

BRIEF COMMUNICATION

Celebrity Endorsements of Cancer Screening

*Robin J. Larson, Steven Woloshin,
Lisa M. Schwartz, H. Gilbert Welch*

Celebrities often promote cancer screening by relating personal anecdotes about their own diagnosis or that of a loved one. We used data obtained from a random-digit dialing survey conducted in the United States from December 2001 through July 2002 to examine the extent to which adults of screening age without a history of cancer had seen or heard or been influenced by celebrity endorsements of screening mammography, prostate-specific antigen (PSA) testing, or sigmoidoscopy or colonoscopy. The survey response rate was 72% among those known to be eligible and 51% among potentially eligible people accounting for those who could not be contacted. A total of 360 women aged 40 years or older and 140 men aged 50 years or older participated in the survey. Most respondents reported they “had seen or heard a celebrity talk about” mammography (73% of women aged 40 years or older), PSA testing (63% of men aged 50 years or older), or sigmoidoscopy or colonoscopy (52% of adults aged 50 years or older). At least one-fourth of respondents who had seen or heard a celebrity endorsement said that the endorsement made them more likely to undergo mammography (25%), PSA testing (31%), or sigmoidoscopy or colonoscopy (37%). [J Natl Cancer Inst 2005;97:693–5]

The public hears about cancer screening from multiple sources, including family, friends, health care providers, cancer organizations, and public health agencies. Messages about cancer screening from celebrities are becoming increasingly common. These messages

are typically delivered in one of two ways—either when celebrities endorse screening tests in news stories related to their own diagnosis of cancer or when celebrities become involved in promotional campaigns for specific cancer screening tests. The endorsements often come from highly engaging personalities and include strong emotional messages, such as former New York City Mayor Rudy Giuliani’s statement about prostate-specific antigen (PSA) testing for prostate cancer, “Of course, we probably wouldn’t be talking about this if I hadn’t gotten screened ...” and subsequent plea, “If you’re over 50 or in a high risk group, please get screened—now” (1), or journalist Katie Couric’s advice about colonoscopy screening for colon cancer, “Don’t end up saying ‘if only.’ Get tested.” (2). However, little is known about the impact of celebrity endorsements of cancer screening on the public. Here we present the first data from a nationally representative sample of Americans of screening age about their exposure to celebrity endorsements of cancer screening and whether such endorsements influenced their decisions about cancer screening.

This study was part of a larger telephone survey project that assessed Americans’ attitudes about cancer screening, specifically mammography, PSA testing, and sigmoidoscopy or colonoscopy; details about the methods have been published previously (3). The survey development process included focus groups, cognitive interviews, and pilot testing. The idea of asking questions about celebrity endorsements was actually raised by participants in the focus groups. The exact wording of the survey questions appears in the figures. The survey project was approved by the institutional review boards at Dartmouth Medical School (Hanover, NH) and the University of Massachusetts (Boston, MA).

Briefly, we used random-digit dialing to obtain a national probability sample of 4000 households with telephone service in the continental United States. The sample was further restricted to the groups for which the screening tests are most often recommended—women aged 40 years or older and men aged 50 years or older. Individuals with a history of cancer were excluded. From December 2001 through July 2002, professional interviewers from the Center for Survey Research at the University of Massachusetts completed

telephone interviews with 500 eligible adults (360 women and 140 men). As suggested by the American Association of Public Opinion Research (4), we report two response rates: 72% (500/697) among those known to be eligible and 51% (500/984) among those estimated to be eligible (attempting to account for potentially eligible people among those who could not be contacted).

We restricted our analyses of each screening test to the subgroup of respondents who were most likely, according to current test-specific screening guidelines, to be screened by that test; i.e., the denominators were women aged 40 years or older ($n = 360$) for mammography, men aged 50 years or older ($n = 140$) for PSA testing, and all respondents aged 50 years or older ($n = 344$) for sigmoidoscopy or colonoscopy. We created weights to adjust for the differential probability of selection into our sample by accounting for the number of eligible adults and telephone lines in each household. We also created poststratification weights to match the age, sex, race, Hispanic origin, educational attainment, and region of the 2000 U.S. Census; however, because analyses using these weights yielded results that were nearly identical to those using only the probability weights (i.e., $\pm 1\%$ – 2%) and to avoid the assumptions inherent in poststratification weighting, we present only the results obtained using the probability weights. The characteristics of the study sample closely approximate those of adults of screening age in the United States. Comparisons were made using the chi-square test. All statistical tests were two-sided. The relationship between education level of respondents and their having seen or been influenced by an endorsement was adjusted for age using direct standardization. Analyses were performed using STATA statistical

Affiliations of authors: VA Outcomes Group, Department of Veteran Affairs Medical Center, White River Junction, VT; and Center for the Evaluative Clinical Sciences, Dartmouth Medical School, Hanover, NH.

