Published in final edited form as:

JAMA Intern Med. 2014 August ; 174(8): 1242–1243. doi:10.1001/jamainternmed.2014.730.

“BeneFITs” to Increase Colorectal Cancer Screening in Priority Populations

Beverly B. Green, MD, MPH and Gloria D. Coronado, PhD

Group Health Cooperative, Seattle, Washington (Green); Group Health Research Institute, Seattle, Washington (Green); Kaiser Permanente Center for Health Research Northwest, Portland, Oregon (Coronado)

Colorectal cancer (CRC) is a leading cause of cancer death in the United States. Many CRC deaths could be averted by screening because screening decreases both CRC incidence and mortality by 30% to 60%.¹ Although CRC screening rates have risen in recent years, with 65% of Americans aged 50 to 75 years reporting being up-to-date,² rates remain suboptimal and are marked by pronounced racial/ethnic and socioeconomic disparities. Only 53% of Latinos² and 39% of individuals with incomes below the federal poverty level are current for CRC screening (Figure). Low socioeconomic status is also associated with higher rates of CRC mortality.³ Increasing screening in priority populations could substantially decrease morbidity and mortality from CRC.

These disparities may be attributable in part to the fact that some professional societies and often physicians recommend colonoscopy as the best CRC screening method. However, increasing evidence shows that patients who are offered only colonoscopy for initial screening might not screen at all. Inadomi et al⁴ found that patients offered fecal occult blood testing (FOBT) or choice of FOBT and colonoscopy were twice as likely to screen as those offered only colonoscopy—in particular, Latinos and Asian individuals were significantly more likely to choose FOBT.⁴ Gupta and colleagues,⁵ in a recent article in the *Journal of the National Cancer Institute*, provide a framework for decreasing CRC disparities based on the message that “the best test is the one that gets done.”

A drawback to FOBT screening is that it must be done annually to meet the evidence-based recommendations of the US Preventive Services Task Force (USPSTF). In contrast, recommended colonoscopy screening for average-risk individuals is only once every 10 years. Although adherence to annual FOBT screening is high in efficacy trials, we have lacked information on repeat screening in community settings.

In this issue of *JAMA Internal Medicine*, Baker et al⁶ provide evidence that a mailed FOBT program can achieve repeat screening rates of over 82% in a largely low-income Spanish-speaking population. The study used fecal immunochemical testing (FIT), a type of FOBT

Corresponding Author: Beverly B. Green, MD, MPH, Group Health Research Institute, 1730 Minor Ave, Seattle, WA 98101 (green.b@ghc.org).

Additional Contributions: We acknowledge Chris Tachibana, PhD, who provided support to edit the manuscript. Dr Tachibana received no compensation for her contributions.

Conflict of Interest Disclosures: None reported.

that is more user friendly. FIT has no dietary restrictions, requires only 1 sample, and can be performed in the privacy of one's home, leading to higher adherence rates.⁷ Electronic health records can be leveraged to efficiently deliver FOBT mailings annually without clinic visits. In an integrated health care organization setting, a randomized trial by Green et al⁸ found that people offered an automated mailed FOBT program with an option to choose colonoscopy instead were twice as likely to be up-to-date for CRC screening over 2 study years compared with usual care, mainly because participants completed FOBT in both years. The mailed FOBT program was also less expensive than usual care because the program slightly reduced expensive screening colonoscopies.

A disappointing result in the study by Baker et al⁶ was that only 60% of individuals with a positive screening FOBT result completed follow-up diagnostic colonoscopy, even though it was offered at no cost and a health professional navigator provided support with scheduling, preparation, and transportation. Follow-up colonoscopy is crucial, since the chance of CRC is as high as 4% in individuals with a positive FOBT result, and almost one-third have advanced precancerous adenomas. Lack of follow-up colonoscopy defeats the purpose of a FOBT screening program. Other studies using navigators have had higher follow-up rates,⁹ and a program that included a registry and physician reminders led to colonoscopy completion rates of over 80%.¹⁰

Baker et al⁶ do not describe the reasons for low rates of follow-up diagnostic colonoscopy, but for many people in the United States, the barriers to this procedure are substantial and include limited availability and cost. The Patient Protection and Affordable Care Act of 2010 (ACA) mandates that screening tests recommended by the USPSTF, including CRC testing, be covered in full with no patient out-of-pocket expenses. However, this mandate does not include follow-up diagnostic colonoscopy, for which insurance copays and deductibles apply. Individuals choosing FOBT might be unpleasantly surprised to learn that, depending on their health plan, colonoscopy after a positive FOBT result could cost from \$200 to \$3000. In an example of the potentially dangerous effects of this policy, a physician colleague described a patient with a positive FOBT result who could not afford follow-up colonoscopy because of her \$10 000 health plan deductible. The patient and physician were left worrying about her possible CRC, and the physician had doubts about recommending FOBT to other patients. Decreasing CRC disparities will require an ACA policy change to cover CRC screening by FOBT as a 2-part test, with diagnostic colonoscopy after a positive FOBT result as the second part.

