

Direct mail programs work... but will health centers implement them? Findings from STOP CRC



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Key Question

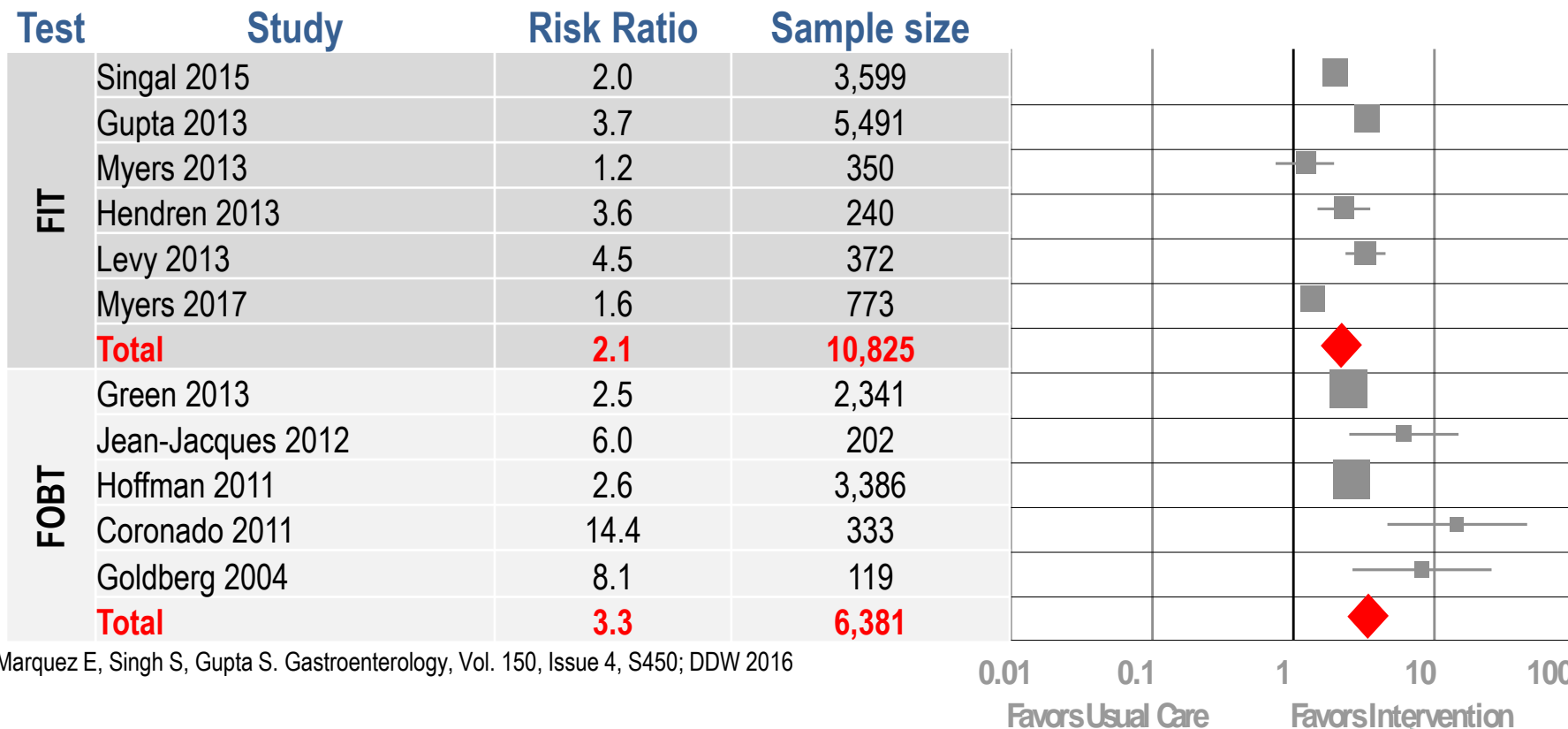
- How effective is a direct-mail fecal testing program when implemented in busy community clinic practices as part of standard care?
- To report the effectiveness and level of implementation of an electronic health record (EHR)– embedded program to directly mail fecal tests to patients due for colorectal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

Background

- The US Preventive Services Task Force recommends routine colorectal cancer screening for individuals aged 50 – 75.
- Programs that directly mail fecal tests to patients' homes have been shown to improve rates of colorectal cancer screening in various clinical settings.
 - Improvements have ranged from 6 – 40%.
- Little is known about the effectiveness of such programs when implemented in community health centers as part of standard care.

Previous direct-mail programs

Meta-Analysis of 11 studies



Marquez E, Singh S, Gupta S. Gastroenterology, Vol. 150, Issue 4, S450; DDW 2016

Success of direct-mail programs

Kaiser Permanente Northern California

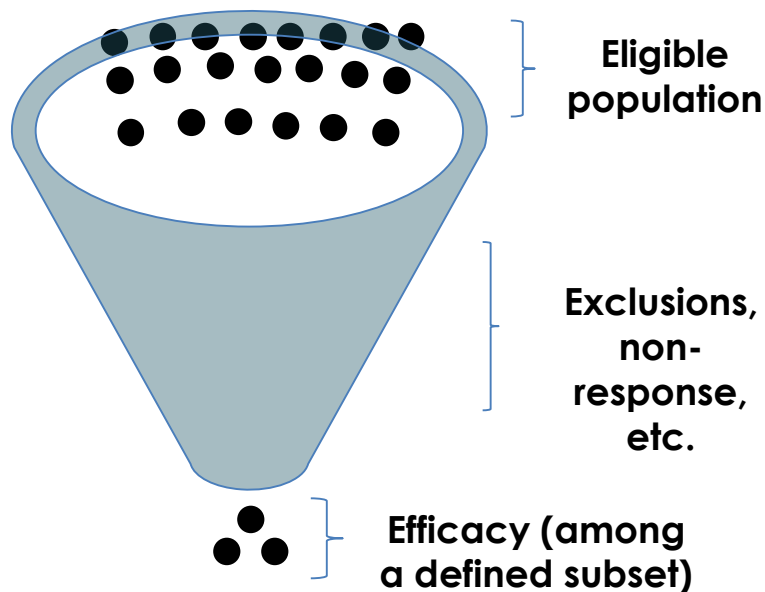
Levin TR *Gastrointest Endosc.* 2016 Mar;83(3):552-4.

