What Are the Best Intervention and Implementation Strategies for CRC Screening at FQHCs: A Review of Systematic Reviews

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Background

- Colorectal cancer (CRC) screening rates among adults 50-75 remain much lower than the national goal of 80% by 2018, especially among populations served by Federally Qualified Health Centers (FQHCs).
- Multi-level interventions addressing patients, providers, the health care system and the policy environment are a conceptually promising approach.
- We conducted a review of: 1) Evidence-based intervention strategies to increase CRC screening rates, and 2) Implementation strategies to evaluate whether they addressed individuals, organizations, and/or community.
- *The purpose of this review is to support decision-makers at FQHCs who are pursuing multi-level approaches to increase CRC screening among their patient populations.*

Methods: Evidence Acquisition

Search Strategy

CRC Screening Interventions:

- Search terms included "colorectal cancer" AND "intervention" AND "screening" AND "systematic review".
- Yielded 12 relevant systematic reviews which met the final inclusion criteria.

Implementation Strategies:

- Used specific taxonomies by Mazza[1] and Waltz[2] and the Cochrane Library to specify implementation strategies.
- Twenty-seven strategies for increasing rates of CRC screening were identified.

Methods: Evidence Synthesis

Search Strategy

CRC Screening Interventions:

- Interventions were grouped into four levels (individual, organization, community, and policy) of influence as defined by the Socio-Economic Model (SEM).
- Interventions were classified as effective, ineffective, having insufficient evidence, or having mixed results.

Implementation Strategies:

- Strategies were allocated to the five stages of the implementation planning process.

Results

- In Table 1, out of all the strategies listed in the Community Guide, small media and client reminders have the preponderance of evidence demonstrating that they are effective and are recommended.
- Three of the implementation strategies listed in Table 2 (educational meetings with providers, conducting one-on-one educational outreach visits, and distributing guideline materials) are supported by findings from Cochrane Systematic Reviews.[3-5]

Table 1: CRC Screening Interventions

Level of Influence	Intervention Strategy	# of Review Articles
Individual	Small media	9
	One-on-one education	9
	Group education	7
	Client incentives	2
Organization	Client reminders	11
	Provider assessment and feedback	6
	Provider incentives	4
	Provider reminder and recall systems	4
Community	Mass media	2
Policy	Reducing structural barriers for clients	9
	Reducing client out-of-pocket costs	6

Implications for D&I Research

- Decision-makers can use the intervention table to help select effective multi-level interventions to increase CRC screening.
- The intervention table can also be used to prioritize layering of multiple effective CRC screening interventions for maximum impact.
- The implementation strategy table offers a menu of 'best processes' for planning, implementing, and evaluating interventions.
- FQHCs can use both these tools to plan and implement interventions and tailor them to the specific clinic environment.

Table 2: Implementation Strategies*

Assess Barriers and Context	Activate and Engage People to Support and Execute implementation	Adapt and Tailor to the Context	Integrate the Intervention within Existing Systems	Make Changes to Broader Context to Support Implementation
• Identify barriers to guideline implementation • Conduct local needs assessment • Collect feedback data from/involve patients and family members	• Create implementation team • Recruit opinion leader • Identify and prepare champions • Seek consensus • Obtain formal commitments • Conduct educational meetings with providers* • Conduct one-on-one educational outreach visits* • Distribute guideline materials* • Provide clinical supervision	• Adapt and tailor intervention • Tailor implementation strategies to address barriers	• Develop a formal implementation blueprint at organization level • Create new clinical teams • Reallocate roles • Conduct cyclical small tests of change • Change information and communication technology • Change physical structure, facilities or equipment • Facilitate relay of clinical data to providers • Integrate with quality improvement systems	• Provide grant funding • Change reimbursement • Build coalition • Develop incentive or penalty systems • Change licensing, credentialing or accreditation

* The table integrates implementation strategies identified by Mazza et al., 2013[1] and Waltz et al., 2015.[2]

Next Steps

- A forthcoming review from the Community Preventive Services Task Force on multicomponent interventions (MCIs) to increase cancer screening will contribute new knowledge.
- We will be using the tables generated by our current review to survey FQHCs as well as develop tools and training modules to work with clinics on selecting, implementing, and evaluating multi-level CRC screening interventions.

References

1. Mazza D, Bairstow P, Buchan H, et al. Refining a taxonomy for guideline implementation: results of an exercise in abstract classification. *Implementation Sci* 2013;8:32.
2. Waltz TJ, Powell BJ, Matthieu MM, et al. Use of concept mapping to characterize relationships among implementation strategies and assess their feasibility and importance: results from the Expert Recommendations for Implementing Change (ERIC) study. *Implement Sci* 2015;10(109).
3. Forsetlund L, Bjorndal A, Rashidian A, et al. Continuing education meetings and workshops: effects on professional practice and health care outcomes. *Cochrane Database Syst Rev* 2009;2:CD003030.
4. Murthy L, Shepperd S, Clarke MJ, et al. Interventions to improve the use of systematic reviews in decision-making by health system managers, policy makers and clinicians. *Cochrane Database Syst Rev* 2012;9:CD009401.
5. O'Brien MA, Rogers S, Jamtvedt G, et al. Educational outreach visits: effects on professional practice and health care outcomes. *Cochrane Database Syst Rev* 2007;4:CD000409.

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