

Effectiveness and Costs of Tailored Reminders to Increase Return of Fecal Immunochemical Tests

Mary Ellen Conn, MS¹, Sujha Subramanian, PhD², Florence K. Tangka, MS, PhD³, Susan Eason, MA¹, Sonja Hoover, MPP², Dannel Boatman, MS¹, Stephenie Kennedy-Rea, EdD, MA¹

¹Cancer Prevention and Control, West Virginia University, ²RTI International, ³Centers for Disease Control and Prevention

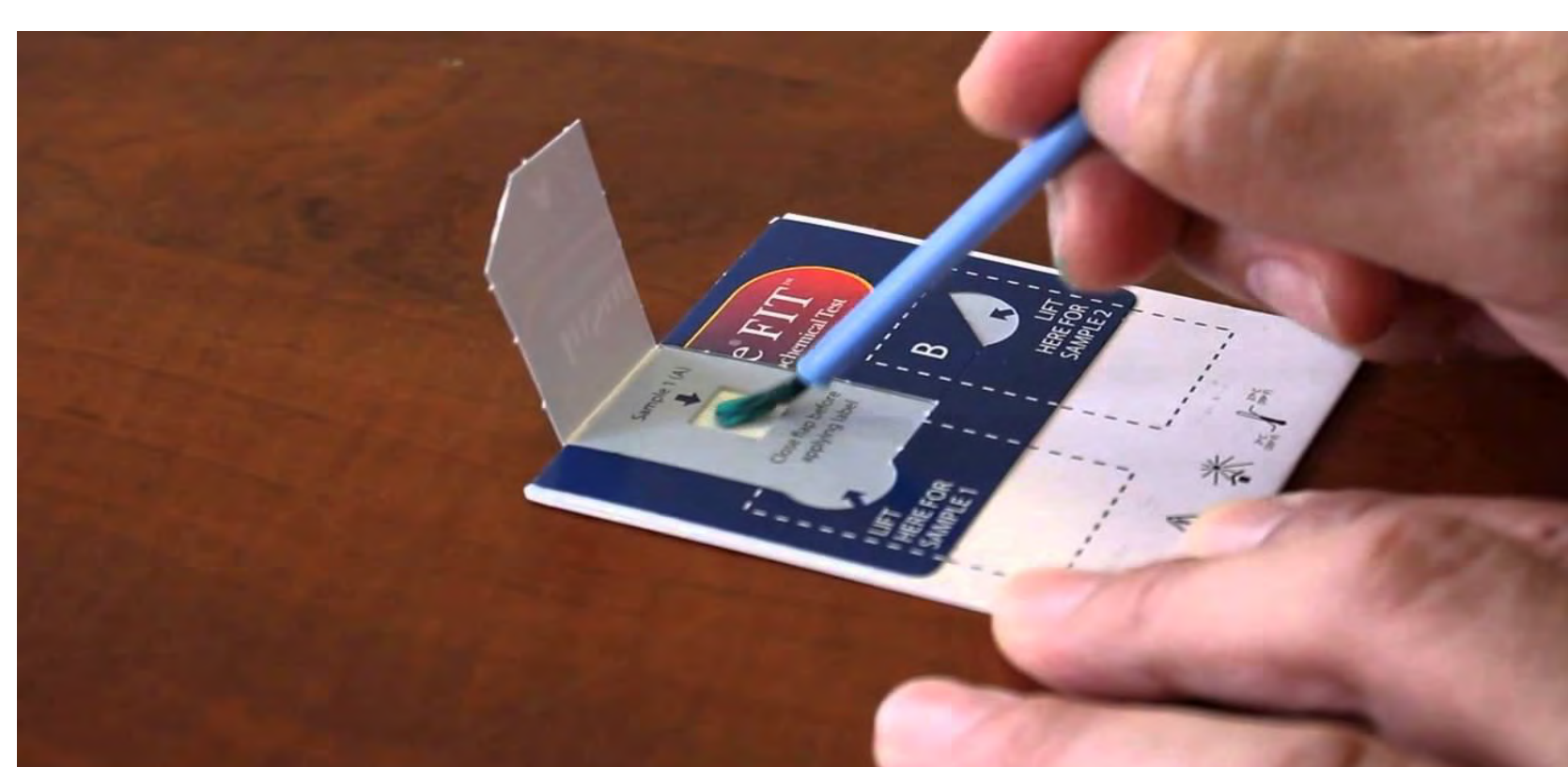


Public Health Statement

Increasing colorectal cancer (CRC) screening among persons aged 50-75 reduces incidence and mortality.¹