- Over 500,000 FITs mailed annually, with >60% returned
- Major contributor to achieving screening rate over 85%

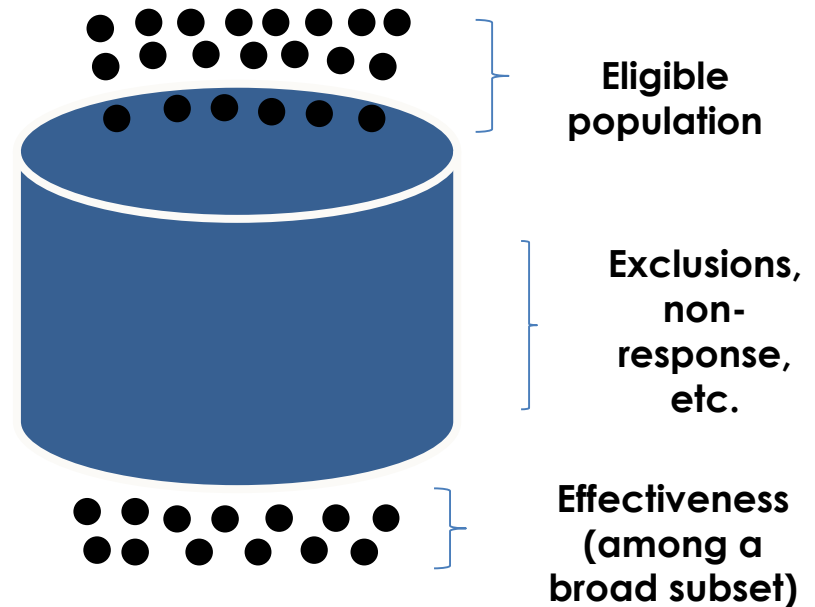
The logo for 'thrive' features the word in a bold, blue, lowercase sans-serif font. Above the letter 'i' is a stylized icon of three human figures in blue, with a sunburst or fan shape above them.

Explanatory study vs. pragmatic study

Explanatory Study



Pragmatic Study



Design, Setting, Participants

- Pragmatic cluster-randomized clinical study
 - Eligibility, 50-75, screening appropriate
 - Clinic visit in the past year
- 8 federally qualified health centers
 - 26 clinics (13 clinics randomized to each of 2 arms)
 - 41,000 patients
- Year 01 intervention interval: February 4, 2014 – February 3, 2015
- Year 01 evaluation interval: February 4, 2014 -- August 3, 2015
- Lagged data interval: June 4, 2014 – August 3, 2015

Clinic Locations

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%



Characteristics of health centers, by participation

	% Hispanic	CRC screening rate	% uninsured	
Participating	Health Center 1	9	20	49
	Health Center 2	7	23	38
	Health Center 3	17	20	50
	Health Center 4	14	39	33
	Health Center 5	10	33	40
	Health Center 6	5	53	2
	Health Center 7	2	33	11
Non-participating	Health Center 8	36	34	37
	Health Center 9	4	16	23
	Health Center 10	37	14	30
	Health Center 11	15	14	30

Source: Coronado et al. 2015

STOP CRC intervention

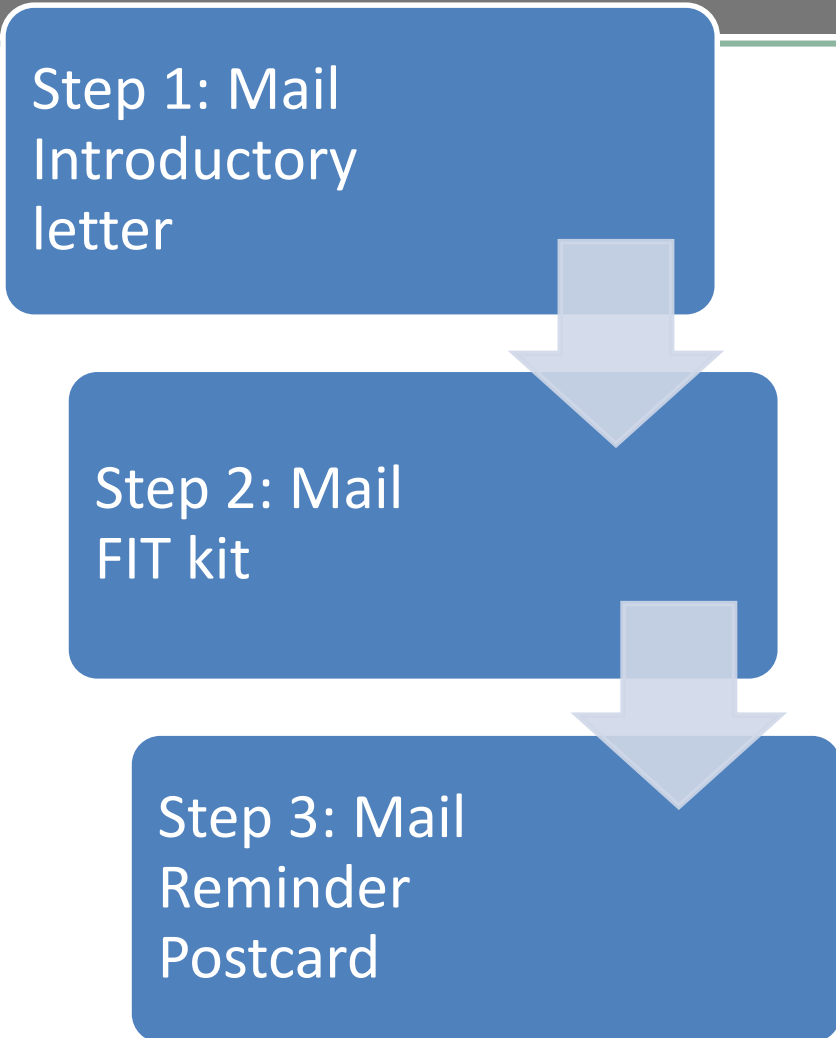
EMR tools in Reporting Workbench,
driven by Health Maintenance;

