	<p>Screening test: up to date using any CRC test, colonoscopy or FS</p> <p>Up to date or repeat screening: up to date</p> <p>Self-report or medical record: self-report</p> <p>Follow-up Time: >6 months</p> <p>Results:</p> <p>Up to date using any CRC test: Intervention: Pre: 0% Post: 59/219 = 26.9% Change: 26.9 pct pts</p> <p>Control: Pre: 0% Post: 54/230 = 23.5% Change: 23.5 pct pts</p> <p>Absolute difference: +3.5 pct pts Relative difference: +14.7%</p> <p>Colonoscopy or FS: Intervention: Pre: 0%</p>

Study	Intervention Characteristics	Intervention Deliverer Details	Population Characteristics	Results
	<p>of intervention participants received this service <i>RSB, reduce admin barriers:</i> referrals and assistance to participants to overcome barriers to screening</p> <p>Intervention intensity: 1 or more contact; median of 3 contacts ranging from 1-20</p> <p>Comparison group: mailed educational materials outlining preventive services available through Medicare</p>	<p>Methods used to interact with participants: Remote: telephone</p>	<p>Demographics for intervention group: <i>Age groups:</i> 27% 50-64 years of age; 73% 65-75 years of age <i>Gender:</i> 56% female; 44% male <i>Race/Ethnicity:</i> 100% Hispanic or Latino <i>Employment:</i> NR <i>Income:</i> NR <i>Education:</i> 66% <HS; 34% ≥HS <i>Insurance:</i> 100% insured (100% Medicare) <i>Established source of care:</i> 80% have established care <i>Baseline screening of intervention group:</i> 0%</p>	<p>Post: 35.6% Change: 35.6 pct pts</p> <p>Control: Pre: 0% Post: 23.8% Change: 23.8 pct pts</p> <p>Absolute difference: +11.8 pct pts Relative difference: +49.6%</p>
<p>Author year: Fiscella et al., 2011</p> <p>Study design: Individual RCT</p> <p>Suitability of design: Greatest</p> <p>Quality of execution: Good</p>	<p>Location: upstate New York, New York, US</p> <p>Population density: urban</p> <p>Setting: clinic (safety net clinic)</p> <p>Intervention duration: 19 months</p> <p>Intervention details: Type of cancer addressed: BC and CRC</p> <p>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 mammography, CRC screening or both</p>	<p>Type of deliverers engaged, and services delivered: PN: CR1 + CR2 + RSB, reduce admin barriers Research or clinic staff: provider reminder</p> <p>Training: formal training on the intervention, use of a database, health promotion, and assisting patients navigate health and social services</p> <p>Supervision: social worker</p> <p>Matching to population: recruited from community</p>	<p>Population of focus: People receiving care from safety net clinic serving people with lower income</p> <p>Eligibility criteria: Patients 50-75 years of age, past due for CRC screening, with >12 months from last FOBT or >5 years since last sig or >10 years since last colonoscopy</p> <p>Exclusion: no visit to the clinic in past 2 years or high risk for CRC based on personal or family history</p> <p>Sample size (CRC only): Intervention: 163 Control: 160</p> <p>Attrition: NR</p>	<p>Screening test: up to date using any CRC test</p> <p>Up to date or repeat screening: up to date</p> <p>Self-report or medical record: medical records</p> <p>Follow-up Time: 12 months</p> <p>Results: Up to date using any CRC test: Intervention: Pre: 0% Post: 47/163= 28.8% Change: 28.8 pct pts</p> <p>Control: Pre: 0% Post: 16/160 = 10.0% Change: 10.0 pct pts</p>

Study	Intervention Characteristics	Intervention Deliverer Details	Population Characteristics	Results
	<p><i>CR2</i>: automated phone call, 2nd letter <i>PR</i>: clinician prompt sheet or electronic prompts to remind clinician that patients were past due for mammography, CRC screening, or both <i>RSB, reduce admin barriers</i>: mailed out FOBT or FIT kits to unscreened patients</p> <p>Intervention intensity: 2 or more contacts</p> <p>Comparison group: usual care</p>	<p>Educational background: NR</p> <p>Payment: NR</p> <p>Methods used to interact with participants: Both: clinical point of care prompts, mail, and telephone</p>	<p>Demographics for intervention group (CRC only): <i>Age groups</i>: 64% 50-59 years of age; 36% ≥60 years of age <i>Gender</i>: 55% female; 45% male <i>Race/Ethnicity</i>: 19% Black or African American; 69% White; 13% other <i>Employment</i>: NR <i>Income per year</i>: 18% <\$30,000; 44% \$30,000-\$39,000; 39% >\$40,000 <i>Education</i>: NR <i>Insurance</i>: 47% private; 19% Medicaid; 23% Medicare; 10% uninsured <i>Established source of care</i>: 100% go to clinic <i>Baseline screening of intervention group</i>: 0%</p>	<p>Absolute difference: +18.8 pct pts Relative difference: +188.0%</p>
<p>Author year: Ford et al., 2006</p> <p>Study design: Individual RCT</p> <p>Suitability of design: Greatest</p> <p>Quality of execution: Fair</p>	<p>Location: Detroit, Michigan, US</p> <p>Population density: urban</p> <p>Setting: clinic</p> <p>Intervention duration: 36 months</p> <p>Intervention details: Type of cancer addressed: CRC, prostate, lung, and ovarian</p> <p>Type of services provided: RSB, appointment scheduling assistance + RSB, reduce admin barriers + RSB, transportation assistance</p>	<p>Type of deliverers engaged, and services delivered: Case manager: all intervention components</p> <p>Training: training in appointment scheduling procedures for cancer screening and procedures of the trial</p> <p>Supervision: NR</p> <p>Matching to population: African American case manager over 40 years of age</p>	<p>Population of focus: Black or African American males</p> <p>Eligibility criteria: African American males aged 55 years or older, enrolled in the Prostate, Lung, Colorectal, and Ovarian Cancer Screening Trial at the Henry Ford Health System site in Detroit, Michigan in 1999</p> <p>Sample size: Intervention: 352 Control: 351</p>	<p>Screening test: FS</p> <p>Up to date or repeat screening: up to date</p> <p>Self-report or medical record: medical records</p> <p>Follow-up Time: 36 months</p> <p>Results: FS: Intervention: Pre: 0% Post: 81/352 = 23.0% Change: 23.0 pct pts Control:</p>

