Top Barriers and Challenges in The Strategies and Opportunities to STOP Colon Cancer in Priority Populations

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Background

- The US Preventive Services Task Force recommends routine colorectal cancer screening for individuals aged 50 – 75.

- Screening rates are suboptimal particular in priority populations

Primary Aims

- How effective is a direct-mail fecal testing program implemented in busy community clinics (FQHCs) as part of standard care?
- To report the adoption, reach, level of implementation, and maintenance of an electronic health record (EHR)– embedded program to directly mail fecal tests to patients due for colorectal cancer screening.

Design, Setting, Participants

- Types 2 Hybrid Study – Effectiveness and Implementation outcomes were equally important
- 8 Community Health Centers (FQHCs)– 26 Individual Clinics
- Cluster trial 13 Intervention and 13 Control clinics
- Broad eligibility
  - Clinic visit in the past year, address in the EHR
  - Eligibility, 50-75, not current for CRC screening
  - Other than this, only other ineligibility was prior CRC, inflammatory bowel disease, end stage renal disease
- 41,000 patients

Participating clinics*

Open Door Community Health Centers (4)
Multnomah County Health Department (6)
La Clinica del Valle (3)
Mosaic Medical (4)
Virginia Garcia Memorial Health Center (2)
Community Health Center Medford (3)
Benton County Health Department (2)
Oregon Health & Science University (OHSU) (2)

*Overall: colonoscopy screening in past 10 years: 5%; fecal testing in past year: 7.5%

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Barriers Scorecard

Barrier	Level of Difficulty				
	1	2	3	4	5
Enrollment and engagement of patients/subjects	X				
Engagement of clinicians and Health Systems		X			
Data collection and merging datasets	X				
Regulatory issues (IRBs and consent)	X				
Stability of control intervention			X		
Implementing/Delivering Intervention Across Healthcare Organizations				X	

1 = little difficulty
5 = extreme difficulty

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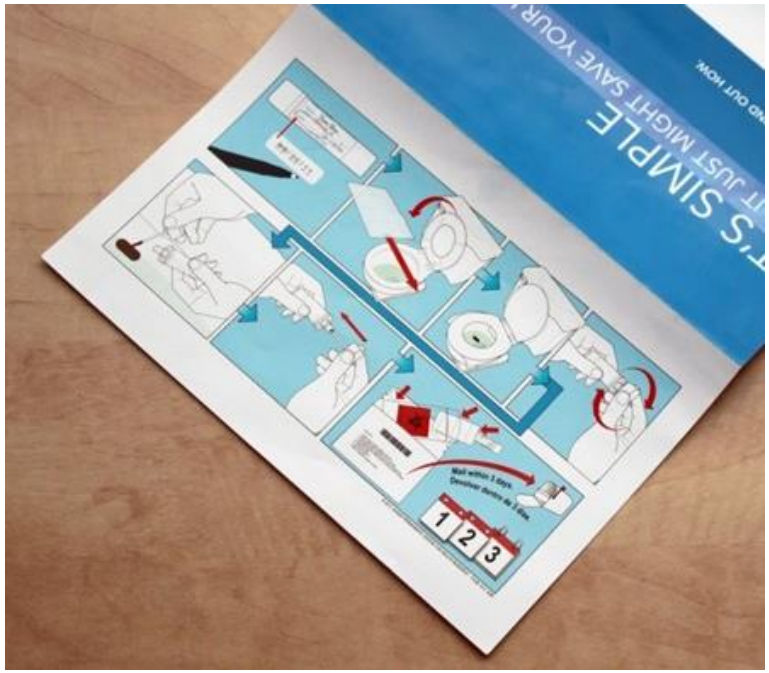
STOP CRC intervention
Lessons learned = local adaptations

Step 1: Mail Introductory letter

Step 2: Mail FIT kit

Step 3: Mail Reminder Postcard



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Implementation support

- Real time EHR tools to identify patients eligible for each intervention step
- Training in the EHR tools
- Monthly meetings with EHR site specialists from each health center
- Leadership meeting to launch Plan-Do-Study-Act cycle
- Annual in-person meeting and quarterly WebEx meetings of advisory board

Lesson Learned = Data

- Excellent Primary Care Data
  - Lab feeds for fecal testing
  - Phenotype data (income, language)