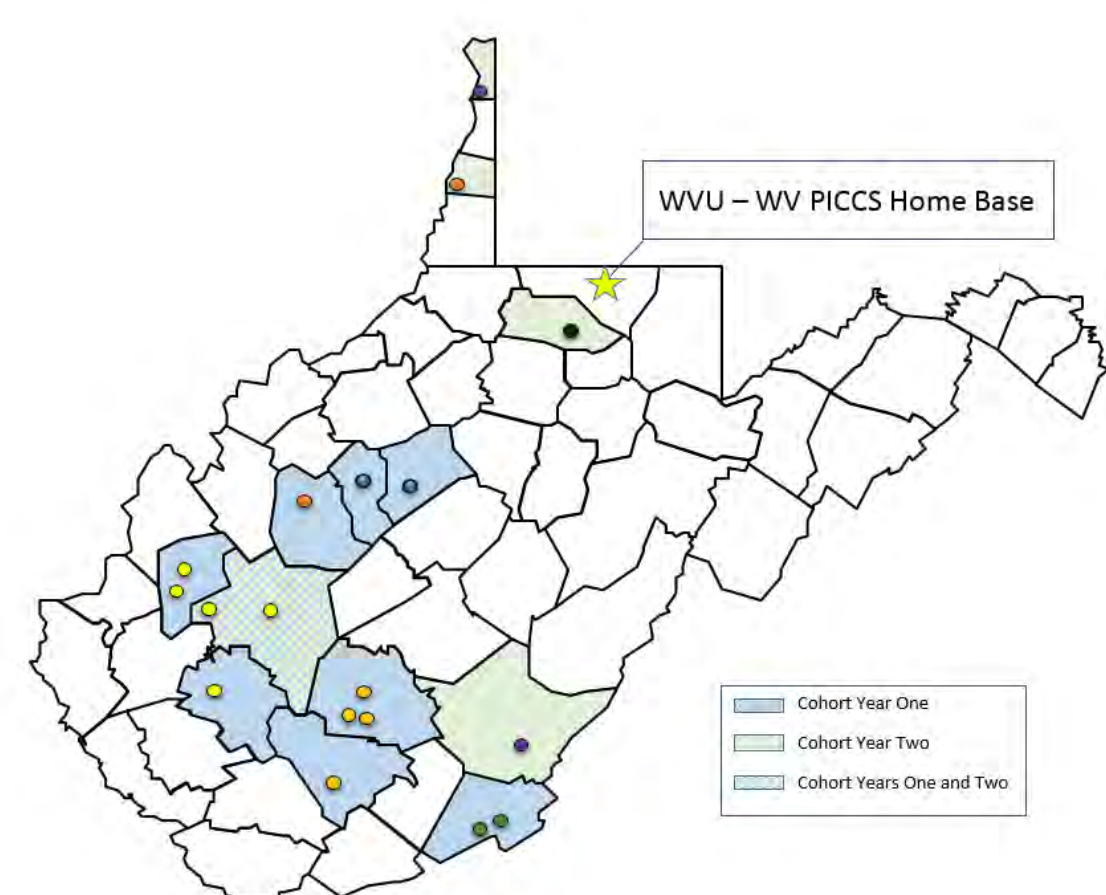
Purpose

An Enhanced Call Reminder Program (ECRP) based on Stages of Change health theory² equipped clinics to conduct tailored reminder calls to achieve a greater return rate of fecal immunochemical tests (FIT).