Study	Intervention Characteristics	Intervention Deliverer Details	Population Characteristics	Results
	<p><i>RSB, reduce admin barriers:</i> helped obtain health insurance information <i>RSB, appointment scheduling assistance:</i> assisted with scheduling screening appointment <i>RSB, transportation assistance:</i> provided health and financial support information</p> <p>Intervention intensity: 2 or more contacts</p> <p>Comparison group: usual care</p>	<p>Educational background: NR</p> <p>Payment: NR</p> <p>Methods used to interact with participants: Remote: telephone</p>	<p>Attrition: NR</p> <p>Demographics for intervention group: <i>Age, mean:</i> 63 years <i>Gender:</i> 100% male <i>Race/Ethnicity:</i> 100% Black or African American <i>Employment:</i> 31% working; 60% retired; 6% extended sick leave or disabled; 4% unemployed <i>Income per year:</i> 32% <150% of FPL; 68% ≥150% of FPL <i>Education:</i> 23% <HS; 22% HS grad; 8% post HS (e.g., vocational); 28% some college; 8% college graduate; 12% post-graduate <i>Insurance:</i> NR <i>Established source of care:</i> NR <i>Baseline screening of intervention group:</i> 0%</p>	<p>Pre: 0% Post: 80/351 = 22.8% Change: 22.8 pct pts</p> <p>Absolute difference: +0.2 pct pts Relative difference: +1.0%</p>
<p>Author year: Fortuna et al., 2014</p> <p>Study design: Individual RCT</p> <p>Suitability of design: Greatest</p> <p>Quality of execution: Good</p>	<p>Location: Rochester, New York, US</p> <p>Population density: urban</p> <p>Setting: clinic</p> <p>Intervention duration: NR</p> <p>Intervention details: Type of cancer addressed: BC and CRC</p> <p>Type of services provided: CR(SM) + OE + RSB, appointment scheduling</p>	<p>Type of deliverers engaged, and services delivered: Clinic staff: CR(SM) Outreach worker: OE + RSB, appointment scheduling assistance + RSB, reducing admin barriers</p> <p>Training: NR</p> <p>Supervision: NR</p> <p>Matching to population: NR</p>	<p>Population of focus: People 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>Eligibility criteria: Registered patient at the study clinic, had at least 1 visit to the practice in the last 2 years, 50-74 years of age, past due for CRC screening</p>	<p>Screening test: up to date using any CRC test</p> <p>Up to date or repeat screening: up to date</p> <p>Self-report or medical record: medical records</p> <p>Follow-up Time: 13 months</p> <p>Results: Up to date using any CRC test: Intervention: Pre: 0% Post: 34/158 = 21.5%</p>

Study	Intervention Characteristics	Intervention Deliverer Details	Population Characteristics	Results
	<p>assistance + RSB, reduce structural barriers</p> <p><i>CR(SM)</i>: single letter from practice sent to remind patients they were overdue for screening, with follow-up, automated calls</p> <p><i>OE</i>: trained outreach worker made telephone calls with up to 3 attempts, used motivational interview techniques to encourage screening</p> <p><i>RSB, appointment scheduling assistance</i>: outreach worker offered to assist with scheduling an appointment</p> <p><i>RSB, reduce admin barriers</i>: patients who did not want to undergo colonoscopy were offered a mailed FIT kit as an alternative method of CRC screening</p> <p>Intervention intensity: 2 contacts</p> <p>Comparison group: CR(SM)</p>	<p>Educational background: NR</p> <p>Payment: NR</p> <p>Methods used to interact with participants: Remote: telephone</p>	<p>Exclusion: patients at higher risk for cancer, including prior cancer, premalignant conditions, positive FOBT or FIT result at last testing, or first-degree relative with a previous diagnosis of CRC</p> <p>Sample size: Intervention: 158 Control: 156</p> <p>Attrition: NR</p> <p>Demographics for intervention group: <i>Age groups:</i> 65% 50-59 years of age; 35% ≥60 years of age <i>Gender:</i> 54% female; 46% male <i>Race/Ethnicity:</i> 35% Black or African American; 48% White; 17% other <i>Employment:</i> NR <i>Income per year:</i> 34% <\$30,000; 40% \$30,000-39,000; 27% >\$40,000 <i>Education:</i> NR <i>Insurance:</i> 40% private; 20% Medicaid; 34% Medicare; 6% uninsured <i>Established source of care:</i> 100% go to clinic <i>Baseline screening of intervention group:</i> 0%</p>	<p>Change: 21.5 pct pts</p> <p>Control: Pre: 0% Post: 19/156 = 12.2% Change: 12.2 pct pts</p> <p>Absolute difference: +9.3 pct pts Relative difference: +76.2%</p>
<p>Author year: Goldman et al., 2015</p> <p>Study design:</p>	<p>Location: Chicago, Illinois, US</p> <p>Population density: urban</p> <p>Setting: clinic (FQHC)</p>	<p>Type of deliverers engaged, and services delivered: Clinic staff: CR + PAF + PI</p>	<p>Population of focus: People receiving care from the intervention FQHC serving communities with high proportions of Hispanic</p>	<p>Screening test: FOBT</p> <p>Up to date or repeat screening: up to date</p>

Study	Intervention Characteristics	Intervention Deliverer Details	Population Characteristics	Results
<p>Individual RCT</p> <p>Suitability of design: Greatest</p> <p>Quality of execution: Good</p>	<p>Intervention duration: NR</p> <p>Intervention details: Type of cancer addressed: CRC</p> <p>Type of services provided: CR + PAF + PI + RSB, reduce admin barriers</p> <p><i>CR:</i> medical assistants identified and counseled patients due for screening <i>PAF:</i> provided routine quality measurement and feedback on CRC screening rates to providers <i>PI:</i> CRC screening added as a quality metric for providers' incentive compensation formula <i>RSB, reduce admin barriers:</i> FIT kits mailed to patients' homes, with follow-up calls, texts, and phone calls by the CRC Screening Navigator</p> <p>Intervention intensity: 1 or more contact</p> <p>Comparison group: CR + PAF + PI</p>	<p>PN: RSB, reduce admin barriers</p> <p>Training: NR</p> <p>Supervision: NR</p> <p>Matching to population: NR</p> <p>Educational background: NR</p> <p>Payment: NR</p> <p>Methods used to interact with participants: Remote: mail, telephone, and text</p>	<p>or Latino residents without insurance</p> <p>Eligibility criteria: Patients 50-75 years of age, preferred language of English or Spanish, at least 2 clinic visits over 2 years before the study, no documentation of CRC screening</p> <p>Exclusion: patients inappropriate for FOBT (e.g., chronic diarrhea, inflammatory bowel disease, iron deficiency, metastatic cancer, and previous total colectomy), and those who had a pending or completed referral for colonoscopy, completed FIT, or precluding diagnosis</p> <p>Sample size: Intervention: 210 Control: 210</p> <p>Attrition: N/A</p> <p>Demographics for intervention group: <i>Age, mean:</i> 58 years <i>Gender:</i> 66% female; 34% male <i>Race/Ethnicity:</i> 21% Black or African American; 61% Hispanic or Latino; 13% White; 5% other <i>Employment:</i> NR <i>Income:</i> NR <i>Education:</i> NR</p>	<p>Self-report or medical record: medical records</p> <p>Follow-up Time: 12 months</p> <p>Results: FOBT: Intervention: Pre: 0% Post: 84/210 = 40.0% Change: 40.0 pct pts</p> <p>Control: Pre: 0% Post: 47/210 = 22.4% Change: 22.4 pct pts</p> <p>Absolute difference: +17.6 pct pts Relative difference: +78.6%</p>