Step-wise exclusions for:

- Invalid address
- Self-reported prior screening
- Completion of CRC screening

Improvement cycle (e.g. Plan-Do-
Study-Act)

Step 1: Mail
Introductory
letter




Step 2: Mail
FIT kit

Step 3: Mail
Reminder
Postcard

Implementation support

- Real time EHR tools to identify patients eligible for each intervention step
- Training in the EHR tools (4-hours)
- Monthly meetings with EHR site specialists from each health center
- Leadership meetings to launch Plan-Do-Study-Act cycle
- Annual in-person meeting and quarterly webEx meetings of advisory board

Intervention materials



Dear Client,

There is an easy test that can find signs of colon cancer before you have symptoms. This test can be done at home and can save your life. You will get this test if you are between the ages of 50 and 74 and have not had a colonoscopy in the past 9 years.


Here is your Insure FIT test. Do the test at home and send it back to us. The test will look at the health of your colon to see if there is any blood in your poop. Finding these warning signs early gives you the best chance for successful treatment.

For the test:



- Start with a clean, empty toilet. Flush it once before you start. Make sure there are no cleaning products in the toilet water.
- Use 2 different poop samples. 1 for slot A, and a different 1 for slot B.
- Write the date on the sticker at the time you do each test.
- Send back the test in the pre-paid yellow envelope in 3 days of finishing the test.

If you have any questions, please call your care team at 503-988-5558.

Thank you,



Marty Grasmeder, MD
Medical Director

Estimado(a) Cliente,
Existen análisis fáciles para encontrar señales de cáncer de colon antes de que tenga síntomas. Estos análisis pueden hacerse en casa y pueden salvar su vida. Usted recibiera este análisis si tiene entre 50 y 74 años de edad y no ha tenido una colonoscopia en los últimos 9 años.


Aquí esta su análisis Insure FIT. Haga lo en casa y devuélvanoslo. El examen verá la salud de su colon para ver si hay sangre en su popó. Encontrar estas señales de advertencia temprano le da la mejor posibilidad de un tratamiento exitoso.

Para el análisis:

- Empiece con un escusado limpio y vacío sin productos de limpieza en la agua. Jale la palanca de agua una vez antes de empezar.
- Use 2 muestras de popó diferentes. 1 para el lado A y 1 diferente para el lado B.
- Escriba la fecha en la etiqueta al momento de hacer cada lado.
- Devuelva el examen en el sobre amarillo dentro de 3 días siguientes de haber completado el análisis.


Si tiene cualquier pregunta, llame a su equipo de salud al 503-988-5558.

Gracias,



Marty Grasmeder, MD
Directora Médica

MULTNOMAH COUNTY HEALTH DEPARTMENT #503-988-5558



尊敬的 客戶端,

這是一個在您出現症狀前便能發現結腸癌徵兆的簡單測試。此測試可以在家中完成並可能挽救您的生命。如果您的年齡在 50 到 74 歲之間，並且在過去 9 年內沒有接受過結腸鏡檢查，您就可以接受該測試。


以下是您的「確保健康」測試。在家完成該測試並將其遞交給我們。本測試將察看您的結腸健康狀態，並檢視您的大便中是否有血。及早發現這些警報信號可為您提供成功治療的最佳機會。

關於測試：



- 在乾淨的馬桶內開始測試。開始之前沖廁一次。確保馬桶水內不含任何清潔用品。
- 使用 2 個不同的大便樣本。1 個樣本用於放置在 A 槽內，另 1 個樣本用於 B 槽。
- 每次進行測試時，請在標籤上寫下日期。
- 將測驗樣本於測驗結束後的 3 天內裝在郵資預付的黃色信封內寄回。

如果您有任何疑問，請撥打電話 503-988-5558 聯絡您的照護團隊。

萬分感謝。



醫療副總監 Marty Grasmeder, MD

Уважаемый/уважаемая Клиент!

Существует очень простой тест, который может распознать признаки рака кишечника еще до появления каких-либо симптомов. Он может быть проведен в домашних условиях и может спасти вам жизнь. Вы сможете получить данный тест, если вам от 50 до 74 лет, и за последние 9 лет вы ни разу не проходили колоноскопию.


Ваш тест «Insure FIT» прилагается к данному пакету. Проведите тест дома и вышлите нам результаты. По данным результатам будет определено состояние вашего кишечника и наличие крови в вашем кале. Обнаружение этих важных признаков на ранней стадии дает вам больше шансов на успешное лечение.

Для проведения теста:

- Начните с подготовки унитаза: он должен быть пустой и чистый. Смойте его один раз перед тем, как начать. Удостоверьтесь, что вода в унитазе не содержит никаких чистящих средств.
- Используйте 2 разных образца кала. 1 для отделения «А», другой для отделения «В».
- Укажите на наклейке время проведения каждого теста.
- В течение следующих 3 дней после окончания теста вышлите его результаты в оплаченном желтом конверте.

Если у вас есть какие-либо вопросы, пожалуйста, звоните обслуживающему вас медицинскому персоналу по телефону 503-988-5558.

