

Tracking Managed Care: The Importance of a Cash Incentive for Medical Director Response to a Survey

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Abstract

Objective: To assess the impact of a monetary incentive in a survey mailed to medical directors of large medical groups and independent practice associations (IPAs).

Study Design: Mailed survey.

Methods: We mailed a survey to the medical directors of all medical groups and IPAs contracted with Blue Cross CaliforniaCare, a large California managed care health plan (n = 174). After 2 mailings without any monetary incentive, we included a \$50 bill in the third mailing to increase the response rate.

Results: Only 46 medical directors responded to the first and second mailings (response rates of 17% and 13%, respectively). The third mailing, which included a \$50 bill attached to the front of the survey, yielded 78 responses (66%), for an overall total of 124 (76%). We found no significant differences in the physician organizations of medical directors who responded to the mailing with the \$50 incentive compared with the physician organizations of those who responded to 1 of the first 2 mailings, although medical directors who responded without the finan-

cial incentive were more likely to report that their organization had staff for quality assurance (96% vs 82%; $P \leq .03$).

Conclusion: Including a \$50 bill improved the rate of response to a survey mailed to medical directors from 13%-17% to 66%.

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The rapid rise of managed care in the last decade has been paralleled by equally dramatic changes in physicians' practice organizations.¹⁻⁴ To understand the impact of this reorganization of medical practice, researchers are actively trying to characterize the new and evolving physician organizations. Such studies often rely on information obtained from knowledgeable leaders in these organizations, typically the medical director.^{5,6} However, response rates of physicians to mailed surveys are generally lower than those of other subjects.^{7,8} Medical directors, as physicians who have assumed a leadership role and administrative responsibilities, present a similar if not greater challenge to researchers.

Researchers have found a number of techniques to be effective in increasing physician response rates, including personalizing the mailing, providing continuing education credit, contributions to charity, and direct financial incentives.⁹⁻¹³ In addition, the amount of the financial incentive appears to affect the physician response rate. In 2 randomized trials where the amount of a cash incentive included with

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a mailed questionnaire was randomly assigned (£5 vs £10 in 1 trial and \$2 vs \$5 in the other), both had a one-third higher response rate in the group of physicians who received the higher incentive.^{12,14} In addition, prepayment of the monetary incentive appears to produce a higher response rate from physicians than payment on completion of the survey (78% vs 66% response rates).⁷ This is consistent with the reported effects of monetary incentives on response rates to mail surveys of nonphysicians.¹⁵⁻¹⁷ It is not known how physicians who have assumed leadership and administrative responsibilities as medical directors respond to mailed surveys or similar incentives.

While developing an intervention to improve colorectal cancer screening rates in managed care organizations, we needed information about the organizational structure and cancer screening practices of California medical groups and independent practice associations (IPAs). We designed a survey to be completed by the medical director of the medical group or IPA in order to identify eligible participants for our study. Because we had very low response rates to the first 2 mailings of this survey, we included a \$50 bill in the third mailing.

In this paper, we present the results of these different mailing strategies. We compare early responders with those who responded only after inclusion of the financial incentive with respect to sociodemographic characteristics, organizational structures, and responses to the outcome variables.

Table 1. Responses to 3 Sequential Mailings to Medical Directors with and without a \$50 Incentive

Mailing	Response Rate
First (n = 174) Responses = 28 Mergers = 2 Dissolved = 3	17%
Second (n = 141) Responses = 18	13%
Third with \$50 (n = 123) Responses = 78 Mergers = 2 Dissolved = 3	66%
Overall responses = 124	76%

... METHODS ...