Study	Intervention Characteristics	Intervention Deliverer Details	Population Characteristics	Results
			<p><i>Insurance: 6% private; 15% Medicaid; 11% Medicare; 69% uninsured</i> <i>Established source of care: 100% go to the intervention clinic</i> <i>Baseline screening of intervention group: 0%</i></p>	
<p>Author year: Hardin et al., 2020</p> <p>Study design: Pre-post only</p> <p>Suitability of design: Least</p> <p>Quality of execution: Fair</p>	<p>Location: Hazard, Kentucky, US</p> <p>Population density: rural</p> <p>Setting: clinic (FQHC)</p> <p>Intervention duration: 12 months</p> <p>Intervention details: Type of cancer addressed: CRC</p> <p>Type of services provided: CI + OE + PR + RSB, reduce admin barriers</p> <p><i>CI:</i> patients were given \$10 gift card when they returned the completed kit <i>OE:</i> nurse discussed appropriate screening options with patient; PNs follow-up biweekly with a phone or mail reminder to complete and return the kit; providing further instructions on using the kit <i>PR:</i> prior to a scheduled office visit, nurses or PNs would identify patients due for CRC screening and inform providers <i>RSB, reduce admin barriers:</i> follow-up with patients, provided further instructions if needed,</p>	<p>Type of deliverers engaged, and services delivered: Clinic staff: CI Nurse + PN: OE + PR PN: RSB, reduce admin barriers</p> <p>Training: NR</p> <p>Supervision: NR</p> <p>Matching to population: NR</p> <p>Educational background: NR</p> <p>Payment: \$9,163 for PN</p> <p>Methods used to interact with participants: Both: face-to-face with nurse in clinic and remote follow up</p>	<p>Population of focus: People experiencing homelessness who were receiving care from the intervention FQHC</p> <p>Eligibility criteria: Patients of clinic who were eligible for and selected the FIT screening option, average risk adults aged 50–74, not up to date with screening</p> <p>Sample size: Intervention: 353</p> <p>Attrition: NR</p> <p>Demographics for intervention group: <i>Age, mean:</i> NR <i>Gender:</i> NR <i>Race/Ethnicity:</i> NR <i>Employment:</i> NR <i>Income:</i> 80% homeless <i>Education:</i> NR <i>Insurance:</i> NR <i>Established source of care:</i> 100% go to the intervention clinic <i>Baseline screening of intervention group:</i> 21.7%</p>	<p>Screening test: FIT</p> <p>Up to date or repeat screening: up to date</p> <p>Self-report or medical record: medical records</p> <p>Follow-up Time: 13 months</p> <p>Results: FIT: Intervention: Pre: 40/184 = 21.7% Post: 168/353 = 47.6%</p> <p>Absolute change: +25.9 pct pts Relative change: +118.9%</p>

Patient Navigation Services to Increase Screening for Colorectal Cancer — Summary Evidence Table

Study	Intervention Characteristics	Intervention Deliverer Details	Population Characteristics	Results
	<p>and replaced kits that had been lost</p> <p>Intervention intensity: 1 or more contact</p> <p>Comparison group: pre intervention</p>			
<p>Author year: Haverkamp et al., 2020</p> <p>Study design: Individual RCT</p> <p>Suitability of design: Greatest</p> <p>Quality of execution: Fair</p>	<p>Location: Western region, US</p> <p>Population density: rural</p> <p>Setting: clinic</p> <p>Intervention duration: 6-7 months</p> <p>Intervention details: Type of cancer addressed: CRC</p> <p>Intervention arm 1: mail + outreach Type of services provided: CR + OE + ROPC + RSB, reduce admin barriers</p> <p><i>CR:</i> a letter sent with the FIT kit notifying participants that they were due for CRC screening <i>OE:</i> provided by American Indian CHR over the phone to discuss the importance of CRC screening, answer participants' questions, and offered to take the completed FIT kit to the clinic lab; home visit follow-up was conducted if participants did not return the completed test <i>ROPC:</i> FIT kit return envelope pre-stamped <i>RSB, reduce admin barriers:</i> mailed FIT kits with instructions;</p>	<p>Type of deliverers engaged, and services delivered: CHR: OE Clinic staff: CR + ROPC + RSB, reduce admin barriers</p> <p>Training: CHR trained about CRC screening recommendations and intervention protocol</p> <p>Supervision: NR</p> <p>Matching to population: CHRs self-identified as American Indian</p> <p>Educational background: NR</p> <p>Payment: NR</p> <p>Methods used to interact with participants: Intervention arm 1: Both: face-to-face, mail, and telephone Intervention arm 2: Remote: mail</p>	<p>Population of focus: American Indian</p> <p>Eligibility criteria: Patients who had obtained services at least once in the past 3 years from one of the participating clinics, 50-75 years of age, not up to date with CRC screening per USPSTF criteria and had no history of CRC or total colectomy</p> <p>Sample size: Intervention arm 1: 361 Intervention arm 2: 361 Control: 566</p> <p>Attrition: N/A</p> <p>Demographics for intervention group (both arms): <i>Age, mean:</i> 60 years <i>Gender:</i> 52% female; 48% male <i>Race/Ethnicity:</i> 100% American Indian <i>Employment:</i> NR <i>Income:</i> NR <i>Education:</i> NR <i>Insurance:</i> 100% American Indian tribal health center</p>	<p>Screening test: FIT</p> <p>Up to date or repeat screening: up to date</p> <p>Self-report or medical record: medical records</p> <p>Follow-up Time: 6-7 months</p> <p>Results: FIT: Intervention arm 1: Pre: 0% Post: 68/361 = 18.8% Change: 18.8 pct pts</p> <p>Control: Pre: 0% Post: 36/566 = 6.4% Change: 6.4 pct pts</p> <p>Absolute difference: +12.4 pct pts Relative difference: +193.8%</p> <p>Intervention arm 2: Pre: 0% Post: 61/361 = 16.9% Change: 16.9 pct pts</p> <p>Control: Pre: 0% Post: 36/566 = 6.4% Change: 6.4 pct pts</p>

Study	Intervention Characteristics	Intervention Deliverer Details	Population Characteristics	Results
	<p>follow-up letter mailed to nonrespondents</p> <p>Intervention intensity, arm 1: 1 or more contact</p> <p>Intervention arm 2: mail Only Type of services provided: CR + RSB, reducing admin barriers + ROPC</p> <p>Intervention intensity, arm 2: 1 or 2 contacts</p> <p>Comparison group: usual care</p>		<p><i>Established source of care:</i> 100% go to clinic <i>Baseline screening of intervention group:</i> 0%</p>	<p>Absolute difference: +10.5 pct pts Relative difference: +164.1%</p>
<p>Author year: Honeycutt et al., 2013</p> <p>Study design: Retrospective cohort</p> <p>Suitability of design: Moderate</p> <p>Quality of execution: Fair</p>	<p>Location: southwest Georgia, US</p> <p>Population density: rural</p> <p>Setting: community and clinic</p> <p>Intervention duration: 18 months</p> <p>Intervention details: Type of cancer addressed: CRC</p> <p>Type of services provided: OE + PAF + PR + ROPC + RSB, transportation assistance</p> <p><i>OE:</i> provided one-on-one patient education and appointment reminders <i>PAF:</i> gave provider feedback on screening referral patterns <i>PR:</i> managed provider reminder systems to prompt health care providers to refer patients for screening and coordinate screening and follow-up services</p>	<p>Type of deliverers engaged, and services delivered: PN: all intervention components</p> <p>Training: trained profession health navigators</p> <p>Supervision: NR</p> <p>Matching to population: NR</p> <p>Educational background: NR</p> <p>Payment: NR</p> <p>Methods used to interact with participants: NR</p>	<p>Population of focus: People who were underinsured or without insurance receiving care from CHCs serving communities with predominately African American population</p> <p>Eligibility criteria: Individuals 50-64 years of age, eligible for sliding-fee scale services (i.e., documented low-income, underinsured, or uninsured), visited a clinic at least once during the study period</p> <p>Exclusion: history of CRC, colorectal polyps, ulcerative colitis, Crohn’s disease, or a first-degree relative with CRC or adenomatous polyps</p> <p>Sample size: Intervention: 289 Control: 520</p>	<p>Screening test: up to date using any CRC test, colonoscopy</p> <p>Up to date or repeat screening: up to date</p> <p>Self-report or medical record: medical records</p> <p>Follow-up Time: 18 months</p> <p>Results: Up to date with any CRC test: Intervention: Pre: 0% Post: 123/289 = 42.6% Change: 42.6 pct pts</p> <p>Control: Pre: 0% Post: 56/520 = 10.8% Change: 10.8 pct pts</p> <p>Absolute difference: +31.8 pct pts Relative difference: +295.2%</p> <p>Colonoscopy:</p>

