

## Strategies for improving colorectal cancer screening

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## Background

- Colorectal cancer (CRC) is the second leading cause of cancer death in the US
- Screening for CRC can reduce morbidity and mortality
- Screening rates are sub-optimal: only 50-60% of US adults are up-to-date with screening

## Improving Colon Cancer Screening

- Many trials have examined ways to increase the ordering and completion of colon cancer screening
  - Patient-directed interventions
  - Provider- or practice-directed interventions
  - Few have examined costs per patient screened
- Few interventions have examined means of ensuring adherence to scheduled CRC screening or surveillance examinations

## Potential means of improving CRC screening

- Education (patient or provider)
- Audit and feedback
- Reminders (patient or provider)
- “Small media” (brochures, videos)
- Practice organizational change
- Incentives (patient or provider)
- Legislation

Community Guide to Preventive Services:  
[www.thecommunityguide.org](http://www.thecommunityguide.org)

## Community Guide Findings: CRC screening

- Sufficient evidence to support:
  - use of client reminders (+11.5% for FOBT)
  - audit and feedback (+13% for FOBT)
- Strong evidence to support:
  - small media (+ 12.7% for FOBT)
  - reducing structural barriers for patients (including organizational change) for FOBT

Baron et al AJPM 2008; 35: S34-55  
Sabatino et al AJPM 2008; 35: S67-74

## Physician and patient reminders

- RCT in 11 ambulatory practices with 21,860 patients and 110 physicians
- 2x2 factorial design: physician reminder, patient reminder, neither, or both
- Patient reminder increased screening: 44% vs. 38%
- no difference for physician reminders: 42% vs. 40%

Sequist et al Arch Int Med 2009; 169: 364-71

## Patient decision aids for CRC screening

- Tools to help patients understand health issues and make decisions about different options
- CRC screening: which test to have?
- One trial found 14% increase in screening rates with viewing a decision aid video
- Current research on effective techniques to deliver decision aids to patients

Pignone Annals Int Med 2000; 133: 261-

## Mailed intervention trials

Author / Year	Setting	% screened intrvntn grp	% screened control grp
Lewis 2008	1 academic IM practice	15%	4%
Lewis 2009	1 academic IM practice-attending MD patients	13%	4%
Myers 2007	Academic family medicine practices	46%	33%

## Organizational Change

- “Changes in the work processes in a medical care organization that can facilitate improved performance of preventive services”
  - Designation of prevention responsibilities to non-physician staff
  - Planned care visit for prevention or distinct health prevention clinics
  - Use of techniques similar to CQI
- Older studies found increased screening rates

Stone, E.G., *Interventions That Increase Use of Adult Immunization and Cancer Screening Services: A Meta-Analysis.* Ann Intern Med 2002; 136: 641-651.

## Interventions using CQI methods

	Dietrich 1992 (1 yr)	Dietrich 1998 (2yr)	Ruffin, 2004 (3yr)
FOBT	+13%	-2%	-13%
Col	—	—	—
FS	+2%	—	-1%

## Trial of organizational change in IPA-based HMO

- Randomized trial of 32 provider organizations in a California HMO (data on 1997 patients)
- Process change intervention for CRC screening delivered by quality improvement staff within each provider organization
- No difference in proportion of patients receiving a CRC test over 2 years (26% in each group) or in % up-to-date with screening

Ganz et al Cancer 2005; 104:2072-83

## Organizational change in community health centers

- Uncontrolled trial in 4 federally qualified community health centers
  - Previous experience in process change
- Intensive intervention for multiple cancer screening tests and follow-up
- CRC screening increased: 9% to 21%

Taplin et al Medical Care 2008; 46:S74 - S83

## Conclusions- Interventions to Increase Screening Ordering and Completion

- CQI interventions have mixed results, and can be resource intensive and difficult to implement
- Use of health maintenance examinations, health prevention clinics, and non-physician staff may be easier to implement
- More research on how to effectively disseminate effective interventions is required

## Patient navigation to increase ordering and completion of CRC screening

	Setting	% screened intervention	% screened controls
Lasser 2009	2 comm. health centers	30/93 (31%)	8/90 (9%)
Denberg 2009	1 academic practice	35/118 (30%)	----
Jandorf 2005	1 federally qualified health center	9/38 (24%)*	2/40 (5%)*

## Interventions to increase endoscopic CRC screening test completion after ordering

	Setting	Intrvn Group	Control Group
Denberg 2006- mailed reminder	2 academic GIM clinics	273/386 (71%)	233/395 (59%)
Turner 2008- pt. navigators	4 urban primary care clinics	48/70 (69%)	38/66 (58%)
Ling 2009- "enhanced office support"	10 PBRN affiliated practices	103/190 (54%)	47/124 (38%)

## Mailed physician reminder to schedule overdue surveillance colonoscopy

- 717 patients with previous adenomas and no record of colonoscopy for > 5 yrs
- Mailed reminder to providers
- Intervention modestly increased colonoscopy usage over 6 months (9.2% vs. 4.5%)

Ayanian et al JGIM 2008; 23:762-7

## Conclusions

- Several different techniques have shown some efficacy for improving CRC screening and surveillance
  - Effect sizes generally modest
  - Costs varied
  - Many studies focused on FOBT
- Best approach may be to start with a low-cost, high-reach intervention, followed by a higher-cost, higher-efficacy "back-up"