- Challenges
  - Specialty procedures (colonoscopy)

Baseline clinic-level characteristics of eligible adults in analysis sample (n = 41,193)

	Intervention clinics		Usual care clinics	
	(n = 13)		(n = 13)	
	Median clinic % [a]	(range)	Median clinic % [a]	(range)
Age (50-64)	80	(73-85)	83	(72-88)
Gender (Female)	44	(38-56)	45	(35-51)
Ethnicity (% Hispanic)	8	(1-33)	15	(2-36)
Language				
English	90	(41-99)	86	(53-99)
Spanish	4	(0-26)	12	(1-31)
Other	0	(0-48)	1	(0-18)
Insurance status				
Medicaid	36	(20-51)	35	(25-54)
Medicare	24	(20-37)	23	(15-36)
Uninsured	26	(3-40)	27	(2-38)
Commercial	10	(1-49)	11	(1-39)
Federal poverty level				
<100%	47	(13-61)	45	(19-64)
100-150%	19	(6-31)	18	(14-24)
151 - 200%	9	(2-14)	9	(5-13)
201+	10	(3-26)	10	(2-36)
Unknown	17	(3-76)	21	(1-36)

Lesson learned = delays impacted the primary outcome

Primary outcome – FIT completion

- Year 01 intervention interval: February 4, 2014 – February 3, 2015
- Year 01 evaluation interval: February 4, 2014 -- August 3, 2014

EHR update delayed implementation start for all intervention clinics

- Lagged data interval: June 4, 2014 – August 3, 2015

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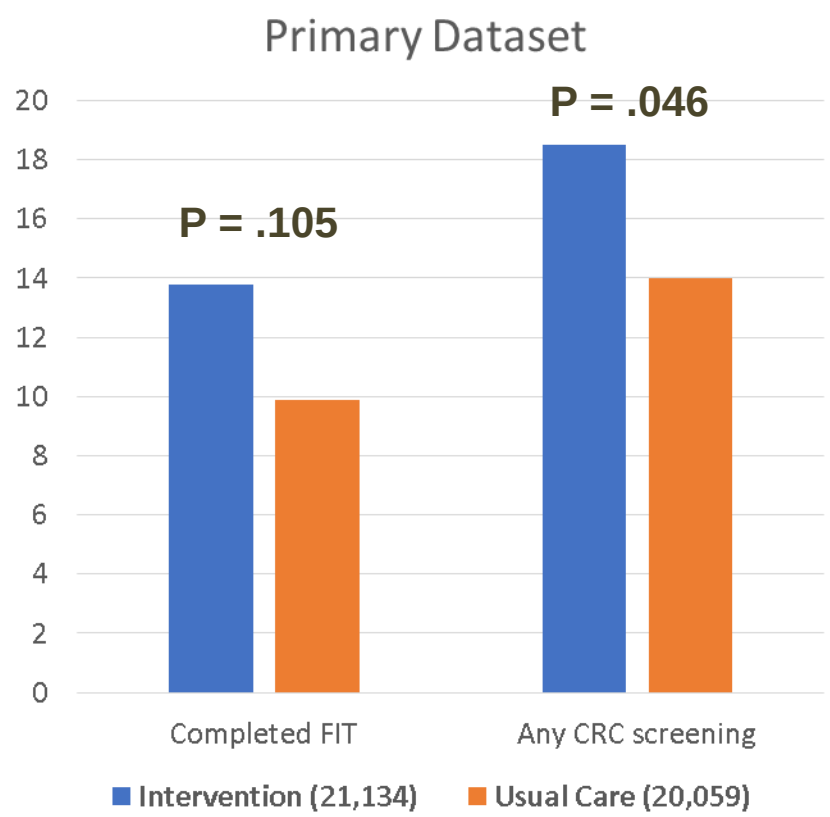
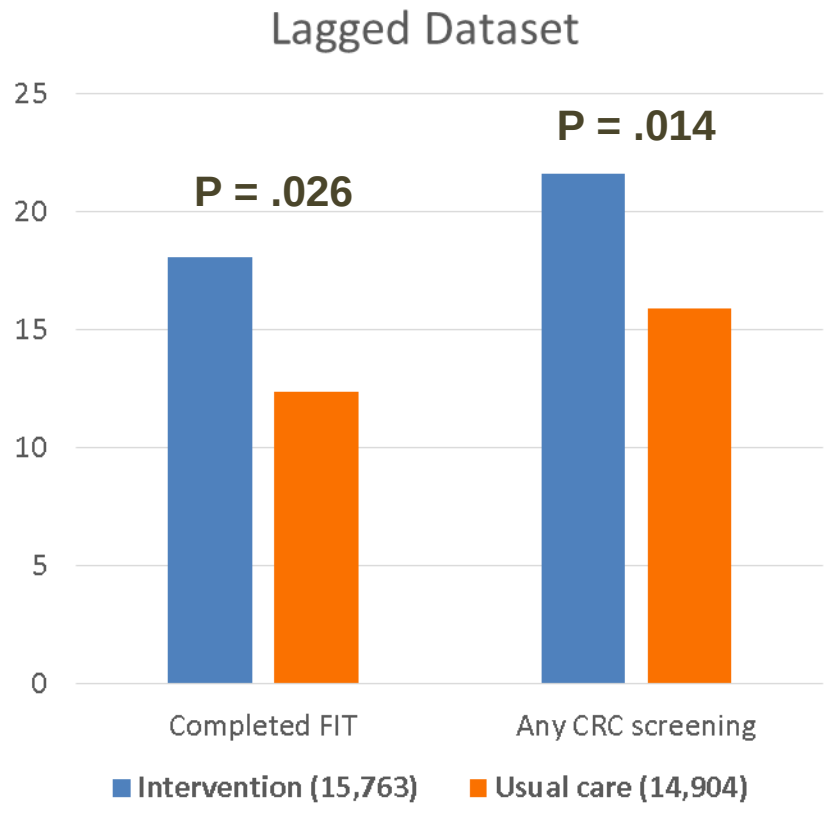
Colorectal cancer screening completion, by intervention and usual care arm