Patient Navigation Services to Increase Screening for Colorectal Cancer — Summary Evidence Table

Study	Intervention Characteristics	Intervention Deliverer Details	Population Characteristics	Results
	<p><i>ROPC</i>: partnering gastroenterology practices provided colonoscopies at a reduced cost, which was paid entirely by the Community Cancer Screening Program for all patients</p> <p><i>RSB, transportation assistance</i>: helped patients overcome barriers to screening (e.g., costs, transportation, literacy)</p> <p>Intervention intensity: 1 contact</p> <p>Comparison group: usual care</p>		<p>Attrition: N/A</p> <p>Demographics for intervention group:</p> <p><i>Age groups</i>: 43% 50-54 years of age; 34% 55-59 years of age; 23% 60-64 years of age</p> <p><i>Gender</i>: 69% female; 31% male</p> <p><i>Race/Ethnicity</i>: 76% Black or African American; 24% White</p> <p><i>Employment</i>: NR</p> <p><i>Income</i>: NR</p> <p><i>Education</i>: NR</p> <p><i>Insurance</i>: 100% eligible for sliding-fee scale services</p> <p><i>Established source of care</i>: 100% go to CHCs</p> <p><i>Baseline screening of intervention group</i>: 0%</p>	<p>Intervention: Pre: 0% Post: 90/257 = 35.0% Change: 35.0 pct pts</p> <p>Control: Pre: 0% Post: 33/510 = 6.5% Change: 6.5 pct pts</p> <p>Absolute difference: +28.5 pct pts Relative difference: +441.2%</p>
<p>Author year: Jandorf et al., 2005</p> <p>Study design: Individual RCT</p> <p>Suitability of design: Greatest</p> <p>Quality of execution: Good</p>	<p>Location: New York City, New York, US</p> <p>Population density: urban</p> <p>Setting: clinic (FQHC)</p> <p>Intervention duration: 3 months</p> <p>Intervention details: Type of cancer addressed: CRC</p> <p>Type of services provided: PR + RSB, appointment scheduling assistance</p> <p><i>PR</i>: charts were reviewed to confirm participants' eligibility,</p>	<p>Type of deliverers engaged, and services delivered: PN: all intervention components</p> <p>Training: trained to be PN</p> <p>Supervision: NR</p> <p>Matching to population: recruited people with similar cultural background as participants</p> <p>Educational background: NR</p>	<p>Population of focus: People receiving care from the intervention FQHC serving people from historically disadvantaged groups and with lower income</p> <p>Eligibility criteria: Patients attending the intervention FQHC, 50 years of age or older, no FOBT within the past year, no FS or barium enema within past 3-5 years, no colonoscopy within past 10 years</p> <p>Sample size: Intervention: 38</p>	<p>Screening test: colonoscopy, FOBT</p> <p>Up to date or repeat screening: up to date</p> <p>Self-report or medical record: medical records</p> <p>Follow-up Time: 6 months colonoscopy, 3 months FOBT</p> <p>Results: Colonoscopy: Intervention: Pre: 0% Post: 9/38 = 23.7% Change: 23.7 pct pts</p> <p>Control:</p>

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	<p>and FOBT cards were placed in the reviewed charts to remind physicians to order CRC test <i>RSB, appointment scheduling assistance</i>: PN assisted patients to schedule appointments if needed</p> <p>Intervention intensity: 1 or more contacts</p> <p>Comparison group: PR</p>	<p>Payment: NR</p> <p>Methods used to interact with participants: Remote: telephone</p>	<p>Control: 40</p> <p>Attrition: N/A</p> <p>Demographics for intervention group: <i>Age, mean:</i> 61 years <i>Gender:</i> 76% female; 24% male <i>Race/Ethnicity:</i> 79% Hispanic or Latino <i>Employment:</i> 8% employed <i>Income per year:</i> 72% <\$10,000 <i>Education:</i> 13% HS or more <i>Insurance:</i> 69% with public insurance <i>Established source of care:</i> 97.4% have primary care provider <i>Baseline screening of intervention group:</i> 0%</p>	<p>Pre: 0% Post: 2/40 = 5.0% Change: 5.0 pct pts</p> <p>Absolute difference: +18.7 pct pts Relative difference: +374.0%</p> <p>FOBT: Intervention: Pre: 0% Post: 16/38 = 42.1% Change: 42.1 pct pts</p> <p>Control: Pre: 0% Post: 10/40 = 25.0% Change: 25.0 pct pts</p> <p>Absolute difference: +17.1 pct pts Relative difference: +68.4%</p>
<p>Author year: Lasser et al., 2011</p> <p>Study design: Individual RCT</p> <p>Suitability of design: Greatest</p> <p>Quality of execution: Fair</p>	<p>Location: Cambridge, Somerville, and Everett, Massachusetts, US</p> <p>Population density: urban</p> <p>Setting: clinic</p> <p>Intervention duration: 6 months</p> <p>Intervention details: Type of cancer addressed: CRC</p> <p>Type of services provided: CR(SM) + OE + RSB, appointment scheduling assistance + RSB, reduce admin barriers</p>	<p>Type of deliverers engaged, and services delivered: PN: all intervention components</p> <p>Training: 2-day training program that included lectures and role-playing scenarios for providing the services, with additional training when needed</p> <p>Supervision: project manager audited at least 5 calls and weekly meetings</p>	<p>Population of focus: People receiving care from the intervention clinics which served populations who were from historically disadvantaged groups and had lower incomes</p> <p>Eligibility criteria: Patients 52-74 years of age, had 1 visit to intervention clinic in the previous 2 years, had not completed CRC screening, and spoke English, Haitian Creole, Portuguese, or Spanish as primary language</p> <p>Exclusion: patients with acute illness, an end-stage</p>	<p>Screening test: up to date using any CRC test, colonoscopy, FOBT</p> <p>Up to date or repeat screening: up to date</p> <p>Self-report or medical record: medical records</p> <p>Follow-up Time: 12 months</p> <p>Results: Up to date using any CRC test: Intervention: Pre: 0% Post: 79/235 = 33.6% Change: 33.6 pct pts</p> <p>Control: Pre: 0%</p>