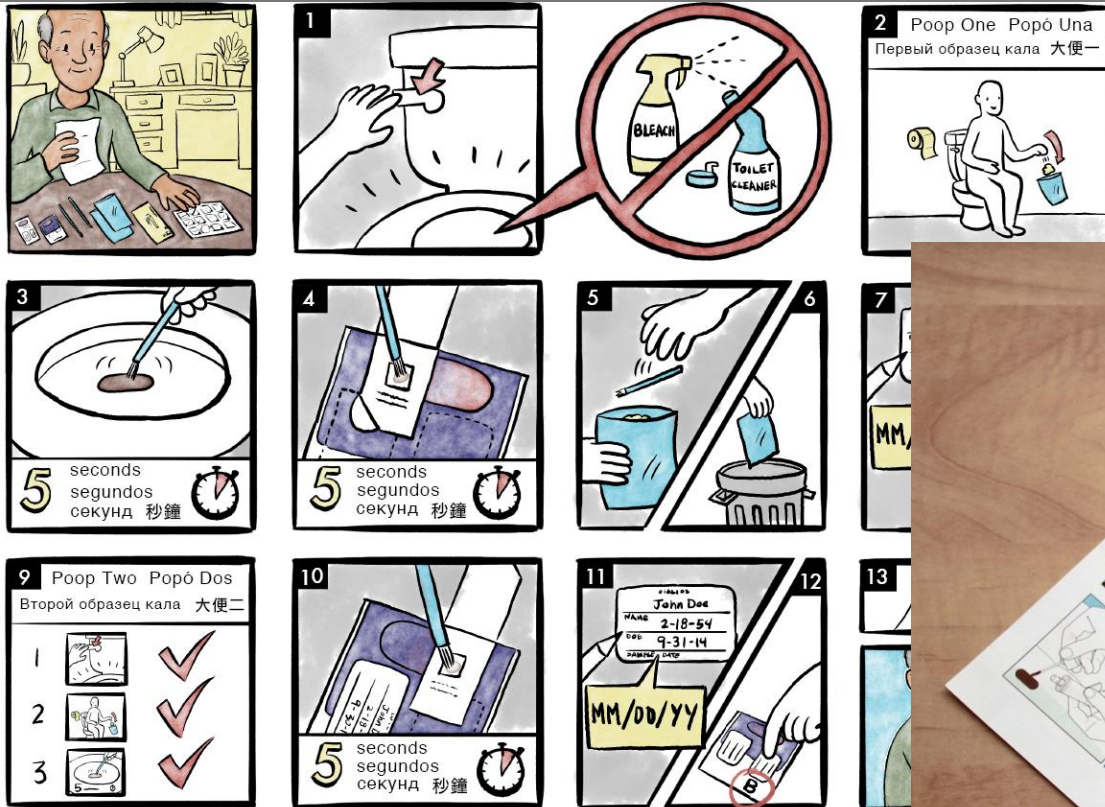
Спасибо!



Marty Grasmeder, MD
медицинского

MULTNOMAH COUNTY HEALTH DEPARTMENT #503-988-5558

Wordless instructions



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Funding provided by the National Institutes of Health
Created by Olga Lukomsky and Breena Bard



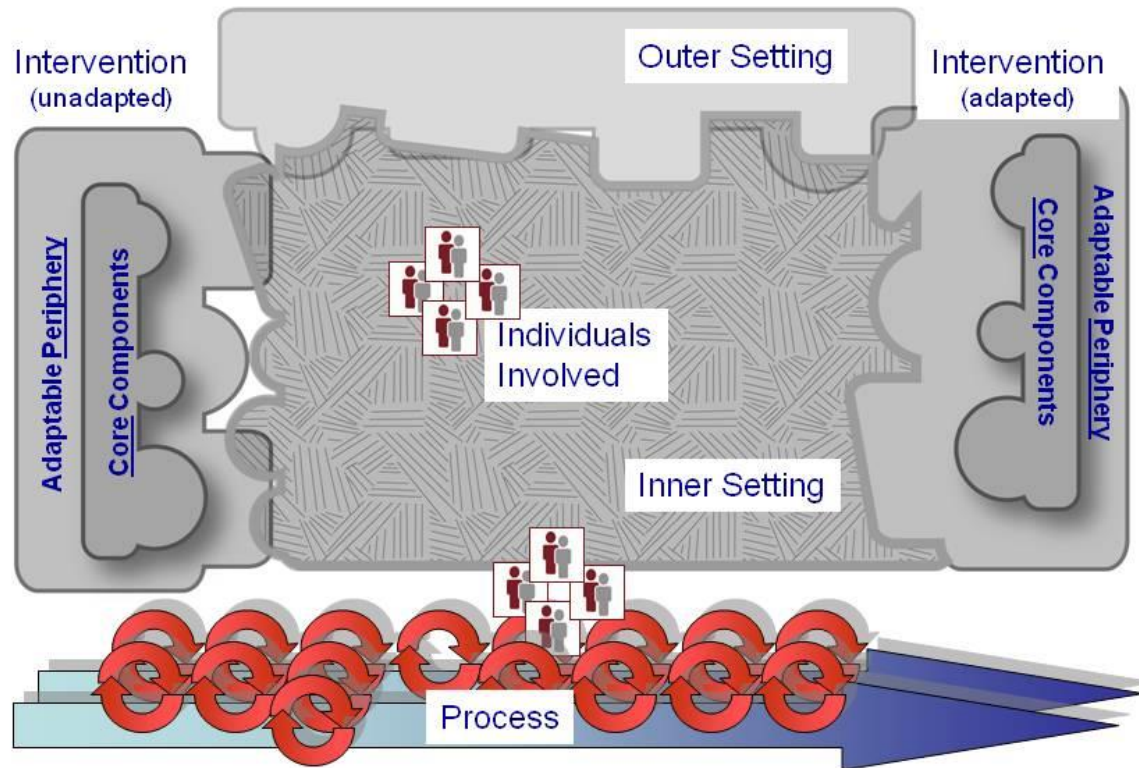
Coronado et al. 2014

Main outcomes and measures

- **Effectiveness:** Clinic-level - proportions of adults eligible for colorectal cancer screening during the intervention interval who completed fecal testing, and secondarily any CRC screening;
- **Implementation:** Clinic-level - proportions of eligible adults who were mailed a fecal test as part of the program