Background

- Colorectal cancer is the 4th most diagnosed cancer and the second leading cause of cancer deaths among men and women in WV.³
- From 2012 to 2016, 51% of all colorectal cancers diagnosed in WV were detected at either the regional (31%) or distant (20%) stage.³
- Cultural, social, and educational barriers impact rural and Appalachian patients willingness to be screened.⁴
- The West Virginia Program to Increase Colorectal Cancer Screening (WV PICCS) works with primary care health systems to implement evidence-based interventions to increase colorectal cancer screening.

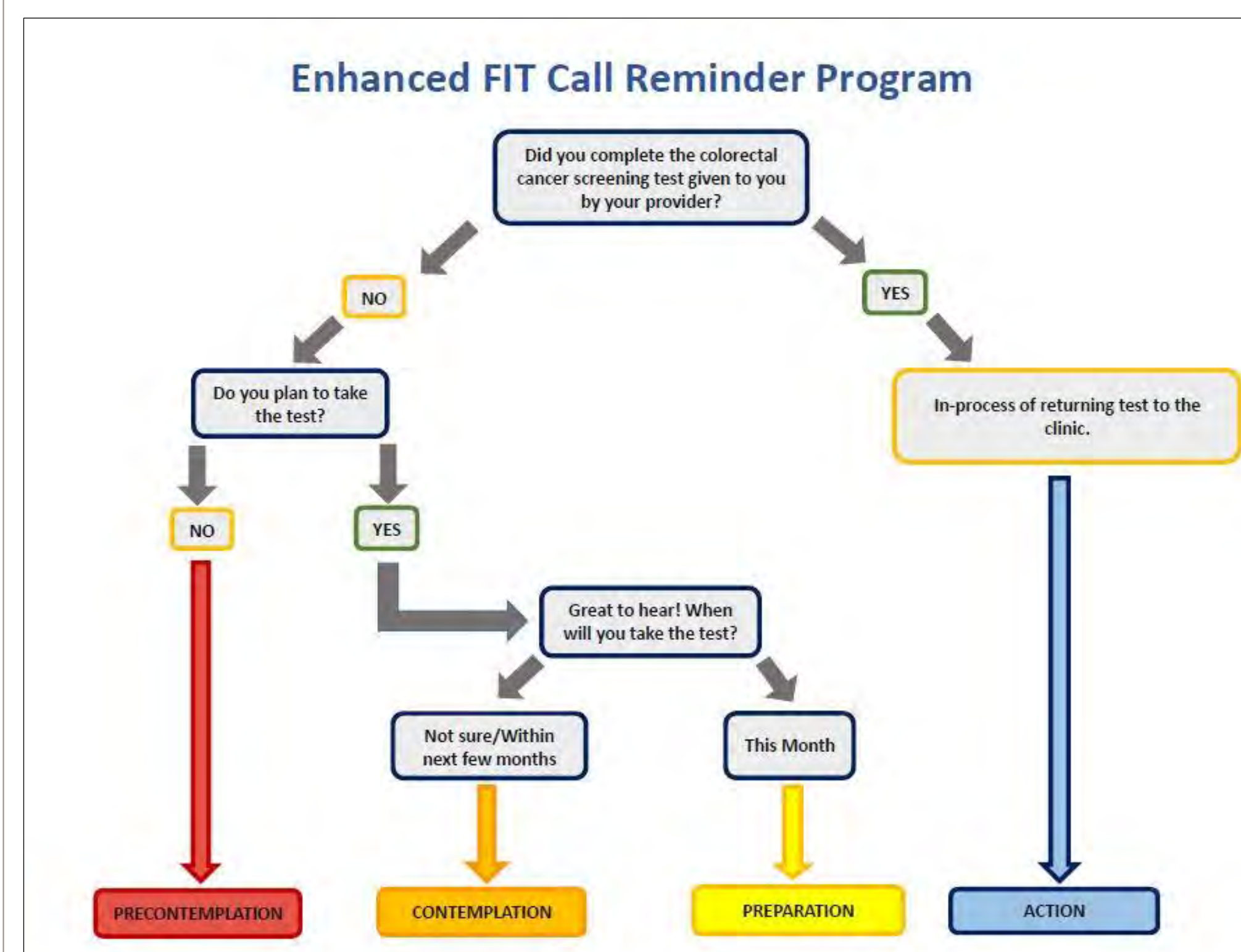


References

- US Preventive Services Task Force. (2016). Screening for colorectal cancer US preventive services task force recommendation statement. *Journal American Medical Association*, June 21, 2016, Vol. 315, Number 23, p2564-2575.
- Menon, U., Belue, R., Skinner, C.S., Rothwell, E., & Champion, V. (2007) Perceptions of Colon Cancer Screening by Stage of Screening Test Adoption. *Cancer Nursing* 30(3): 178-185.
- 2019 West Virginia Cancer Burden Report. WV Cancer Registry, WV Department of Health and Human Resources and West Virginia University Cancer Institute, Morgantown, WV, December 2019.