Correspondence to: Robin J. Larson, MD, VA Outcomes Group (111B), Department of Veteran Affairs Medical Center, White River Junction, VT 05009 (e-mail: robin.j.larson@dartmouth.edu).

See “Notes” following “References.”

DOI: 10.1093/jnci/dji117

Journal of the National Cancer Institute, Vol. 97, No. 9, © Oxford University Press 2005, all rights reserved.

software (version 8.2; College Station, TX). The margins of error were $\pm 5\%$ for the mammography sample, $\pm 8\%$ for the PSA testing sample, and $\pm 5.5\%$ for the sigmoidoscopy/colonoscopy sample.

When asked "Have you ever seen or heard celebrities like Rosie O'Donnell and Nancy Reagan talk about getting mammograms," 73% of women aged 40 years or older responded "yes" (Fig. 1). Of these women, 71% reported that what they had heard from celebrities had had no effect on their plans to undergo screening mammography, and 25% reported that it made them more likely to undergo screening mammography (Fig. 2). Respondents with higher educational attainment were less likely to have heard a celebrity endorsement of mammography (68% of those with at least some college education versus 72% of those with a high school or less education) but were more likely to have been positively influenced by what they had heard (30% versus 24% "more likely" to undergo mammography). However, neither finding was statistically significant ($P = .40$ and $.31$, respectively).

Nearly two-thirds (63%) of men aged 50 years or older reported that they had "seen or heard celebrities like Norman Schwarzkopf talk about getting PSA testing" (Fig. 1). Most (63%) of these men reported that what they had heard from celebrities had no effect on their plans to undergo PSA screening, and 31% reported that it made them more likely to undergo PSA testing (Fig. 2). Respondents with higher educational attainment were statistically significantly more likely to have heard a celebrity endorsement of PSA testing (66% of those with at least some college education versus 42% of those with a high school or less education, $P = .01$) but were less likely to report being positively influenced by what they had heard (21% versus 40% "more likely" to have PSA testing). The latter effect was not statistically significant ($P = .10$).

Approximately half (52%) of adults aged 50 years or older reported that they had "seen or heard celebrities like Katie Couric talk about getting a sigmoidoscopy or colonoscopy" (Fig. 1). Most (59%) of these respondents reported that what they had heard from celebrities had no effect on their plans to undergo screening by sigmoidoscopy or colonoscopy, and 37% reported that it made them more likely to undergo a sigmoidoscopy

Have you ever seen or heard celebrities like . . .

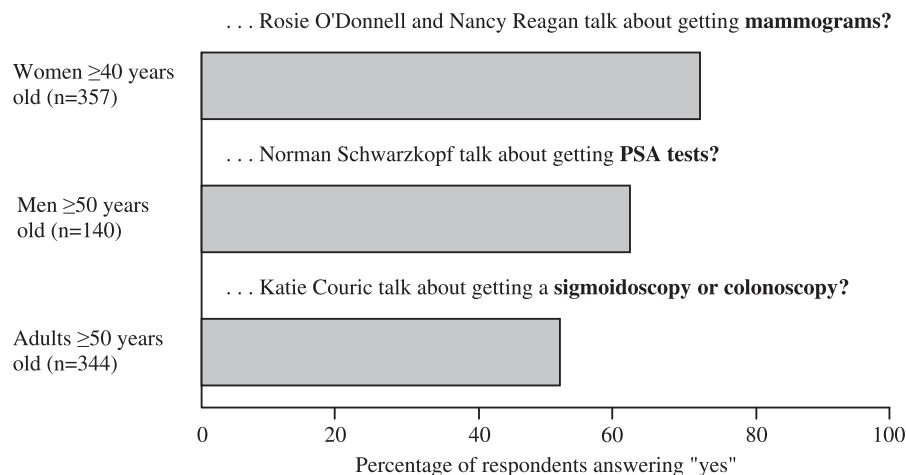


Fig. 1. Percentage of respondents who have seen or heard celebrity endorsements of various screening tests. Item nonresponse was 3/360 for women 40 years or older, 0/140 for men 50 years or older, and 1/345 for adults 50 years or older.

