



University of Pennsylvania
ScholarlyCommons

Issue Briefs

Leonard Davis Institute of Health Economics

6-9-1999

Colorectal Cancer Screening With Sigmoidoscopy: Primary Care Issues

James D. Lewis

David A. Asch

University of Pennsylvania, asch@wharton.upenn.edu

Follow this and additional works at: http://repository.upenn.edu/ldi_issuebriefs

Lewis, James D. and Asch, David A.. Colorectal Cancer Screening With Sigmoidoscopy: Primary Care Issues. LDI Issue Briefs. 1999; 4 (2). <http://ldi.upenn.edu/policy/issue-briefs/1999/06/09/colorectal-cancer-screening-with-sigmoidoscopy-primary-care-issues>

This paper is posted at ScholarlyCommons. http://repository.upenn.edu/ldi_issuebriefs/4
For more information, please contact repository@pobox.upenn.edu.

Colorectal Cancer Screening With Sigmoidoscopy: Primary Care Issues

Abstract

Colorectal cancer is the second leading cause of death from cancer in the U.S., behind lung cancer. Numerous medical societies recommend routine screening for colorectal cancer with flexible sigmoidoscopy for people 50 and over. But who will perform the procedure, and who will pay for it? The case of flexible sigmoidoscopy illustrates the economic and practical issues of introducing a screening procedure into primary care practice. This Issue Brief investigates the role of primary care physicians in providing this service as part of routine care, and identifies attitudinal and financial barriers to overcome.

License



This work is licensed under a [Creative Commons Attribution-No Derivative Works 4.0 License](https://creativecommons.org/licenses/by-nd/4.0/).

LDI *Issue Brief*

Volume 4, Number 2
June 1999

Leonard Davis Institute of Health Economics

James D. Lewis, MD, MSCE
LDI Senior Fellow, Instructor
in Medicine, University of
Pennsylvania

David A. Asch, MD, MBA
LDI Senior Fellow, Robert D.
Eilers Associate Professor of
Medicine and Health Care
Management and Economics,
University of Pennsylvania

Colorectal Cancer Screening with Sigmoidoscopy: Primary Care Issues

Editor's note: Colorectal cancer is the second leading cause of death from cancer in the U.S., behind lung cancer. Numerous medical societies recommend routine screening for colorectal cancer with flexible sigmoidoscopy for people 50 and over. But who will perform the procedure, and who will pay for it? The case of flexible sigmoidoscopy illustrates the economic and practical issues of introducing a screening procedure into primary care practice. This Issue Brief investigates the role of primary care physicians in providing this service as part of routine care, and identifies attitudinal and financial barriers to overcome.

Screening with flexible sigmoidoscopy (FS) may reduce mortality from colorectal cancer

The National Cancer Institute estimates that more than 65,000 people will die this year of colorectal cancer in the U.S. Screening can be effective in reducing mortality because colorectal cancer exists in a readily detectable, easily curable state for a long time. Flexible sigmoidoscopy (FS) can detect polyps before they become cancerous.

- FS examines the inner lining of the rectum and the last two feet of the colon, where the majority of cancers and polyps develop. An endoscope—a thin, flexible tube with a light on the end, is used to identify any polyps or cancer. Small polyps should be biopsied to determine which patients need further work-up with colonoscopy.
- Gastroenterologists are trained to perform FS. However, current estimates suggest that there are too few gastroenterologists to provide all of the recommended screening sigmoidoscopies. With training, primary care physicians (internists and family physicians) could fill the gap.
- A major financial barrier to widespread adoption of FS was seemingly lowered when Medicare began to cover screening FS for beneficiaries 50 and over as of January 1998. Medicare now covers one screening FS every four years for these beneficiaries, with payment based on the reimbursement rate for diagnostic FS.

Many primary care physicians do not perform FS in their practice

Previous studies suggest that only 23-67% of primary care physicians routinely perform FS as part of their practice. Barriers include:

- Inadequate training. As with other procedures, supervised training is essential to develop competence to perform FS.

-
- Financial factors. Many physicians believe that insurance reimbursement for screening FS does not cover the physician's cost.
 - Logistical problems. Inadequately trained staff and difficult-to-clean equipment may make it inefficient to perform FS in busy office practices.
 - Liability concerns. Physicians may pay higher liability insurance premiums for performing FS in their practice.

Study examines the cost of performing FS

Lewis and Asch estimated the cost, from an individual primary care physician's perspective, of performing FS and compared that to the new Medicare reimbursement rate. They included fixed and variable costs from estimates in the published literature.

- Fixed costs included equipment, training, cleaning solution, and additional malpractice coverage. These costs were spaced evenly across the life expectancy of the equipment, and training costs were spread over total years of practice.
- Variable costs included time and additional material required for each procedure. Time included the time needed to obtain informed consent, perform the procedure, complete the report, inform the patients of the results, and arrange any necessary follow-up. Time was measured as the opportunity cost of performing FS instead of other outpatient clinical activities. The investigators assumed that physicians would work the same number of hours, but reduce the number of patients seen during routine office hours.

Medicare reimbursement for FS is barely adequate to offset physicians' cost

Although the financial effect of performing FS is not the only factor affecting whether a physician performs FS, the level of reimbursement is likely to influence the decision. Using conservative estimates from the literature, Lewis and Asch calculated that Medicare reimbursement for FS is barely adequate and, in some cases, less than the physician's cost of performing FS in office practice.