- Knight, J. R., Kanotra, S., Siameh, S., Jones, J., Thompson, B., & Thomas-Cox, S. (2015). Peer Reviewed: Understanding Barriers to Colorectal Cancer Screening in Kentucky. *Preventing Chronic Disease*, 12.
- Liss, D.T, French, D.D., Buchanan, D.R., et al. (2016). Outreach for Annual Colorectal Cancer Screening: A Budget Impact Analysis for Community Health Centers. *American Journal of Preventive Medicine*, 50(2):e54-61.

Methods/Approach

- Implementation strategies:
 - Designed practice work-flow protocols for FIT distribution.
 - Identified staff to make up to three follow-up calls for unreturned FITs. Included nurses, care coordinators, health coaches, and lab technicians.
 - Trained staff on Stages of Change theory, use of Stages of Change algorithm, and tailored messaging for each stage.
 - Utilized a tracking log to monitor follow-up reminder calls and data collection.
 - Collected cost data on average staff salary and time to track unreturned FITs, make calls, and/or send letters.



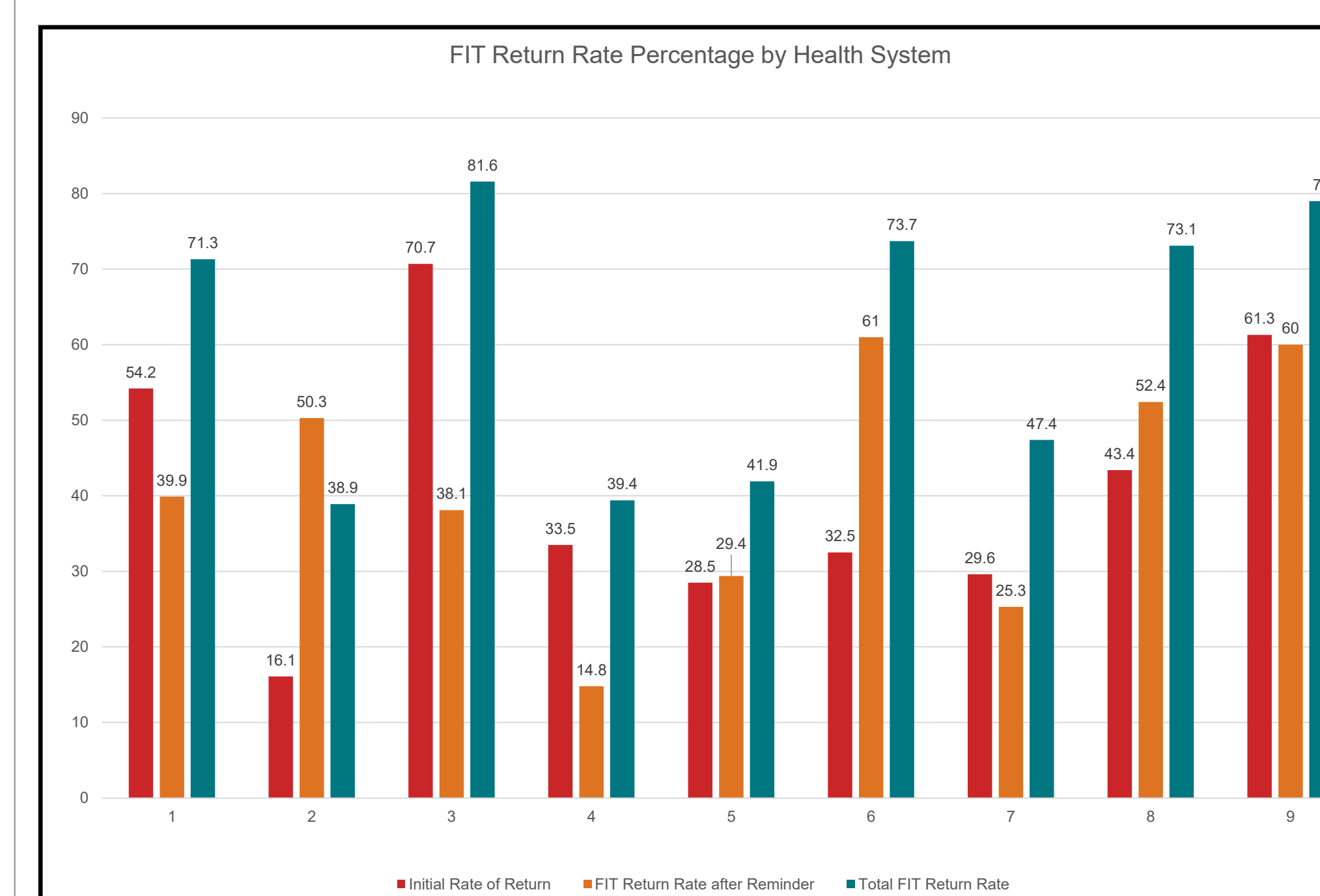
Tailored messaging examples:

- PRECONTEMPLATION** ⇨ Anyone can get colon cancer but the risk is higher if you are age 50 and older. You need to get tested even if you feel healthy. What are some of your reasons for not taking the test?
- CONTEMPLATION** ⇨ I'm glad you are thinking about taking the test. It can help find colon cancer early when it is small and easier to treat. Do you have questions about the test?
- PREPARATION** ⇨ It's good to hear you are ready to take the test. Do you have any questions about how to complete it?
- ACTION** ⇨ I'm glad you are completing the test. It's important to do this every year. Regular screening saves lives. We'll send you a reminder when it is time to be screened again.

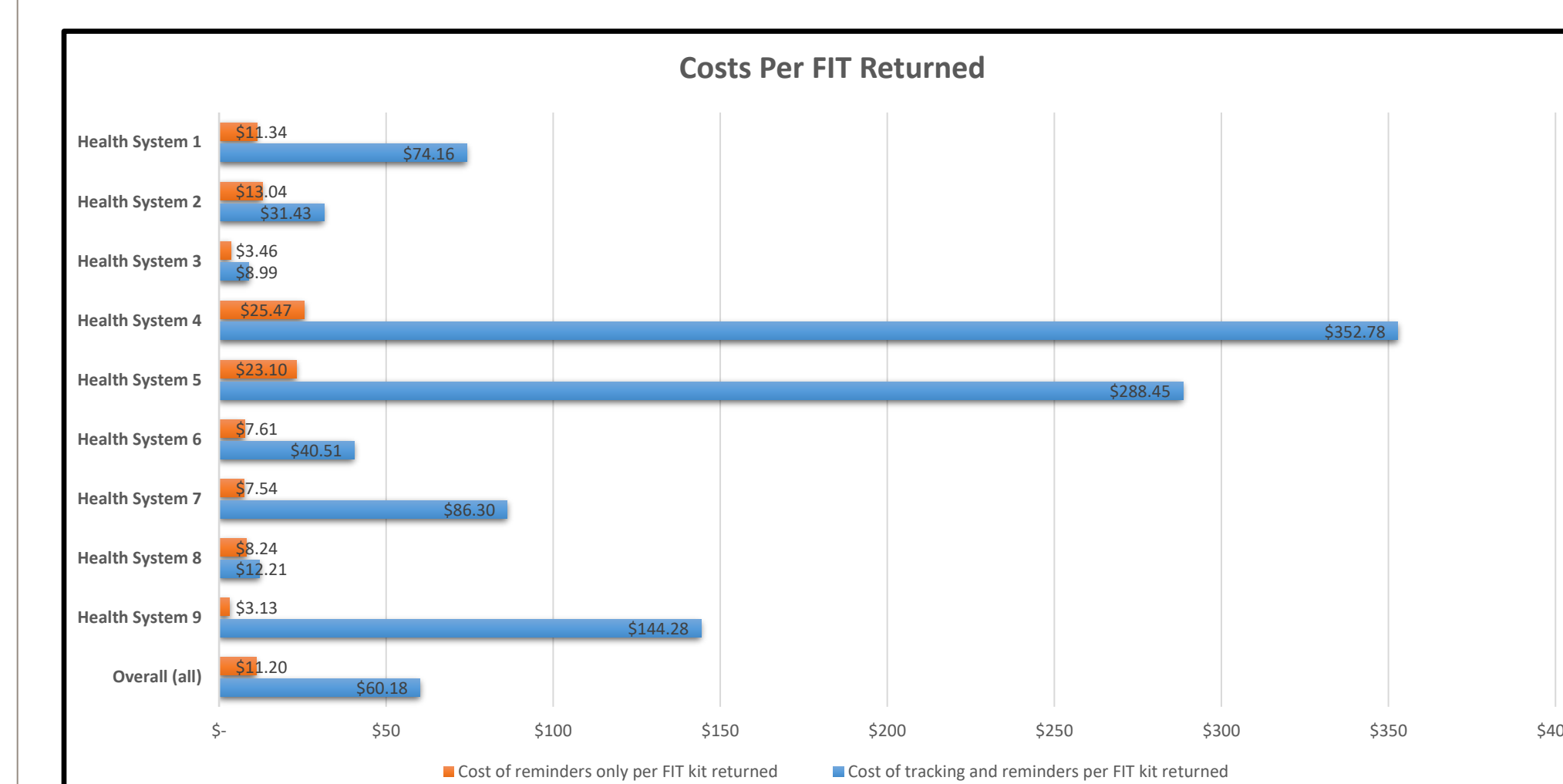
Results

Impact of ECRP on FIT return rates in partner health systems:

- 5041 FIT tests distributed over 10-17 months.
- 41.1% average initial return rate without reminders.
- 41.2% average return for outstanding FIT after reminder intervention.
- 60.7% overall average FIT return rate.
- Achieved an average increase of **19.6** percentage points.



Cost analysis per FIT returned:



- \$60.18 average total cost of tracking, calls, and mailings per FIT returned.
- \$11.20 average cost of reminders only.
- Analysis limitation:
 - Retrospective data collection
 - Two health systems had higher costs for tracking due to electronic health record (EHR) problems and difficulty receiving lab completion reports
 - Rural clinics with small populations generally have higher costs due to low volume and economy of scale