Conceptual framework

Consolidated Framework for Implementation Research*



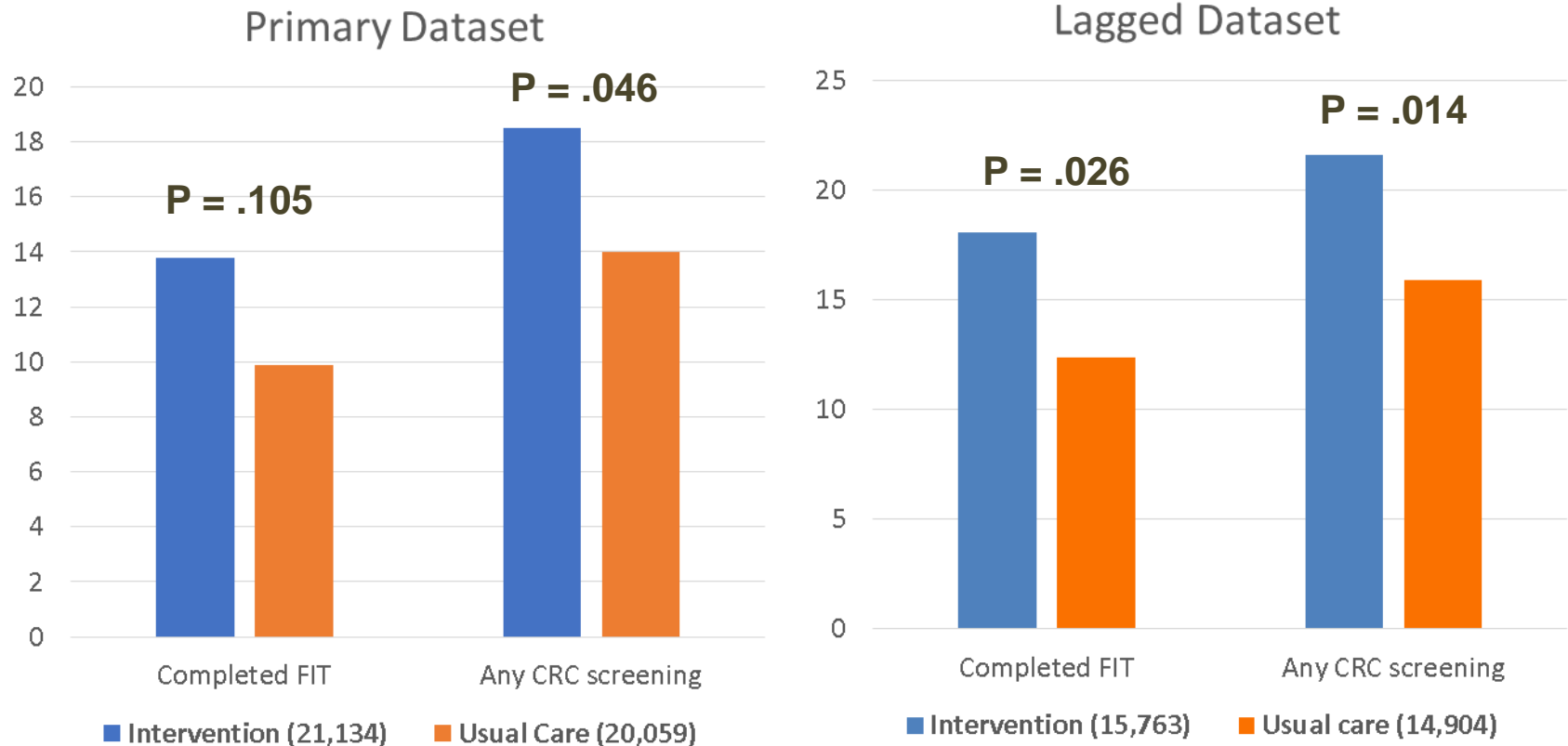
Baseline clinic-level characteristics of eligible adults in analysis sample (n = 41,193)

	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)
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)

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Colorectal cancer screening completion, by intervention and usual care arm



FIT completion differences were 3.8% in primary dataset and 5.6% in lagged dataset, adjusted for health center, age, and gender

Per-protocol analysis

Per-protocol analysis

FIT return rate

Patients who were mailed a FIT (OVERALL)	21%
Clinics that consistently delivered reminders	25%
Clinics that inconsistently delivered reminders	14%
Clinics that did not deliver reminders	6%