Study	Intervention Characteristics	Intervention Deliverer Details	Population Characteristics	Results
	<p><i>CR(SM)</i>: sent letters signed by the PCP notifying patients that they were overdue for CRC screening, with a CRC screening brochure</p> <p><i>OE</i>: some patients received education about CRC, screening tests, motivating them to get screened, how to prepare for tests, and meeting them on the day of their colonoscopy as emotional support</p> <p><i>RSB, appointment scheduling assistance</i>: helped patients make colonoscopy appointments</p> <p><i>RSB, reduce admin barriers</i>: helped patients obtain health insurance coverage, mailed FOBT cards and instructions, and found someone to accompany patients back home after the procedure</p> <p>Intervention intensity: 1 or more contacts, average call lasting 107 minutes, ranging 4-335 minutes</p> <p>Comparison group: usual care</p>	<p>Matching to population: fluent in English, Spanish, Portuguese, or Haitian Creole</p> <p>Educational background: some college or college graduate</p> <p>Payment: NR</p> <p>Methods used to interact with participants: Remote: mail and telephone</p>	<p>medical disease, severe psychiatric conditions, active substance abuse, or cognitive impairment</p> <p>Sample size: Intervention: 235 Control: 230</p> <p>Attrition: N/A</p> <p>Demographics for intervention group: <i>Age, mean</i>: 61 years <i>Gender</i>: 60% female; 40% male <i>Race/Ethnicity</i>: 27% Black or African American; 48% White; 26% other or unknown <i>Employment</i>: NR <i>Income</i>: NR <i>Education</i>: NR <i>Insurance</i>: 32% private; 22% Medicare; 19% Medicaid; 13% Commonwealth Care; 10% Health Safety Net; 1% other; 3% uninsured <i>Established source of care</i>: 100% go to intervention clinics <i>Baseline screening of intervention group</i>: 0%</p>	<p>Post: 46/230 = 20.0% Change: 20.0 pct pts</p> <p>Absolute difference: +13.6 pct pts Relative difference: +68.0%</p> <p>Colonoscopy: Intervention: Pre: 0% Post: 62/235 = 26.4% Change: 26.4 pct pts</p> <p>Control: Pre: 0% Post: 30/230 = 13.0% Change: 13.0 pct pts</p> <p>Absolute difference: +13.4 pct pts Relative difference: +103.1%</p> <p>FOBT: Intervention: Pre: 0% Post: 17/235 = 7.2% Change: 7.2 pct pts</p> <p>Control: Pre: 0% Post: 15/230 = 6.5% Change: 6.5 pct pts</p> <p>Absolute difference: +0.7 pct pts Relative difference: +10.8%</p>
<p>Author year: Leone et al., 2013</p> <p>Study design: Pre-post with comparison</p>	<p>Location: Cape Fear, North Carolina, US</p> <p>Population density: urban and rural</p> <p>Setting: clinic</p>	<p>Type of deliverers engaged, and services delivered: PN: all intervention components</p>	<p>Population of focus: People receiving Medicaid benefits</p> <p>Eligibility criteria: Patients aged 50-74 years, currently enrolled in Medicaid and not Medicare,</p>	<p>Screening test: up to date using any CRC test</p> <p>Up to date or repeat screening: up to date</p> <p>Self-report or medical record: medical records</p>

Patient Navigation Services to Increase Screening for Colorectal Cancer — Summary Evidence Table

Study	Intervention Characteristics	Intervention Deliverer Details	Population Characteristics	Results
<p>Suitability of design: Greatest</p> <p>Quality of execution: Fair</p>	<p>Intervention duration: 6 months</p> <p>Intervention details: Type of cancer addressed: CRC</p> <p>Type of services provided: CR + SM + RSB, appointment scheduling assistance + RSB, transportation assistance</p> <p><i>CR:</i> a letter from physician indicating that patients needed to be screened for CRC <i>SM:</i> CRC screening decision aid called CHOICE, an 11-minute DVD that provides information about CRC, different tests to screen, testimonials from people who have been screened and a comparison of colonoscopy and stool blood test screening <i>RSB, appointment scheduling assistance:</i> helped patients making appointments <i>RSB, transportation assistance:</i> assisted with transportation</p> <p>Intervention intensity: 1 or 2 contacts</p> <p>Comparison group: usual care</p>	<p>Training: 2-day training course for PN with mock calls</p> <p>Supervision: research team monitored calls and provided feedback</p> <p>Matching to population: NR</p> <p>Educational background: NR</p> <p>Payment: staff, paid for job</p> <p>Methods used to interact with participants: Remote: mail and telephone</p>	<p>not up to date with CRC screening</p> <p>Sample size: Intervention: 240 Control: 174</p> <p>Attrition: 0.8%</p> <p>Demographics for intervention group: <i>Age, mean:</i> 57 years <i>Gender:</i> 57% female; 43% male <i>Race/Ethnicity:</i> 31% African American; 62% White; 7% other <i>Employment:</i> NR <i>Income:</i> 89% with continuous eligibility for Medicaid during study <i>Education:</i> NR <i>Insurance:</i> 100% Medicaid <i>Established source of care:</i> 100% go to the intervention clinic <i>Baseline screening of intervention group:</i> 0%</p>	<p>Follow-up Time: 12 months</p> <p>Results: Up to date using CRC test: Intervention: Pre: 0% Post: 22/240 = 9.2% Change: 9.2 pct pts</p> <p>Control: Pre: 0% Post: 13/174 = 7.5% Change: 7.5 pct pts</p> <p>Absolute difference: +1.7 pct pts Relative difference: +22.7%</p>
<p>Author year: Ma et al., 2009</p> <p>Study design: Pre-post with comparison</p> <p>Suitability of design: Greatest</p>	<p>Location: Pennsylvania, US</p> <p>Population density: urban</p> <p>Setting: community and clinic</p> <p>Intervention duration: 6 months</p> <p>Intervention details:</p>	<p>Type of deliverers engaged, and services delivered: CHW: GE Clinic staff: ROPC PN: RSB, appointment scheduling assistance + RSB, reduce admin barriers + RSB, translation assistance +</p>	<p>Population of focus: Korean American immigrants with lower income</p> <p>Eligibility criteria: Active members of the participating Korean churches, self-identified as Korean Americans, aged 50 years or more, no history of</p>	<p>Screening test: up to date using any CRC test</p> <p>Up to date or repeat screening: up to date</p> <p>Self-report or medical record: medical records</p> <p>Follow-up Time: 12 months</p>