Differences ranged from 3.8% for FIT completion in primary dataset to 5.8% for any CRC screening in lagged dataset

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FIT completion lagged dataset
Lesson learned = effectiveness varied

Health Center	Differences in FIT completion*	% eligible patients mailed FIT
Health Center 1	21.2	81.7
Health Center 2	10.6	59.3
Health Center 3	7.7	43.3
Health Center 4	5.2	37.1
Health Center 5	3.6	26.3
Health Center 6	-2.0	33.2
Health Center 7	-5.4	38.5
Health Center 8	-11.7	21.0
ALL	4.8	42.1

*Comparing intervention and usual care clinics within health center; unadjusted primary dataset correlation = .89; lagged dataset correlation = .87

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Efficacy-Effectiveness gap

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Lessons Learned = Led to New Grants

- We are conducting additional research that addresses STOP CRC challenges
  - BeneFIT CDC U48DP005013.
    - Working with 2 large Medicaid Health Insurance Plans who provide full coverage for CRC testing and follow-up
    - Mailing vendors are used to take the workload off primary care.
  - PreCISE NCI R01
    - Strategies for addressing low-full up rates after positive FIT

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Lessons learned helped improve implementation and maintain the mailed FIT program

- As of 2018 -11/13 intervention and 11/13 control clinic are implementing the mailed FIT program
- 19 new clinics opened after study randomization in 2014

- Of the 47 clinics total
  - 5 clinics are not doing any mailed FIT program
  - 1 clinic is mailing FIT prior to appointments only
  - 11 clinics are partnering with health plans/vendors only (Medicaid /Medicare patients)
  - 13 clinics are both partnering with the health plans/vendors plus STOP mailed FIT program for non Medicaid/Medicare insured and uninsured patients
  - 18 are continuing the STOP CRC mailed FIT program as originally designed

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Conclusions

- An efficacious CRC screening strategy can be effective in a real-world, community health center setting
- Barriers to implementation limited overall effectiveness
- After accounting for implementation delays, which were experienced by all participating clinics, we found 5.6% higher FIT completion rates in clinics that received tools and training for a direct-mail FIT program
- Low rates of implementation were common and were associated with low levels of effectiveness.
- Lessons learned helped create additional strategies to support program implementation.

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