FIT completion and implementation, lagged dataset

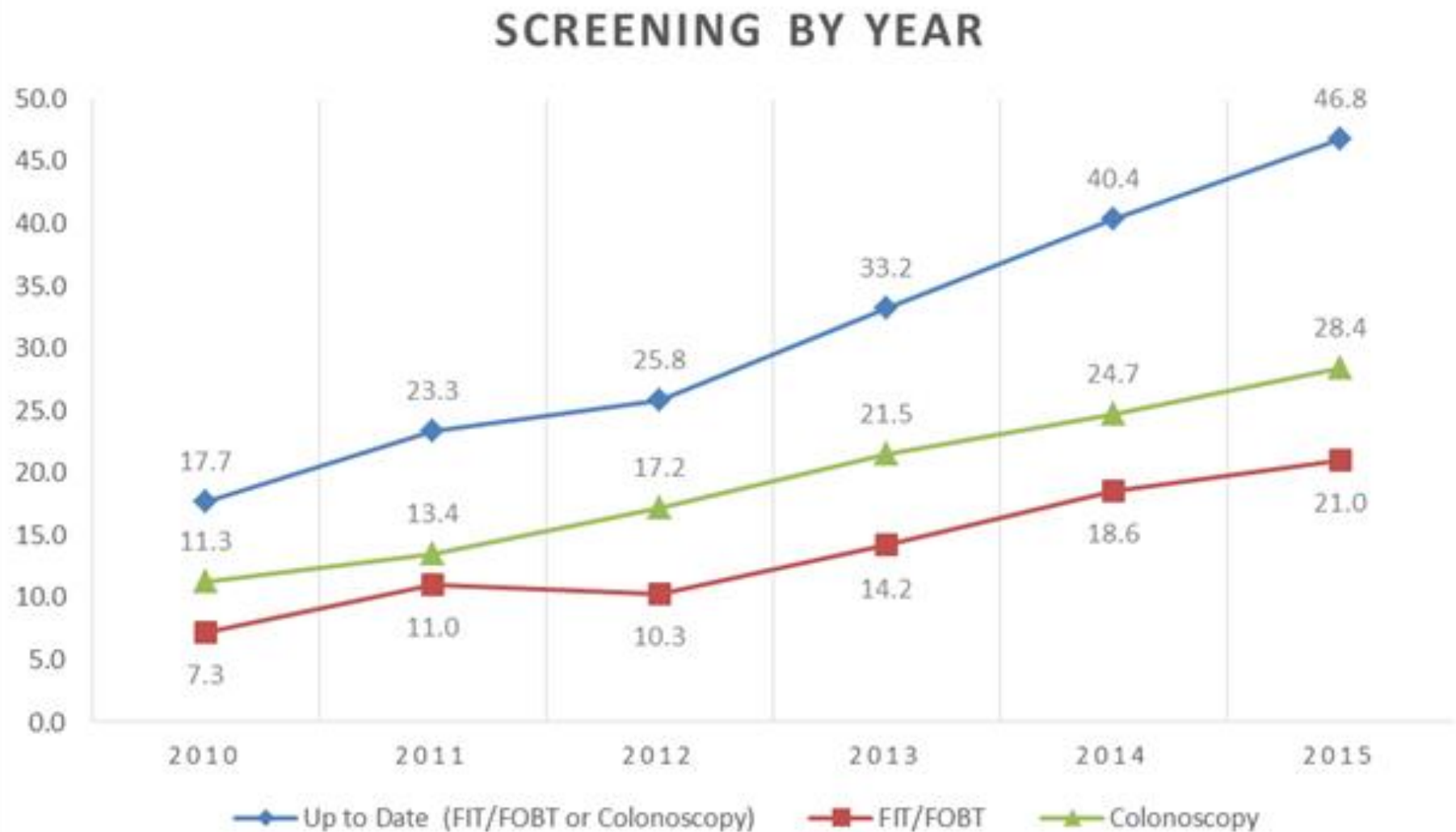
Health Center	Differences in FIT completion*	% eligible patients mailed FIT
Health Center 1	21.2	81.7
Health Center 2	10.6	59.3
Health Center 3	7.7	43.3
Health Center 4	5.2	37.1
Health Center 5	3.6	26.3
Health Center 6	-2.0	33.2
Health Center 7	-5.4	38.5
Health Center 8	-11.7	21.0
ALL	4.8	42.1