Study	Intervention Characteristics	Intervention Deliverer Details	Population Characteristics	Results
<p>Quality of execution: Fair</p>	<p>Type of cancer addressed: CRC</p> <p>Type of services provided: GE + ROPC + RSB, appointment scheduling assistance + RSB, reduce admin barriers + RSB, translation assistance + RSB, transportation assistance</p> <p><i>GE:</i> small group CRC education sessions in Korean <i>ROPC:</i> clinical partners provided services at reduced cost to patients who were uninsured or underinsured <i>RSB, appointment scheduling assistance:</i> helped set up appointments <i>RSB, reduce admin barriers:</i> provided assistance with registration, other paperwork, and medical results facilitation <i>RSB, translation assistance:</i> helped patients translating during appointment <i>RSB, transportation assistance:</i> assisted with arranging transportation</p> <p>Intervention intensity: 2 or more contacts</p> <p>Comparison group: non-cancer general health information</p>	<p>RSB, transportation assistance</p> <p>Training: NR</p> <p>Supervision: NR</p> <p>Matching to population: bilingual GE sessions</p> <p>Educational background: NR</p> <p>Payment: NR</p> <p>Methods used to interact with participants: Both: face-to-face for GE; follow-up through remote and face-to-face</p>	<p>polyp, CRC cancer, or family history of CRC, and never had CRC screening or were overdue for screening</p> <p>Sample size: Intervention: 84 Control: 83</p> <p>Attrition: N/A</p> <p>Demographics for intervention group: <i>Age, mean:</i> 63 years <i>Gender:</i> 61% female; 39% male <i>Race/Ethnicity:</i> 100% Asian <i>Employment:</i> NR <i>Income per year:</i> 40% <\$10,000; 11% \$10,000-\$20,000; 22% \$20,000-\$30,000; 28% >\$30,000-\$40,000 <i>Education:</i> 19% <HS; 44% HS; 38% college or more <i>Insurance:</i> 39% insured; 61% uninsured <i>Established source of care:</i> 50% with regular physician <i>Baseline screening of intervention group:</i> 13.1%</p>	<p>Results: Up to date using any CRC test: Intervention: Pre: 11/84 = 13.1% Post: 65/84 = 77.4% Change: 64.3 pct pts</p> <p>Control: Pre: 8/83 = 9.6% Post: 9/83 = 10.8% Change: 1.2 pct pts</p> <p>Absolute difference: +63.1 pct pts Relative difference: +427.5%</p>
<p>Author year: Ma et al., 2019</p> <p>Study design: Group RCT</p> <p>Suitability of design:</p>	<p>Location: Philadelphia, Pennsylvania, New Jersey, US</p> <p>Population density: urban</p> <p>Setting: community and clinic</p> <p>Intervention duration: NR</p>	<p>Type of deliverers engaged, and services delivered: CHW: GE Clinic staff: RSB, alternative screening hours</p>	<p>Population of focus: Korean American immigrants with lower income</p> <p>Eligibility criteria: Churches: Korean American churches in Philadelphia or NJ area, serving mainly</p>	<p>Screening test: up to date using any CRC test</p> <p>Up to date or repeat screening: up to date</p> <p>Self-report or medical record: medical records</p>

Study	Intervention Characteristics	Intervention Deliverer Details	Population Characteristics	Results
<p>Greatest</p> <p>Quality of execution: Fair</p>	<p>Intervention details: Type of cancer addressed: CRC</p> <p>Type of services provided: GE + RSB, alternative screening hours + RSB, appointment scheduling assistance + RSB, reduce admin barriers</p> <p><i>GE</i>: group sessions facilitated by bilingual health educators to increase understanding of CRC screening methods and available resources</p> <p><i>RSB, alternative screening hours</i>: offered more flexible hours of clinic operation with bilingual medical staff on site</p> <p><i>RSB, appointment scheduling assistance</i>: provided assistance scheduling appointments with clinic partners for sigmoidoscopy or colonoscopy</p> <p><i>RSB, reduce admin barriers</i>: offered FIT home kit to participants at education sessions, not at clinic with instructions in Korean; PN helped with paperwork</p> <p>Intervention intensity: 1 or more contacts</p> <p>Comparison group: non-cancer general health information</p>	<p>PN: RSB, appointment scheduling assistance + RSB, reduce admin barriers</p> <p>Training: NR</p> <p>Supervision: NR</p> <p>Matching to population: bilingual CHW</p> <p>Educational background: NR</p> <p>Payment: NR</p> <p>Methods used to interact with participants: Both: face-to-face for most interactions, follow-up through telephone</p>	<p>immigrant population; 30 churches were paired by size and geographic location</p> <p>Participant: self-identified Korean Americans, 50 years of age or older, did not have a colorectal polyp, CRC cancer, or a family history of CRC, and non-adherent to CRC screening guidelines</p> <p>Sample size: Intervention: 470 Control: 455</p> <p>Attrition: N/A</p> <p>Demographics for intervention group: <i>Age, mean:</i> 62 years <i>Gender:</i> 58% female; 42% male <i>Race/Ethnicity:</i> 100% Asian <i>Employment:</i> 56% employed; 44% unemployed or retired or homemaker <i>Income per year:</i> 37% <\$20,000; 42% \$20,000 - \$40,000; 21% >\$40,000 <i>Education:</i> 12% <HS; 33% HS; 55% college or more <i>Insurance:</i> 46% insured; 54% uninsured <i>Established source of care:</i> 57% with regular physician <i>Baseline screening of intervention group:</i> 0%</p>	<p>Follow-up Time: 12 months</p> <p>Results: Up to date using any CRC test: Intervention: Pre: 0% Post: 277/470 = 58.9% Change: 58.9 pct pts</p> <p>Control: Pre: 0% Post: 61/455 = 13.4% Change: 13.4 pct pts</p> <p>Absolute difference: +45.5 pct pts Relative difference: +339.6%</p>
<p>Author year: Myers et al., 2014</p>	<p>Location: Philadelphia, Pennsylvania, US</p> <p>Population density: urban</p>	<p>Type of deliverers engaged, and services delivered:</p>	<p>Population of focus: African Americans served by the intervention clinic</p>	<p>Screening test: up to date using any CRC test</p>

Study	Intervention Characteristics	Intervention Deliverer Details	Population Characteristics	Results
<p>Study design: Individual RCT</p> <p>Suitability of design: Greatest</p> <p>Quality of execution: Good</p>	<p>Setting: clinic</p> <p>Intervention duration: 60 months</p> <p>Intervention details: Type of cancer addressed: CRC</p> <p>Type of services provided: CR(SM) + OE + RSB, reduce admin barriers</p> <p><i>CR(SM):</i> CRC screening info booklet mailed to participants overdue for CRC screening, with a personalized message to get screened, also identified participants' preferred screening methods</p> <p><i>OE:</i> trained PN called participants to discuss materials, assess screening preferences, concerns, and barriers to screening, developed a plan to complete the screening, and arrange a follow-up call</p> <p><i>RSB, reducing admin barriers:</i> FIT kit sent to participants who expressed preference for this screening methods</p> <p>Intervention intensity: 1 or more contacts</p> <p>Comparison group: CR(SM) + RSB, reduce admin barriers</p>	<p>Clinic staff: CR(SM) + RSB, reduce admin barriers PN: OE</p> <p>Training: NR</p> <p>Supervision: NR</p> <p>Matching to population: NR</p> <p>Educational background: NR</p> <p>Payment: NR</p> <p>Methods used to interact with participants: Remote: mail and telephone</p>	<p>Eligibility criteria: Patients at clinic self-identified as African Americans, 50 to 75 years of age, no prior diagnosis of colorectal neoplasia or inflammatory bowel disease, visited a participating practice within the previous 2 years, had complete contact information, and not compliant with ACS CRC screening guidelines</p> <p>Sample size: Intervention: 382 Control: 379</p> <p>Attrition: NR</p> <p>Demographics for intervention group: <i>Age groups:</i> 75% 50-59 years of age; 25% ≥60 years of age <i>Gender:</i> 73% female; 27% male <i>Race/Ethnicity:</i> 100% Black or African American <i>Employment:</i> NR <i>Income:</i> NR <i>Education:</i> 59% ≤HS; 41% >HS <i>Insurance:</i> NR <i>Established source of care:</i> 100% go to intervention clinic <i>Baseline screening of intervention group:</i> 0%</p>	<p>Up to date or repeat screening: up to date</p> <p>Self-report or medical record: medical records</p> <p>Follow-up Time: 12 months</p> <p>Results: Up to date using any CRC test: Intervention: Pre: 0% Post: 166/382 = 43.5% Change: 43.5 pct pts</p> <p>Control: Pre: 0% Post: 122/379 = 32.2% Change: 32.2 pct pts</p> <p>Absolute difference: +11.3 pct pts Relative difference: +35.1%</p>