In fact, in most states, Medicaid already covers both initial CRC screening (both colonoscopy and FOBT) and follow-up colonoscopy testing with no patient out-of-pocket costs. Therefore, Medicaid expansion under the ACA, which covers adults at 138% of the federal poverty level, offers a partial solution for reducing CRC screening disparities. In April 2014, the Center for Medicare & Medicaid Services reported that more than 3 million additional people had enrolled in Medicaid—most adults and many age-eligible for CRC screening. However, not all states are participating in Medicaid expansion, and in participating states, low-income, racial/ethnic minority individuals might not qualify because of their undocumented status. In addition, some gastroenterologists will not accept

Medicaid patients because colonoscopy reimbursement rates are lower than Medicare and commercial insurance rates.

The Medicaid policy offers the right “benefITS” by covering both FOBT testing by FIT and follow-up colonoscopy. Baker et al⁶ provide evidence that mailed FITs achieve high rates of repetitive screening in populations who currently have the lowest rates. Population-based mailed FIT programs that are aligned with benefits have the potential to rapidly reduce CRC disparities.

Acknowledgments

Funding/Support: Work on this article was supported in part by the National Institutes of Health (NIH) Common Fund award UH2AT007782 for the NIH Health Care Systems Research Collaboratory, and National Cancer Institute awards 4UH3CA188640 and 2R01CA121125.

Role of the Sponsor: The funding institutions had no role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; preparation, review, or approval of the manuscript; and decision to submit the manuscript for publication.

Disclaimer: The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIH or the National Cancer Institute.

References

1. Whitlock EP, Lin JS, Liles E, Beil TL, Fu R. Screening for colorectal cancer: a targeted, updated systematic review for the U.S. Preventive Services Task Force. *Ann Intern Med.* 2008; 149(9):638–658. [PubMed: 18838718]
2. Centers for Disease Control and Prevention (CDC). Vital signs: colorectal cancer screening test use—United States, 2012. *MMWR Morb Mortal Wkly Rep.* 2013; 62(44):881–888. [PubMed: 24196665]
3. Saldana-Ruiz N, Clouston SA, Rubin MS, Colen CG, Link BG. Fundamental causes of colorectal cancer mortality in the United States: understanding the importance of socioeconomic status in creating inequality in mortality. *Am J Public Health.* 2013; 103(1):99–104. [PubMed: 23153135]
4. Inadomi JM, Vijan S, Janz NK, et al. Adherence to colorectal cancer screening: a randomized clinical trial of competing strategies. *Arch Intern Med.* 2012; 172(7):575–582. [PubMed: 22493463]
5. Gupta S, Sussman DA, Doubeni CA, et al. Challenges and possible solutions to colorectal cancer screening for the underserved. *J Natl Cancer Inst.* 2014; 106(4) dju032.
6. Baker DW, Brown T, Buchanan DR, et al. Comparative effectiveness of a multifaceted intervention to improve adherence to annual colorectal cancer screening in community health centers: a randomized clinical trial. *JAMA Intern Med.* published online June 16, 2014. 10.1001/jamainternmed.2014.2352
7. Chubak J, Bogart A, Fuller S, Laing SS, Green BB. Uptake and positive predictive value of fecal occult blood tests: a randomized controlled trial. *Prev Med.* 2013; 57(5):671–678. [PubMed: 24029556]
8. Green BB, Wang CY, Anderson ML, et al. An automated intervention with stepped increases in support to increase uptake of colorectal cancer screening: a randomized trial. *Ann Intern Med.* 2013; 158(5 Pt 1):301–311. [PubMed: 23460053]
9. Raich PC, Whitley EM, Thorland W, Valverde P, Fairclough D. Denver Patient Navigation Research Program. Patient navigation improves cancer diagnostic resolution: an individually randomized clinical trial in an underserved population. *Cancer Epidemiol Biomarkers Prev.* 2012; 21(10):1629–1638. [PubMed: 23045537]
10. Miglioretti DL, Rutter CM, Bradford SC, et al. Improvement in the diagnostic evaluation of a positive fecal occult blood test in an integrated health care organization. *Med Care.* 2008; 46(9 (suppl 1)):S91–S96. [PubMed: 18725839]

Figure. Percentage of Adults Aged 50 to 75 Years Who Received Colorectal Cancer Screening by Family Income Level—National Health Interview Survey, United States, 2010

In 2010, the percentage of adults aged 50 to 75 years who received colorectal cancer screening as recommended by the most recent guidelines increased as income increased. Persons with family incomes 600% or more of the federal poverty level (FPL) were nearly twice as likely (72.9%) to get a colorectal cancer screening as those with family incomes below the FPL (38.7%) and were the only group to meet the *Healthy People 2020* target of 70.5%. Error bars represent 95% CIs. Figure available at <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6146a10.htm>. Permissions are not required to reproduce *Morbidity and Mortality Weekly Report* figures.