

Letters to the Editor

Use of Colonoscopy for Colorectal Cancer Screening

To the Editors: Subramanian et al. (1) recently reported an analysis of data from the 2000 National Health Interview Survey to document use of colonoscopy versus other tests to screen for colorectal cancer. Readers should be aware that two earlier analyses of colorectal cancer screening using the 2000 National Health Interview Survey were published (2, 3), showing test use estimates that are higher than those reported in the Subramanian paper. Furthermore, Subramanian et al. (1) report compliance rates for tests done for any reason by demographic, health system enabler, and cancer risk factors that are substantially lower than those documented by Seeff et al. (2). Subramanian et al. (1) do not compare their estimates with prior published work to explain the reported differences.

Subramanian et al. (1) also report the use of colonoscopy versus fecal occult blood testing or sigmoidoscopy for colorectal cancer screening, stating that colonoscopy "is emerging as the gold standard" for colorectal cancer screening. This position is inconsistent with the current recommendations of the U.S. Preventive Services Task Force, which identifies a menu of options (e.g., fecal occult blood testing, sigmoidoscopy, colonoscopy, double-contrast barium enema) for colorectal cancer screening and concludes that "there is insufficient data to determine which strategy is best in terms of the balance of benefits and potential harms or cost-effectiveness," and that "it is unclear whether the increased accuracy of colonoscopy compared with alternative screening methods offsets the procedure's additional complications, inconvenience, and costs" (4). Also, whether respondents to the 2000 National Health Interview Survey were able to accurately distinguish between sigmoidoscopy and colonoscopy is questionable because, unless a respondent requested it, interviewers did not read the procedure descriptions to help respondents differentiate between these two similar procedures (5). For this reason, sigmoidoscopy, colonoscopy, and proctoscopy were combined into a single colorectal endoscopy measure in the previously cited studies (2, 3). Subramanian et al. (1) do not note this limitation in their paper. They also describe the National Health Interview Survey as a telephone survey when it is in fact an in-person interview survey. Finally, in reporting the type of colorectal cancer testing done, they selected the most recent test for respondents who reported receiving more than one test. This approach fails to take into account major guidelines such as those of the U.S. Preventive Services Task Force that recommend the combined use of certain colorectal cancer screening tests (e.g., fecal occult blood testing and sigmoidoscopy), and therefore does not provide an accurate profile of recent colorectal cancer screening by procedure type.

The National Health Interview Survey is a valuable, long-standing source of data on cancer screening use in the U.S. (6). To optimize the utility of these data, investigators should familiarize themselves with prior work and data conventions. Furthermore, when using these data to assess compliance with evidence-based recommendations, it is essential that investigators be aware of the major guideline-producing groups that influence screening practice. Without such care, we risk creating confusion instead of adding to scientific discourse.

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In Response: We have reviewed the comments by Klabunde et al. and have provided detailed responses to each of the issues raised.

First, we address the issue that the data reported in our study (1) differ from those reported in studies by Swan et al. (2) and Seeff et al. (3) that also analyzed the 2000 National Health Interview Survey (NHIS). The study by Swan et al. only provides colorectal cancer screening information stratified by gender, whereas the study by Seeff et al. (which was published when our manuscript was already under review) provides overall colorectal cancer screening rates. The results from our study are not directly comparable with either of these studies for several reasons:

- (a) The time interval used to assess compliance with endoscopy screening differs. We used 5 years for sigmoidoscopy and 10 years for colonoscopy. Swan et al. estimated rates based on 5-year time interval for all endoscopies and Seeff et al. used a 10-year time interval for all endoscopies.
- (b) We did not include proctoscopy in our study because this is not a test recommended by any of the leading guidelines, including the recommendations from the U.S. Preventive Services Task Force and the American Cancer Society. The studies by Swan et al. and Seeff et al. combine all endoscopies, including proctoscopy, sigmoidoscopy, and colonoscopy, into a single measure (endoscopy) and, therefore, proctoscopies are included.
- (c) We only included endoscopic tests that we could specifically identify. If a person reported unknown endoscopy, they were excluded from our sample (a limitation we clearly note in Discussion because we had to assign individuals to a specific colorectal cancer test).

Given these differences, the rates are not directly comparable and potentially due to the inclusion of proctoscopies, the rates reported by Swan et al. and Seeff et al. overestimate true population compliance rates and our results underestimate them due to the exclusion of "unknown" endoscopies.

Second, the authors indicate that we are advocating a position different from that of the U.S. Preventive Services Task Force. We have devoted a large paragraph in Introduction and Discussion to current guideline recommendations for colorectal cancer screening, and we specifically state in the discussion section that "several tests are currently recommended for

colorectal cancer screening." Each of these tests has different features and none clearly emerges as the "gold standard." Fecal occult blood test is the least invasive test, whereas colonoscopy is the most accurate. The authors have ignored our large paragraphs and have focused on a phrase we had in Materials and Methods that was merely indicating that due to recent studies (4) colonoscopy was now emerging as an important screening tool (specifically as the most effective test for detecting adenomas and cancers), whereas in the past it was considered primarily for diagnosis. Certainly, a poor choice of words on our part, but this phrase has been pulled out of context and misinterpreted.

Third, we do agree that it is impossible to know whether the respondents accurately identified sigmoidoscopies and colonoscopies. These are clearly the drawbacks of self-reports that are not verified through medical record abstractions or other means to ascertain validity and we have reported this as a limitation of our study. Furthermore, this drawback not only impacts the reporting of sigmoidoscopies and colonoscopies but also other tests and timing of the tests reported in the NHIS. There is ongoing discussion and research as to whether self-reports of fecal occult blood tests are underreported or overreported (5).

Fourth, we acknowledge that the NHIS is an in-person interview survey and not a telephone survey, an error that was unfortunately overlooked during our internal review process. The authors also indicate that we did not report on combined tests, such as fecal occult blood test and sigmoidoscopy, which is recommended by guidelines. In our discussion, we provide the explanation that "sufficient sample for combined fecal occult blood test and sigmoidoscopy testing was not available."

Finally, we do agree that the NHIS is a very valuable tool that is a great resource to all researchers. The richness of the data in the NHIS allows for a variety of approaches and methods, each with their own advantages and disadvantages. As discussed,

the NHIS is not without several limitations. Future efforts to collect more detailed information on all colorectal cancer screening tests, specifically distinguishing between colonoscopy and sigmoidoscopy, will be valuable to policy makers as there is a significant body of literature that indicates that patients have preferences for specific tests (6) and all endoscopic tests are not perceived equally. In addition, a limitation we have noted in our study is that the 2000 NHIS did not include double-contrast barium enema (a recommended colorectal cancer screening test) and, therefore, none of the three studies discussed here include all the recommended colorectal cancer screening tests. We hope that the discussions raised by our study will increase awareness on the type of information and quality of the data available in the NHIS and other sources of data on colorectal cancer screening and lead to improved efforts to gather more comprehensive data in the future.

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