or colonoscopy (Fig. 2). Statistically significantly more women than men reported that they had heard a celebrity endorsement of sigmoidoscopy or colonoscopy (60% versus 42%, $P = .004$); however, there was no statistically significant difference between the percentages of women and men who reported that having heard an endorsement made them "more likely" to undergo sigmoidoscopy or colonoscopy (38% of women versus 36% of men, $P = .97$). Respondents with higher educational attainment were more likely to have heard a celebrity endorse-

ment of sigmoidoscopy or colonoscopy (54% of those with at least some college education versus 42% of those with a high school or less education, $P = .03$) and to report being positively influenced by what they had heard (38% versus 25% "more likely" to undergo sigmoidoscopy or colonoscopy, $P = .08$), although the latter effect was not statistically significant.

In summary, we found that more than one-half of the adults in this nationwide survey had seen or heard celebrity endorsements of cancer screening tests.

If you have seen or heard celebrities talk about screening . . . in general, do you think what you've seen or heard has made you more likely to have [screening test], less likely, or has it had no effect?

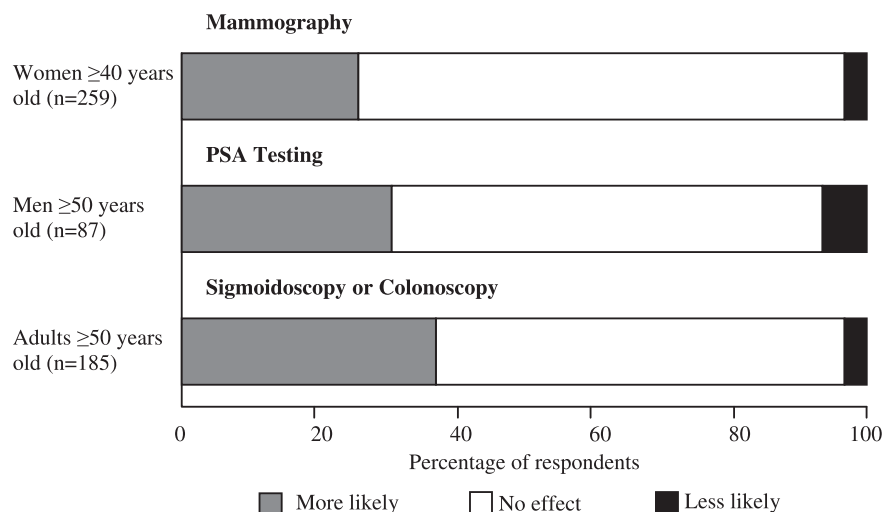


Fig. 2. Influence of celebrity endorsements on the decision to be screened. Item nonresponse was 0/259 for women 40 years or older, 1/88 for men 50 years or older, and 1/186 for adults 50 years or older.

Although most of the respondents who had heard such endorsements reported that the endorsement did not influence their likelihood of having the test, more than one-fourth of those who had seen or heard a celebrity endorsement reported that it made them more likely to undergo the promoted screening test. However, it is not known whether celebrity endorsements increase screening utilization among individuals who stand to benefit the most from the promoted screening test.

Our study has several limitations. First, our study was restricted to adults of recommended screening age. As a result, we have no information on whether celebrity endorsements affect screening utilization among individuals for whom screening is not recommended. Second, the responses reported here may be influenced by social desirability (i.e., the tendency of respondents to want to give what they perceive to be the “right answer”). If some respondents thought that the “right answer” was to not be influenced by celebrity endorsements, our results would underestimate their impact. On the other hand, if some respondents thought that the “right answer” was to be influenced by celebrity endorsements, our results would overestimate their impact. We cannot determine the net effect of social desirability on our findings. Third, as in any survey, the wording and placement of the questions and the self-reporting of responses could have affected the findings. Fourth, the selection of specific celebrity examples might have influenced the results.