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

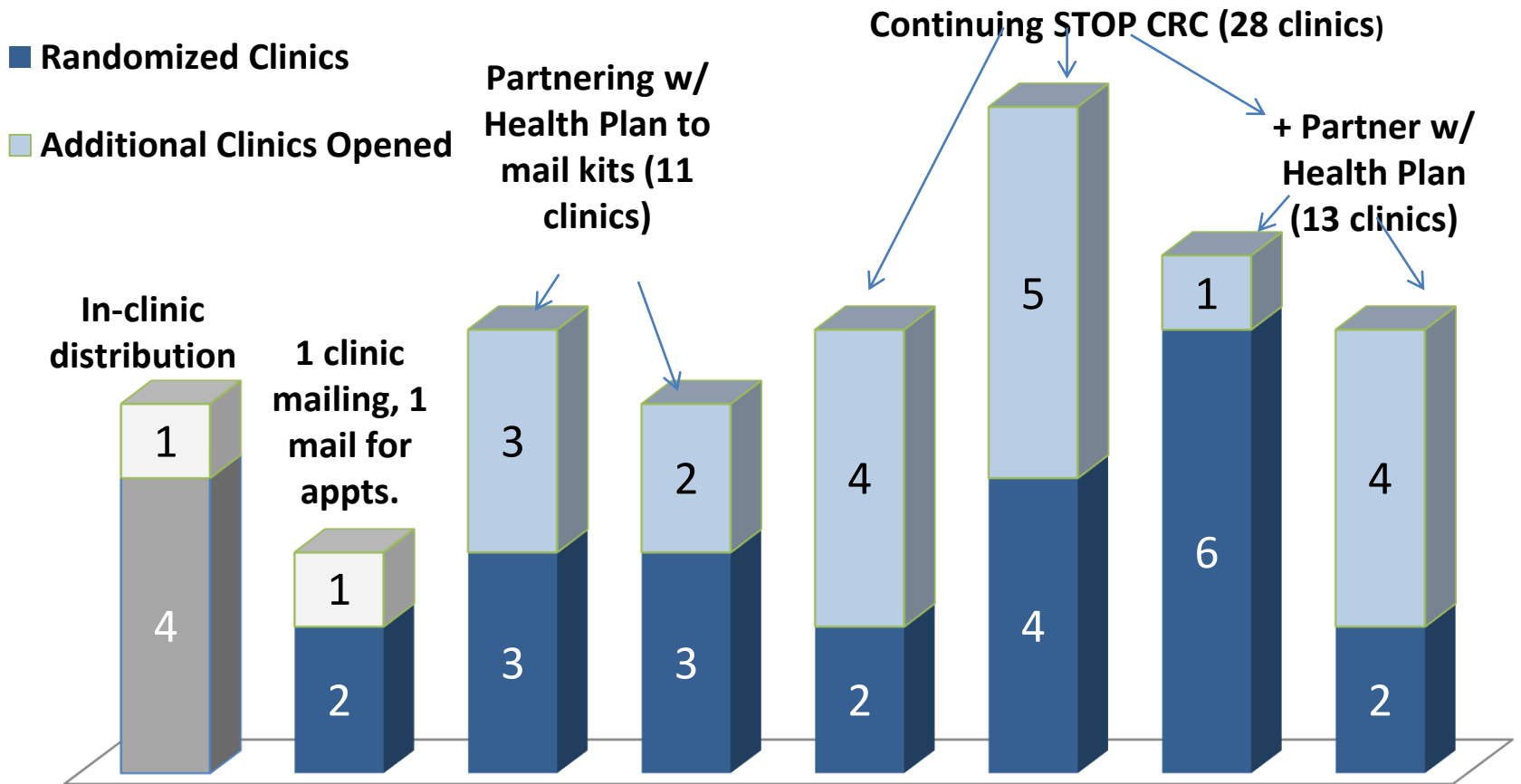
Efficacy-Effectiveness gap



Trends in CRC screening



STOP CRC Maintenance, by Health Center



Maintenance

- N clinic randomized in STOP CRC: 26
- N clinics delivered STOP CRC in Year 2 (and beyond: 41 (22 randomized, 19 non-randomized))

Implementation

STOP CRC Precis Diagram



Flexibility of
intervention
delivery:

Dashed line: UH2
Solid line: UH3

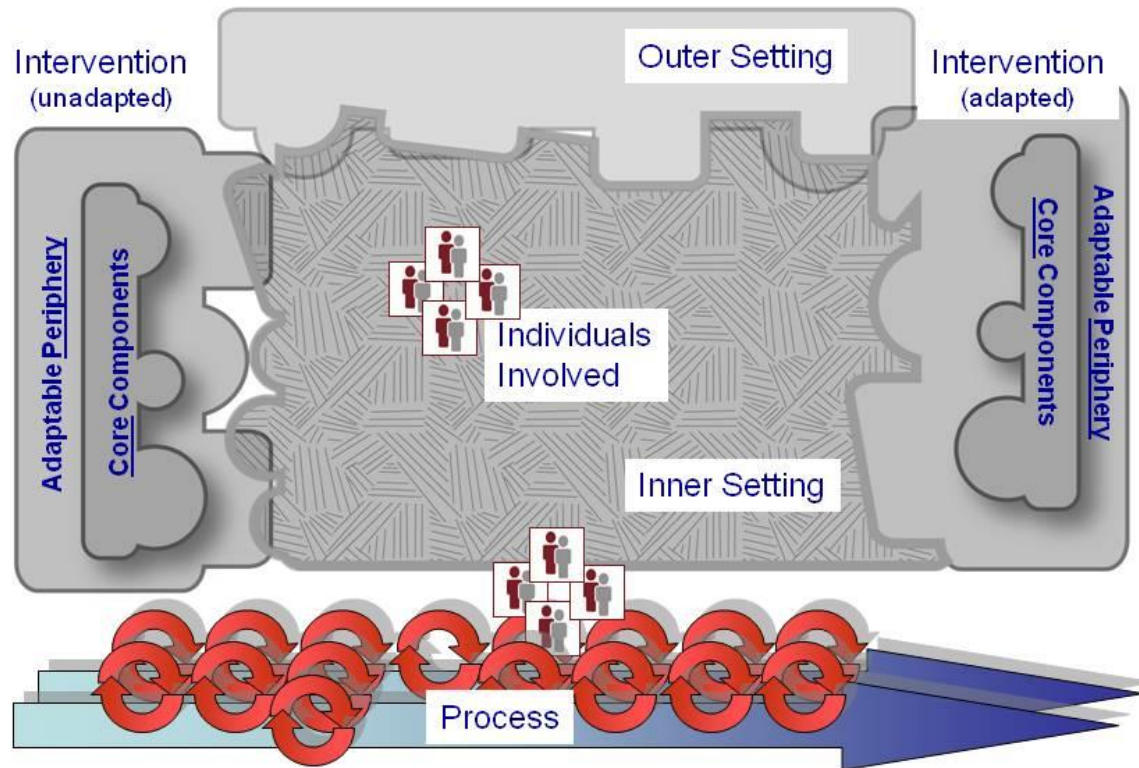
Authors: Karin E. Johnson^{1*}, Gila Neta^{2a*§}, Laura M. Dember³, Gloria D. Coronado^{4a}

Use of PRECIS Ratings in the NIH Healthcare Systems Research Collaboratory; Trials 2016