Study	Intervention Characteristics	Intervention Deliverer Details	Population Characteristics	Results
<p>Author year: Myers et al., 2019</p> <p>Study design: Individual RCT</p> <p>Suitability of design: Greatest</p> <p>Quality of execution: Good</p>	<p>Location: Pennsylvania, US</p> <p>Population density: urban</p> <p>Setting: clinic</p> <p>Intervention duration: 12 months</p> <p>Intervention details: Type of cancer addressed: CRC</p> <p>Type of services provided: CR(SM) + OE + RSB, reduce admin barriers</p> <p><i>CR(SM):</i> CRC screening info booklet mailed to participants overdue for CRC screening, with a personalized message to get screened, also identified participants' preferred screening methods</p> <p><i>OE:</i> trained PN called participants to discuss materials, assess screening preferences, concerns, and barriers to screening, developed a plan to complete the screening, and arrange a follow-up call</p> <p><i>RSB, reducing admin barriers:</i> FIT kit sent to participants who expressed preference for this screening methods</p> <p>Intervention intensity: 1 or more contact</p> <p>Comparison group: CR(SM) + RSB, reduce admin barriers</p>	<p>Type of deliverers engaged, and services delivered: Clinic staff: CR(SM) + RSB, reduce admin barriers PN: OE</p> <p>Training: NR</p> <p>Supervision: NR</p> <p>Matching to population: bilingual PN, fluent in both Spanish and English</p> <p>Educational background: NR</p> <p>Payment: NR</p> <p>Methods used to interact with participants: Remote: mail and telephone</p>	<p>Population of focus: Hispanic or Latino populations who had lower incomes and were served by the intervention clinic</p> <p>Eligibility criteria: Clinic: 5 primary care practice with relatively large numbers of Hispanic or Latino patients</p> <p>Participants: EHR used to identify patients of Hispanic or Latino ethnicity, 50-75 years of age, not been diagnosed with CRC, no personal or family history of CRC or polyps, not up to date with CRC screening</p> <p>Sample size: Intervention: 197 Control: 203</p> <p>Attrition: NR</p> <p>Demographics for intervention group: <i>Age, mean:</i> 57 years <i>Gender:</i> 59% female; 41% male <i>Race/Ethnicity:</i> 100% Hispanic or Latino <i>Employment:</i> 21% full time; 18% part time; 23% keeping house; 31% unable to work/disability; 7% retired <i>Income per year:</i> 69% <\$14,999; 23% \$15,000 - \$29,999; 8% ≥\$30,000 <i>Education:</i> 52% <HS; 26% HS or GED; 22% >HS</p>	<p>Screening test: up to date using any CRC test, colonoscopy, FIT</p> <p>Up to date or repeat screening: up to date</p> <p>Self-report or medical record: medical records</p> <p>Follow-up Time: 12 months</p> <p>Results: Up to date using any CRC test: Intervention: Pre: 0% Post: 153/197 = 77.7% Change: 77.7 pct pts</p> <p>Control: Pre: 0% Post: 88/203 = 43.3% Change: 43.3 pct pts</p> <p>Absolute difference: +34.3 pct pts Relative difference: +79.2%</p> <p>Colonoscopy: Intervention: Pre: 0% Post: 40/197 = 20.3% Change: 20.3 pct pts</p> <p>Control: Pre: 0% Post: 12/203 = 5.9% Change: 5.9 pct pts</p> <p>Absolute difference: +14.4 pct pts Relative difference: +243.5%</p> <p>FIT: Intervention: Pre: 0%</p>

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			<p><i>Insurance:</i> 72% insured; 23% uninsured <i>Established source of care:</i> 100% go to the intervention clinic <i>Baseline screening of intervention group:</i> 0%</p>	<p>Post: 113/197 = 57.4% Change: 57.4 pct pts</p> <p>Control: Pre: 0% Post: 76/203 = 37.4% Change: 37.4 pct pts</p> <p>Absolute difference: +19.9 pct pts Relative difference: +53.2%</p>
<p>Author year: Percac-Lima et al., 2009</p> <p>Study design: Individual RCT</p> <p>Suitability of design: Greatest</p> <p>Quality of execution: Good</p>	<p>Location: Chelsea, Massachusetts, US</p> <p>Population density: urban</p> <p>Setting: clinic</p> <p>Intervention duration: 9 months</p> <p>Intervention details: Type of cancer addressed: CRC</p> <p>Type of services provided: OE + SM + RSB, appointment scheduling assistance + RSB, reduce admin barriers + RSB, transportation assistance</p> <p><i>OE:</i> initial interview with patients to identify and explore barriers, educating patients about CRC screening, motivating and coaching patients <i>SM:</i> introductory letter in patients' native language explaining the project and educational materials related to CRC screening <i>RSB, appointment scheduling assistance:</i> scheduling</p>	<p>Type of deliverers engaged, and services delivered: PN: all intervention components</p> <p>Training: 6 hours of training addressing PN and CRC screening</p> <p>Supervision: principal investigator and community health director supervised PN</p> <p>Matching to population: bilingual PN</p> <p>Educational background: college educated</p> <p>Payment: NR</p> <p>Methods used to interact with participants: Both: face-to-face, mailing and telephone</p>	<p>Population of focus: People receiving care from intervention clinic serving a predominantly immigrant population with lower incomes</p> <p>Eligibility criteria: Patients 52-79 years of age, had not undergone CRC screening</p> <p>Exclusion: patients who were acutely ill, or had dementia, metastatic cancer, schizophrenia, or any end stage disease</p> <p>Sample size: Intervention: 409 Control: 814</p> <p>Attrition: 6.5%</p> <p>Demographics for intervention group: <i>Age, mean:</i> 63 years <i>Gender:</i> 58% female; 42% male <i>Race/Ethnicity:</i> 2% Asian; 6% Black or African American; 40% Hispanic or</p>	<p>Screening test: up to date using any CRC test, colonoscopy</p> <p>Up to date or repeat screening: up to date</p> <p>Self-report or medical record: medical records</p> <p>Follow-up Time: 9 months</p> <p>Results: Up to date using any CRC test: Intervention: Pre: 0% Post: 112/409 = 27.4% Change: 27.4 pct pts</p> <p>Control: Pre: 0% Post: 97/814 = 11.9% Change: 11.9 pct pts</p> <p>Absolute difference: +15.5 pct pts Relative difference: +130.3%</p> <p>Colonoscopy: Intervention: Pre: 0% Post: 85/409 = 20.8% Change: 20.8 pct pts</p>

