



---

Different Response Rates in a Trial of Two Envelope Styles in Mail Survey Research

Author(s): David A. Asch and Nicholas A. Christakis

Source: *Epidemiology*, Vol. 5, No. 3 (May, 1994), pp. 364-365

Published by: Lippincott Williams & Wilkins

Stable URL: <http://www.jstor.org/stable/3702843>

Accessed: 29/10/2008 12:51

---

Your use of the JSTOR archive indicates your acceptance of JSTOR's Terms and Conditions of Use, available at <http://www.jstor.org/page/info/about/policies/terms.jsp>. JSTOR's Terms and Conditions of Use provides, in part, that unless you have obtained prior permission, you may not download an entire issue of a journal or multiple copies of articles, and you may use content in the JSTOR archive only for your personal, non-commercial use.

Please contact the publisher regarding any further use of this work. Publisher contact information may be obtained at <http://www.jstor.org/action/showPublisher?publisherCode=lww>.

Each copy of any part of a JSTOR transmission must contain the same copyright notice that appears on the screen or printed page of such transmission.

JSTOR is a not-for-profit organization founded in 1995 to build trusted digital archives for scholarship. We work with the scholarly community to preserve their work and the materials they rely upon, and to build a common research platform that promotes the discovery and use of these resources. For more information about JSTOR, please contact [support@jstor.org](mailto:support@jstor.org).



# Different Response Rates in a Trial of Two Envelope Styles in Mail Survey Research

David A. Asch<sup>1-4</sup> and Nicholas A. Christakis<sup>1-3</sup>

To determine whether academic physicians' response rates to a mail survey depend on the envelope used to mail the survey, we randomized 901 internists affiliated with a university department of medicine to receive a survey in either a university envelope or a Veterans Affairs envelope. The

response rate among those receiving the Veterans Affairs envelope (41%) was 20% higher than the response rate among those receiving the university envelope (34%). We conclude that the packaging of a mail survey can influence the response rate. (*Epidemiology* 1994;5:364-365)

**Keywords:** data collection, health services research, study design, survey methods, Veterans Affairs.

Surveys of physicians have gained importance as investigators have explored differences in physicians' practice patterns and the reasons that underlie them. Using mail surveys, investigators can study wide or targeted populations defined along existing mailing lists. In doing so, these investigators borrow techniques developed largely to support the direct mail industry.<sup>1-4</sup> In contrast to direct marketers from commercial enterprises, however, academic investigators rarely have the resources to spotlight their mailings and enhance response rates. A high response rate is essential not only because it reduces the concern that the responders are not a representative sample, but also because it reduces the cost per response.

Past investigators have examined alternative ways to increase mail survey response rates among health professionals, and previous research has demonstrated that response rates increase if subjects are offered

monetary incentives<sup>5</sup> or if surveys are delivered by certified mail or non-U.S. Postal Service carriers.<sup>6</sup> These strategies, however, can be implemented only by increasing costs. Other investigators have demonstrated that response rates can be improved also by using stamped rather than metered return envelopes or by using commemorative stamps rather than regular stamps on return envelopes.<sup>7,8</sup> These techniques may improve response rates without increasing costs.

We had the opportunity to use franked Veterans Affairs (VA) envelopes for the initial mailing of a survey of academic physicians. We were concerned, however, that questionnaires mailed in VA envelopes might be returned less frequently than those mailed in envelopes from the medical school with which respondents were affiliated. The latter envelopes might convey greater academic prestige. Our concern was that in using VA envelopes we would save some out-of-budget charges, but we would achieve a lower response rate.

From the <sup>1</sup>Division of General Internal Medicine, University of Pennsylvania School of Medicine; <sup>2</sup>Leonard Davis Institute of Health Economics and <sup>3</sup>Robert Wood Johnson Clinical Scholars Program, University of Pennsylvania; and <sup>4</sup>Veterans Affairs Medical Center, Philadelphia, PA.

Address reprint requests to: David A. Asch, Division of General Internal Medicine, 317 Ralston-Penn Center, 3615 Chestnut Street, Philadelphia, PA 19104-2676.

This work was supported by the Hartford Foundation and by a Biomedical Research Support Grant from the National Institutes of Health. When this work was performed, David A. Asch was a Measey Foundation Faculty Fellow and a John A. Hartford Foundation Fellow, and Nicholas A. Christakis was a Robert Wood Johnson Clinical Scholar.

Submitted August 9, 1993; final version accepted October 25, 1993.

© 1994 Epidemiology Resources Inc.

## Methods

This study was conducted as an adjunct to another study designed to investigate physicians' attitudes toward the withdrawal of life-sustaining therapy.<sup>9</sup> A questionnaire was sent to the home address of each individual on the mailing list of all residents, fellows, and faculty of an academic department of medicine spanning 24 area hospitals. Each individual was sent one of eight slightly different versions of the questionnaire, selected at random, along with a cover letter from the department chair and a return envelope. No monetary incentive was offered. For all subjects, the return envelope was a franked VA envelope.