Whether to undergo cancer screening is a complex decision—early detection of cancer will help some people, but it can create problems for others, such as unnecessary testing and treatment (5). Consequently, screening is increasingly recognized as a two-edged sword. Indeed, multiple organizations (6–8) now actively encourage thoughtful discussion about cancer screening decisions, and

the U.S. Preventive Services Task Force recently issued guidelines to facilitate informed decision making about cancer screening (9). Although some in the public health community may feel that the stronger the evidence of benefit for a screening test, the stronger the recommendation for screening should be, we argue that even with the strongest evidence, people need balanced and accurate information about both the benefits and harms of testing because individuals may assign different values to the trade-offs involved.

Celebrity endorsements of cancer screening tests typically consist of one-sided messages that either assert that the celebrity’s life was saved by a cancer screening test (Rudy Giuliani example) or suggest that the life of a loved one was lost due to a failure to be screened (Katie Couric example). There is little question that celebrities can have a powerful impact on the public and that their influence can be put to good use. However, when it comes to public health endorsements, we feel that celebrities should be judicious in using their powers of persuasion. It is appropriate for celebrities to discourage behaviors that jeopardize the health of others (such as driving while intoxicated or high-risk sexual behaviors) or to encourage healthy behaviors that have no obvious downsides (such as using bike helmets or avoiding tobacco) (10). However, when it comes to communicating about complex decisions such as cancer screening, the goal should not be to persuade but to inform. Thus, we see no obvious role for celebrity endorsement of cancer screening.

REFERENCES

- (1) Falcon MSS. Giuliani defeats prostate cancer. USA Today.com. Available at: http://www.usatoday.com/news/health/spotlighthealth/2002-10-14-giuliani_x.htm [Last accessed: April 6, 2004.]
- (2) National Colorectal Cancer Research Alliance. “Don’t end up saying ‘if only.’ Get tested.” Available at: <http://www.eifoundation.org/national/>

[nccra/pdfs/psa_katie.pdf](http://www.eifoundation.org/national/nccra/pdfs/psa_katie.pdf). [Last accessed: April 6, 2004.]

- (3) Schwartz LM, Woloshin S, Fowler FJ Jr, Welch HG. Enthusiasm for cancer screening in the United States. *JAMA* 2004;291:71–8.
- (4) American Association of Public Opinion Research. Standards and best practices. Standard definitions: final dispositions of case codes and outcome rates for surveys. Available at: http://www.aapor.org/default.asp?page=survey_methods/standards_and_best_practices/standard_definitions. [Last accessed: December 27, 2004.]
- (5) Welch HG. Should I be tested for cancer? Maybe not and here’s why. Berkeley (CA): University of California Press; 2004.
- (6) Institute of Medicine Committee on Quality of Health Care in America. Crossing the quality chasm: a new health system for the 21st century. Washington, DC: National Academy Press; 2001.
- (7) Winker MA, Flanagin A, Chi-Lum B, White J, Andrews K, Kennett RL, et al. Guidelines for medical and health information sites on the Internet: principles governing AMA web sites. American Medical Association. *JAMA* 2000;283:1600–6.
- (8) Department of Veterans Affairs. VHA Notice 99-02. Shared decision making. June 15, 1999. Available at: <http://www.va.gov/pub/direc/health/notice/n9902.pdf>. [Last accessed: April 8, 2004.]
- (9) Sheridan SL, Harris RP, Woolf SH. Shared Decision-Making Workgroup of the USPSTF. Shared decision making about screening and chemoprevention. a suggested approach from the U.S. Preventive Services Task Force. *Am J Prev Med* 2004;26:56–66.
- (10) Schwartz LM, Woloshin S. The case for letting information speak for itself. *Eff Clin Pract* 2001;4:76–9.

NOTES

Supported by grant DAMD17-969MM-6712 from the Department of Defense Breast Cancer Research Program, grant CA91052-01 from the National Cancer Institute, and Research Enhancement Award (03–098) from the Department of Veterans Affairs awarded to the VA Outcomes Group. R. J. Larson was supported by a Veterans Affairs Special Fellowship in Outcomes Research. S. Woloshin and L. M. Schwartz were supported by Veterans Affairs Career Development Awards in Health Services Research and Development and by Robert Wood Johnson Generalist Faculty Scholar Awards. Manuscript received October 22, 2004; revised February 15, 2005; accepted February 18, 2005.