Study	Intervention Characteristics	Intervention Deliverer Details	Population Characteristics	Results
	<p><i>RSB, reduce admin barriers:</i> accompanying patients to colonoscopy testing</p> <p><i>RSB, transportation assistance:</i> providing a free shuttle service directly to the main hospital, and in some cases, taxicab vouchers were provided to get home after the procedure</p> <p>Intervention intensity: 2 or more contacts</p> <p>Comparison group: usual care</p>		<p>Latino; 47% White; 5% other or unknown</p> <p><i>Employment:</i> NR</p> <p><i>Income:</i> authors stated “low-income neighborhood”</p> <p><i>Education:</i> NR</p> <p><i>Insurance:</i> 54% private; 29% public; 14% free care; 4% uninsured</p> <p><i>Established source of care:</i> 100% go to the intervention clinic</p> <p><i>Baseline screening of intervention group:</i> 0%</p>	<p>Control: Pre: 0% Post: 78/814 = 9.6% Change: 9.6 pct pts</p> <p>Absolute difference: +11.2 pct pts Relative difference: +116.7%</p>
<p>Author year: Percac-Lima et al., 2014</p> <p>Study design: Pre-post with comparison</p> <p>Suitability of design: Greatest</p> <p>Quality of execution: Fair</p>	<p>Location: Chelsea, Massachusetts, US</p> <p>Population density: urban</p> <p>Setting: clinic</p> <p>Intervention duration: 48 months</p> <p>Intervention details: Type of cancer addressed: CRC</p> <p>Type of services provided: CR(SM) + OE + RSB, appointment scheduling assistance + RSB, reduce admin barriers + RSB, transportation assistance</p> <p><i>CR(SM):</i> overdue patients were sent letters in their native language that explained the project and included educational materials related to CRC screening</p> <p><i>OE:</i> PN called or met the patient in the health center, educated the</p>	<p>Type of deliverers engaged, and services delivered: PN: all intervention components</p> <p>Training: received training</p> <p>Supervision: principal investigator and community health director</p> <p>Matching to population: spoke the same language as the patients</p> <p>Educational background: college educated</p> <p>Payment: NR</p> <p>Methods used to interact with participants:</p>	<p>Population of focus: People receiving care from intervention clinic which served communities with large proportions of people who were from historically disadvantaged groups and had lower incomes</p> <p>Eligibility criteria: Patients attending the intervention clinic, not up to date with CRC screening</p> <p>Sample size: Intervention: 3,115 Control: 43,905</p> <p>Attrition: N/A</p> <p>Demographics for intervention group: <i>Age, mean:</i> 61 years <i>Gender:</i> 57% female; 43% male <i>Race/Ethnicity:</i> 2% Asian; 5% Black or African American; 39% Hispanic or</p>	<p>Screening test: colonoscopy</p> <p>Up to date or repeat screening: up to date or repeat screening</p> <p>Self-report or medical record: medical records</p> <p>Follow-up Time: 48 months</p> <p>Results: Colonoscopy: Intervention: Pre: 1533/3115 = 49.2% Post: 2156/3115 = 69.2% Change: 20.0 pct pts</p> <p>Control: Pre: 27441/43905 = 62.5% Post: 32314/43905 = 73.6% Change: 11.1 pct pts</p> <p>Absolute difference: +8.9 pct pts Relative difference: +151.9%</p>

Patient Navigation Services to Increase Screening for Colorectal Cancer — Summary Evidence Table

Study	Intervention Characteristics	Intervention Deliverer Details	Population Characteristics	Results
	<p>patient about CRC screening and explored the patient’s barriers to screening <i>RSB, appointment scheduling assistance:</i> PN helped schedule appointments <i>RSB, reduce admin barriers:</i> PN accompanied patients without available family members <i>RSB, transportation assistance:</i> PN helped organize transportation</p> <p>Intervention intensity: 3 or more contacts</p> <p>Comparison group: usual care</p>	<p>Both: face-to-face, mail, and telephone</p>	<p>Latino; 50% White; 4% other <i>Employment:</i> NR <i>Income:</i> authors stated “low- income neighborhood” <i>Education:</i> NR <i>Insurance:</i> 37% private; 17% Medicaid; 33% Medicare; 11% free care; 2% self-pay <i>Established source of care:</i> 100% go to the intervention clinic <i>Baseline screening of intervention group:</i> 49.2%</p>	
<p>Author year: Reuland et al., 2017</p> <p>Study design: Individual RCT</p> <p>Suitability of design: Greatest</p> <p>Quality of execution: Good</p>	<p>Location: Charlotte, North Carolina and Albuquerque, New Mexico, US</p> <p>Population density: urban</p> <p>Setting: clinic</p> <p>Intervention duration: 26 months</p> <p>Intervention details: Type of cancer addressed: CRC</p> <p>Type of services provided: OE + SM + RSB, reduce admin barriers</p> <p><i>OE:</i> information was tailored based on individual patient factors, including preferred CRC test, screening barriers, and stage of readiness for screening <i>SM:</i> CRC screening decision aid video about 15 minutes long, overviewing the importance of CRC screening, CRC tests, and</p>	<p>Type of deliverers engaged, and services delivered: Clinic staff: SM PN: OE + RSB, reduce admin barriers</p> <p>Training: 6 hours of initial training in CRC navigation, and monthly check-ins with study team member</p> <p>Supervision: monthly check-ins</p> <p>Matching to population: bilingual PNs</p> <p>Educational background: trained as medical assistants, social workers, or have master’s degree in public health</p> <p>Payment: NR</p>	<p>Population of focus: People receiving care from the intervention clinics which served communities with large proportions of Hispanic or Latino residents who had lower incomes</p> <p>Eligibility criteria: Patients 50-75 years of age, spoke English or Spanish, without personal or family history of CRC, polyps, or inflammatory bowel disease, not up to date with recommended CRC screening, and had upcoming appointments in the intervention clinics</p> <p>Sample size: Intervention: 133 Control: 132</p> <p>Attrition: N/A</p>	<p>Screening test: up to date using any CRC test, FOBT or FIT, colonoscopy</p> <p>Up to date or repeat screening: up to date</p> <p>Self-report or medical record: medical records</p> <p>Follow-up Time: 6 months</p> <p>Results: Up to date using any CRC test: Intervention: Pre: 0% Post: 90/133 = 68.0% Change: 68.0 pct pts</p> <p>Control: Pre: 0% Post: 36/132 = 27.0% Change: 27.0 pct pts</p> <p>Absolute difference: +41.0 pct pts Relative difference: +151.9%</p>

Study	Intervention Characteristics	Intervention Deliverer Details	Population Characteristics	Results
	<p>selection of a colored brochure corresponding to patients' screening readiness <i>RSB, reduce admin barriers:</i> PNs offered and distributed FOBT or FIT kits using standing order, and were able to replace lost kits</p> <p>Intervention intensity: 2 or more contacts</p> <p>Comparison group: alternative intervention showing food safety video, usual care with PCP</p>	<p>Methods used to interact with participants: Both: face-to-face and with remote follow-up for patients not completing screening</p>	<p>Demographics for intervention group: <i>Age, mean:</i> 58 years <i>Gender:</i> 66% female; 34% male <i>Race/Ethnicity:</i> 27% Black or African American; 56% Hispanic or Latino; 17% White <i>Employment:</i> 74% employed <i>Income per year:</i> 78% <\$20,000; 22% ≥\$20,000 <i>Education:</i> 46% <HS; 54% ≥HS <i>Insurance:</i> 14% private; 29% Medicaid; 23% Medicare; 35% no health insurance <i>Established source of care:</i> 100% go to the intervention clinics <i>Baseline screening of intervention group:</i> 0%</p>	<p>FOBT or FIT: Intervention: Pre: 0% Post: 72/133 = 54.0% Change: 54.0 pct pts</p> <p>Control: Pre: 0% Post: 28/132 = 21.0% Change: 21.0 pct pts</p> <p>Absolute difference: +33.0 pct pts Relative difference: +157.1%</p> <p>Colonoscopy: Intervention: Pre: 0% Post: 19/133 = 14.0% Change: 14.0 pct pts</p> <p>Control: Pre: 0% Post: 8/132 = 6.0% Change: 6.0 pct pts</p> <p>Absolute difference: +8.0 pct pts Relative difference: +133.3%</p>