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Conceptual framework

Consolidated Framework for Implementation Research*



Implementation Analysis

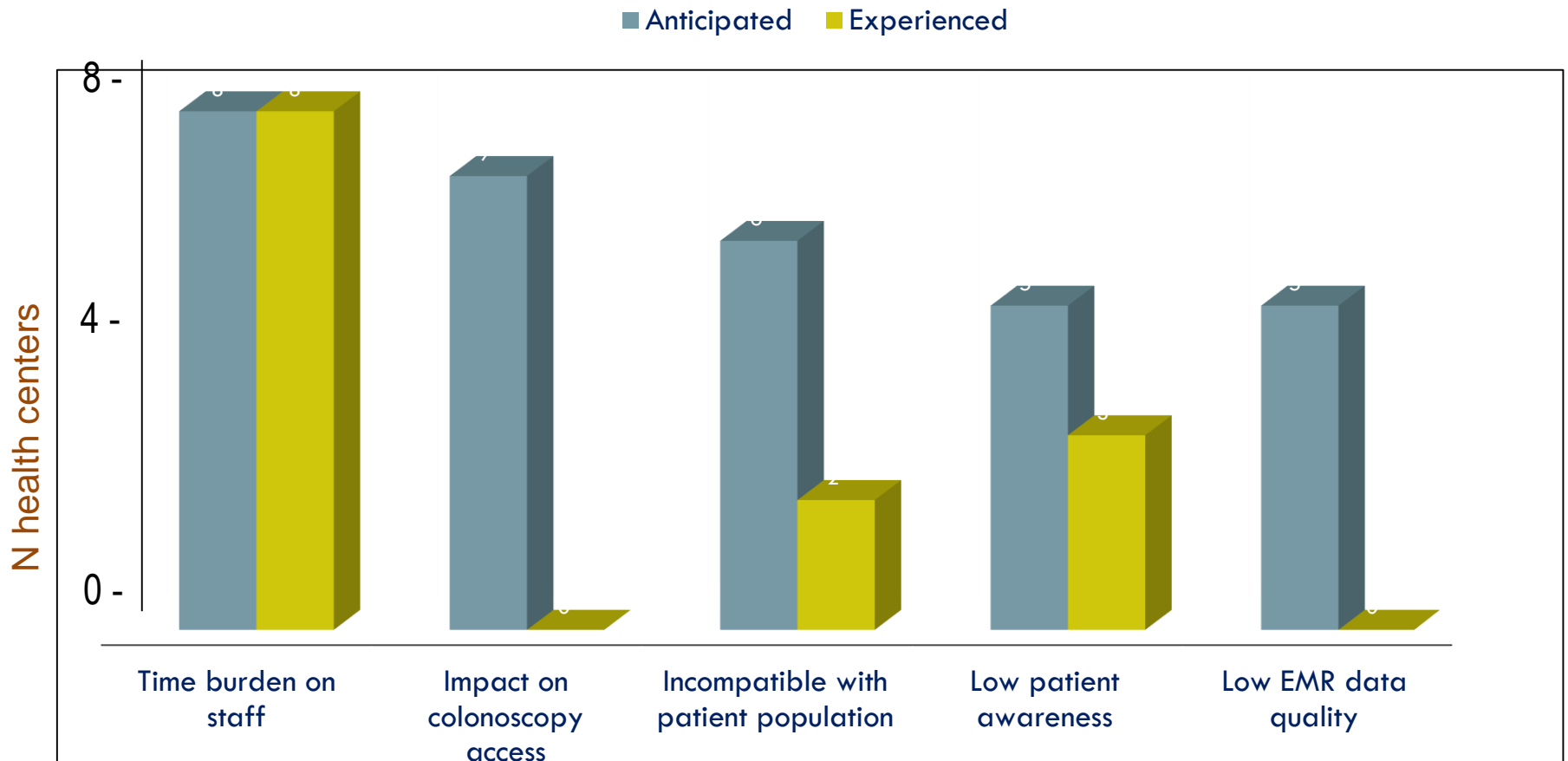
Guided by the CFIR Framework

Data Sources:

- EHR data (mailings, phone calls)
- Staff and leadership surveys and interviews at baseline and follow-up
- Cost data provided by clinics included questions about implementation processes (e.g. project staff)
- Project participation data from training sessions, EHR specialist meetings

Primary challenge to implementation

Challenges to Direct-Mail Fecal Testing Program



Did they do it?

Implementation of key components

Health Center	Mailed FIT (%)	Mailed FIT plus Reminder Letters (Yes/No)	Difference in FIT completion (%)
1	59.3	Y	21.2
2	43.3	Y	10.6
3	37.1	N	7.7
4	26.3	N	5.2
5	33.2	Y	3.6
6	38.5	N	-2.0
7	21.0	N	-5.4
8	42.1	N	-11.7

Factors influencing implementation

Health Center	Lab issues	EMR meeting attendance (%)	Loss of key staff	Plan additional PDSAs	Difference in FIT completion (%)
1	N	73	SOMEWHAT	N	21.2
2	N	73	Y	N	10.6
3	N	60	N	Y	7.7
4	N	60	N	Y	5.2
5	N	80	Y	Y	3.6
6	N	40	Y	N	-2.0
7	Y	27	Y	Y	-5.4
8	Y	53	Y	N	-11.7

Factors influencing patient completion

Health Center	FIT samples (1 vs. 2)	Mailed return vs. drop off	Difference in FIT completion (%)
1*	1	Mail	21.2
2	2	Mail	10.6
3	1	Mail	7.7
4	1	Mail	5.2
5	1	Drop off	3.6
6	1	Mail	-2.0
7	2	Mail	-5.4
8	2	Drop off	-11.7

* PDSA included phone reminders

Conclusion

- Implementing mailed FIT outreach can increase screening rates in "real world settings."
- Findings confirm the major challenge of bridging the gap between efficacy studies and effectiveness studies.
- Given variation in clinics in the timing and extent of intervention delivery, this work offers the potential to understand more deeply the clinic level factors that facilitate and challenge successful implementation.

A man in a yellow t-shirt and blue shorts is kneeling in a garden, wearing blue and white striped gardening gloves. He is smiling and looking down at a young child with curly blonde hair who is wearing a green long-sleeved shirt. They are both focused on planting a small green seedling with soil into a wooden garden bed. The garden bed is filled with dark soil and has a yellow hose running along its edge. In the background, there are other garden beds, a wooden fence, and trees, suggesting a backyard setting. The overall atmosphere is peaceful and educational.

Future Growth

Research Team

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