- The physician's total cost for FS without biopsy is \$86.86, which is similar to the Medicare reimbursement rate of \$87.84.
- The calculations are most sensitive to estimates of equipment costs, number of procedures performed each year, and additional malpractice coverage. The authors estimate that physicians must perform at least 75 procedures per year, spending 20 minutes or less per procedure, for Medicare reimbursement to exceed costs.
- The estimated cost for the procedure in a screening program that includes the ability to perform biopsy is \$152.93, which exceeds the Medicare reimbursement rate of \$114.77.

Study identifies factors that influence primary care physicians' willingness to perform FS

In another study, Lewis, Asch and colleagues surveyed physicians to identify the financial and non-financial factors that influence the decision to perform FS. They surveyed primary care physicians in community-based practices owned by the University of Pennsylvania.

-
- There was widespread agreement among the physicians about the value of screening FS. More than three quarters thought that screening with FS should be included in routine health care; more than 70% believed that screening FS reduces mortality from colorectal cancer.
 - 52% of physicians reported training in FS; of those, 53% were currently performing FS in their practice. These physicians reported performing a median of 30 procedures in the preceding year.
 - Among physicians trained in FS but not performing the procedure, the most influential factors were the time required to perform FS, the availability of FS from other clinicians, and the availability of adequately trained support staff. Physicians without training in FS and reporting no interest in training also emphasized the importance of the time required for FS.
 - Surprisingly, most physicians did not cite insurance reimbursement rates as a barrier to performing FS. This finding may reflect either the small proportion of these physicians' total salary that is determined by productivity, or a lack of knowledge about the effect of performing FS on total revenue.

Male physicians were more likely than female physicians to report either performing FS or wanting training in FS

Previous studies found that physicians choosing to perform FS were more likely to be men. The new study found this as well, and isolated some of the reasons for this gender difference.

- Male and female physicians were equally likely to report having been trained to perform FS, but male physicians were far more likely to perform FS in practice after training. Similarly, male physicians were more likely to report either currently performing FS or being interested in training to perform FS (53% vs. 29%).
- These gender differences were largely attributable to the differences in the way male and female physicians make their decisions. Specifically, women put different emphases on the following decision criteria: a sense of duty about performing FS; the availability of other clinicians to perform FS, the availability of equipment, and liability concerns.
- The reasons for these differences are not clear. Female physicians might be more likely to have child care responsibilities and other activities that limit their professional time; these responsibilities may limit their desire to take on more work, especially if it is time-consuming.

POLICY IMPLICATIONS

These findings suggest steps that can be taken to increase the likelihood that primary care physicians will perform FS in office practice.

- Low reimbursement may limit the use of screening FS in primary care practices. Medicare rates barely cover the physicians' cost of providing FS, and do not cover the costs of providing FS with a biopsy. Because screening programs utilizing FS can reduce mortality from colorectal cancer, low reimbursement rates for the procedure do society a disservice. Medicare reimbursement should be increased to provide reasonable financial margins within which primary care physicians can perform FS and operate their practices efficiently.
-

-
- Physician in community practice voice concern over the time required to perform FS, and the lack of adequately trained support staff. Physicians perceive that the inefficiency of performing office-based FS is a major barrier to incorporating FS within routine practice. Thus, future efforts should be directed toward improving the availability of trained support personnel to assist primary care physicians in performing FS.
 - Health systems should consider alternative approaches to delivering colorectal cancer screening, including having equipment and staff shared by multiple office locations, or using other health care professionals (such as nurse-practitioners) to perform FS.

This Issue Brief is based upon the following articles: J.D. Lewis, D.A. Asch, G.G. Ginsberg, T.C. Hoops, M.L. Kochman, W.B. Bilker, B.L. Strom. Primary Care Physicians' Decisions to Perform Flexible Sigmoidoscopy. Journal of General Internal Medicine, May 1999, vol. 14, pp. 297-302; and J.D. Lewis and D. A. Asch. Barriers to Office-Based Screening Sigmoidoscopy: Does Reimbursement Cover Costs? Annals of Internal Medicine, March 16, 1999, vol. 130, pp. 525-530.

Published by the Leonard Davis Institute of Health Economics, University of Pennsylvania, 3641 Locust Walk, Philadelphia, PA 19104, (215) 898-5611.

*Janet Weiner, MPH, Associate Director for Health Policy, Editor
David A. Asch, MD, MBA, Executive Director*

Issue Briefs synthesize the results of research by LDI's Senior Fellows, a consortium of Penn scholars studying medical, economic, and social and ethical issues that influence how health care is organized, financed, managed, and delivered in the United States and internationally. The LDI is a cooperative venture among Penn schools including Dental Medicine, Medicine, Nursing and Wharton. For additional information on this or other Issue Briefs, contact Janet Weiner (e-mail: weinerja@mail.med.upenn.edu; 215-573-9374) or visit our Web site at www.upenn.edu/ldi/.

Nonprofit Organization
U.S. Postage
PAID
Permit No. 2563
Philadelphia, PA 19104



Issue Brief

*Published by the
Leonard Davis Institute
of Health Economics
University of Pennsylvania*

*3641 Locust Walk
Philadelphia, PA 19104-6218
215.898.5611
fax 215.898.0229*

ADDRESS CORRECTION REQUESTED