Discussion/Implications

- Timing for initiation of reminders impacts the outcome. Clinics starting reminders within one-two weeks after FIT is not returned had better return rates than clinics waiting three-four weeks.
- Initial mode of contact makes a difference with better outcomes coming from tailored message phone calls versus sending a mailed reminder.
- Average total cost per FIT returned is in similar range (\$45 - \$74) to another study in community health centers.⁵
- All participating health systems are continuing the program in their clinics in some form. This indicates the program is sustainable in a primary care setting.

Challenges/Limitations

Key challenges included:

- Updating clinic workflow to integrate the ECRP.
- Concerns in some clinics about duplication of tracking on spread sheet and in the EHR.
- Inconsistent tracking and data collection. Additional clinics participated in the program but were excluded from analysis due to incomplete data.
- Staff turnover and need for retraining.

Acknowledgements



With appreciation for their participation:

- Change, Inc. (1 clinic)
- FamilyCare Health Centers (WomenCare, Inc.) (5 clinics)
- Minnie Hamilton Health System (1 clinic)
- Monroe Health Center (2 clinics)
- Monongahela Valley Association of Health Centers (1 clinic)
- New River Health Association, Inc. (4 clinics)
- Roane County Family Health Care, Inc. (1 clinic)
- Robert C. Byrd Clinic (1 clinic)
- Wheeling Health Right (1 clinic)