

## Impact of quantitative information and a nudge on attitudes toward colorectal cancer screening

October 25, 2010

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**Purpose:** Research in behavioral economics suggests that individuals facing complex decisions benefit from being given a “nudge” towards one option, especially in situations where making any choice, as opposed to none, is preferred. Decisions about colorectal cancer (CRC) screening are of this type, since several tests are recommended by guidelines, including colonoscopy, sigmoidoscopy, and stool testing. No studies have examined the use of a nudge in the context of CRC screening. In this study, we compared the effects of two different approaches to providing quantitative information about CRC risk and benefits of screening, one with and one without a nudge towards fecal immunochemical testing (FIT) (a stool test).

**Method:** 186 adults aged 40-70 years visiting a state fair viewed a general video about CRC screening and then were randomized to view a computer-based presentation of natural frequency data regarding the risk of CRC and the risk reduction provided by the three most common tests. Half (n=93) were randomized to view a version that included a nudge towards FIT, while the other half viewed an identical version without the nudge. Subjects completed a survey before and after the presentation that assessed interest in CRC screening (10-point scale, with 1 = not interested at all to 10 = very interested) and preferred test (stool testing, sigmoidoscopy, or colonoscopy). Paired t-tests were used to assess differences in interest before and after viewing the presentation (differences by group compared with two-sample t-tests). Test preferences were compared using chi-square tests.

**Result:** Subjects reported significantly greater interest in CRC screening after viewing the natural frequency data, compared to baseline (8.9 vs. 8.3,  $p < .001$ ), whether they received the nudge (8.8 vs. 8.2) or not (9.0 vs. 8.3) ( $p=.59$ ). A greater proportion of subjects who received the nudge chose FIT as their preferred test compared to those who viewed the presentation without the nudge (50% vs. 30%,  $p=.007$ ), and were more likely to change their preference from colonoscopy at baseline to FIT after the presentation (27% vs. 7%,  $p = .005$ ).

**Conclusion:** Providing quantitative information increases interest in CRC screening and providing a nudge towards one test can have a significant impact on individuals’ test preferences. Further research in a clinical setting is needed to confirm and more precisely characterize these effects.

### Citation:

Schwartz PH, Imperiale TF, Kloss HN, Perkins SM, Rawl SM, Sachs GA, and Meslin EM. Impact of Quantitative Information and a Nudge on Attitudes toward Colorectal Cancer Screening. Proceedings of the 32nd Annual Meeting of the Society for Medical Decision Making. 2010 October 25. Toronto, Ontario, Canada.