By random allocation, on-half of the subjects re-

ceived their materials in a franked VA envelope and the other half in a metered envelope from the affiliated university. Both envelopes were addressed and handled identically, except that a 3- x 5½-inch label bordered in the affiliated university's colors and containing the university's return address was affixed on the VA envelopes. This extra label was affixed to ensure that both the VA and the university envelopes indicated their link with a university research project.

## Results

The initial mailing list contained 956 names. Of these, 55 were deleted because they had no address (3), they were members of the research team (2), or they had neither an M.D. nor D.O. degree (50). We studied the remaining 901 subjects. Of these, 452 received university envelopes, and 449 received VA envelopes.

We defined a response as any completed questionnaire returned within 50 days. Respondents to the university and VA envelopes did not differ importantly with respect to proportion at rank of "attending" (77% vs 67%); proportion with VA affiliation (3.4% vs 3.3%); proportion male (74% vs 84%); mean age (42 years vs 40 years); proportion of general internists (20% vs 27%); proportion Jewish (41% vs 42%). We found that 154 (34%) questionnaires sent in university envelopes were returned, and 184 (41%) questionnaires sent in VA envelopes were returned (difference = 0.07; 95% confidence interval = 0.01-0.13).

## Discussion

Our results demonstrate a greater response rate among those receiving the survey in a VA envelope than among those receiving a university envelope. Although the absolute difference in magnitude was not large (7%), in relative terms approximately 20% more surveys were returned when mailed in VA envelopes than when mailed in university envelopes. This difference occurred in the direction opposite to our intuitions. We believed that the university envelopes would convey greater academic prestige. We therefore expected a tradeoff between our out-of-budget expenses and our response rate. Instead, we found that the use of VA envelopes both lowered our expenses and increased our response rate. Of course, the use of VA franked envelopes does not lower costs from the societal perspective. It merely shifts those costs elsewhere.

A variety of differences distinguish the two mailing strategies. The VA envelopes were yellow-brown, were franked, carried the VA logo, and contained an extra label. The university envelopes were white with blue ink, typical of university mailings, and were metered.

We cannot determine which of these differences underlies our results. Perhaps the VA envelope was more novel or conveyed greater authority, or the extra label was seen as unique or compelling. Perhaps subjects were desensitized to the university envelope because of frequent mailings in similar envelopes.

Whatever the explanation, the results convey an important conclusion. We have now modified our survey practices to use VA envelopes whenever possible. Is there a conclusion that can be of use to other investigators? In a narrow sense, some survey investigators with VA affiliations may choose to follow our path. The most general conclusion we reach, however, is that the packaging of a survey mailing can make a difference in the response rate. Investigators planning a large survey mailing might consider piloting several alternative mailing strategies to population subsamples—perhaps as part of instrument pretesting—before embarking on the large mailing. Pretest comparisons of different mailing strategies might identify efficiencies. If the study design does not require all mailings to originate simultaneously, little may be lost by sending an initial salvo of mailings using different mailing strategies at first, and then completing the mailing using the strategy that achieves the highest response rate.

---

## Acknowledgments

The authors thank Betty Wade, Raoul Castellanos, and the mail service of the Philadelphia Veterans Affairs Medical Center for their contributions to this study.

---

## References

1. Dillman DA. *Mail and Telephone Surveys: The Total Design Method*. New York: John Wiley and Sons, 1978.
2. Kanuk L, Berenson C. Mail surveys and response rates: a literature review. *J Marketing Res* 1975;12:440-453.
3. Yu J, Cooper H. A quantitative review of research design effects on response rates to questionnaires. *J Marketing Res* 1983;20:36-44.
4. Armstrong JS, Lusk EJ. Return postage in mail surveys: a meta-analysis. *Public Opin Q* 1987;51:233-248.
5. Camuñas C, Alward RR, Vecchione E. Survey response rates to a professional association mail questionnaire. *J NY State Nurses Assoc* 1990;21:7-9.
6. Rimm EB, Stampfer MJ, Colditz GA, Giovannucci E, Willett WC. Effectiveness of various mailing strategies among nonrespondents in a prospective cohort study. *Am J Epidemiol* 1990;131:1068-1071.
7. Choi BCK, Pack AWP, Purdham JT. Effects of mailing strategies on response rate, response time, and cost in a questionnaire study among nurses. *Epidemiology* 1990;1:72-74.
8. Shiono PH, Klebanoff MA. The effect of two mailing strategies on the response to a survey of physicians. *Am J Epidemiol* 1991;134:539-542.
9. Christakis NA, Asch DA. Biases in how physicians choose to withdraw life support. *Lancet* 1993;342:642-646.