In September 1997, we mailed a 10-page survey, along with a cover letter, informed consent form, and a return postage-paid envelope, to the medical directors of all medical groups and IPAs contracted with Blue Cross CaliforniaCare, a large for-profit California managed care health plan (n = 174). Blue Cross CaliforniaCare provided us with the contact information and the most up-to-date addresses from their contracting files. The cover letter, signed by the study's principal investigator and the medical director of the health maintenance organization (HMO), described the purpose of the study and assured the participants that their responses would remain completely confidential and would not be shared with anyone in the health plan. The questionnaire itself consisted of 118 items and took approximately 15 minutes to complete. The questions addressed organizational structure, guidelines, quality assurance programs, cancer screening practices, and use of systems to increase cancer screening, as well as the medical director's beliefs about cancer screening and demographic information.

All nonrespondents were contacted by phone after the first mailing. The accuracy of the contact information and addresses was determined and updated when necessary. Two months later, in November 1997, a second mailing was sent to nonresponders. After more telephone follow-up, a third mailing, which included a \$50 bill, was sent in a US Postal Service priority mail envelope to persistent nonresponders in May 1998. All telephone follow-up was performed by physician researchers because other members of our research team had difficulty making telephone contact with the medical directors.

Univariate descriptive statistics were obtained using SAS statistical analysis software, version 6.12.

... RESULTS ...

One hundred twenty-four questionnaires were returned (Table 1). After the first mailing, only 28 questionnaires were returned. From telephone contact with the remaining 146 medical directors' offices, we learned that 3 physician organizations had dissolved and 2 had merged with others in our sample. Adjusting for these withdrawals, the response rate to the first mailing was 17%. Eighteen medical directors responded to the second mailing (n = 141), using the updated contact information (13% response rate). The third mailing, which

included a \$50 bill attached to the front of the survey, yielded 78 responses, for an overall total of 124. In addition, 3 more physician organizations had dissolved and 2 had merged with other groups in our sample. Thus, the response rate to the third mailing was 66% and our overall response rate was 76%.

We found no significant differences in the physician organizations of medical directors who responded to the mailing with the \$50 incentive compared with those of medical directors who responded to 1 of the first 2 mailings, whom we refer to as "altruistic responders" (Table 2). Although a slightly greater percentage of IPA medical directors were \$50 responders, this difference was not statistically significant. We found no differences between the physician organizations of the \$50 responders and those of altruistic responders with respect to the number of capitated lives, the percentage of capitated patients, the number of practice sites, the average distance between practice sites, or financial arrangements with physicians. Interestingly, medical directors who responded without the financial incentive were more likely to report that their organization had staff for quality assurance (96% vs 82%; $P \leq .03$). Medical directors with quality assurance staff may be more likely to be dedicated administrators and have less clinical responsibility, thereby allowing them more time to participate in survey research. Alternatively, these medical directors may have relied on their staff to help complete the survey. Not surprisingly, medical directors who responded without the \$50 incentive were more likely to agree to participate in a study of cancer screening than those who only responded with the incentive (83% vs 68%; $P > .05$).

The demographic characteristics of medical directors who responded to the mailing with the \$50 incentive were similar to those of the altruistic responders (Table 3). Although more female medical directors responded after the \$50 incentive (we had no female medical directors respond to the first 2

Table 2. Characteristics of Physician Organizations: Comparison of Altruistic Responders and \$50 Responders*

Characteristic	Altruistic Responders (n = 46)	\$50 Responders (n = 78)
Percentage of IPAs	31%	69%
Percentage of medical groups	47%	53%
Mean year that physician organization was established	1977 (± 20 y)	1982 (± 15 y)
Mean no. of capitated lives	47,402 (± 45,585)	59,237 (± 145,584)
Mean percentage of patients under a capitated agreement	59% (± 29%)	61% (± 28%)
Mean no. of practice sites	64 (± 221)	65 (± 148)
Mean of longest distance between practice sites	34 miles (± 45 miles)	27 miles (± 22 miles)
Mean no. of physicians	287 (± 449)	317 (± 879)
Mean percentage of physicians who are employees	23% (± 32%)	30% (± 41%)
Mean percentage of physicians who are partners	19% (± 33%)	23% (± 34%)
Mean percentage of physicians who are at financial risk for patient care	43% (± 45%)	35% (± 41%)
Percentage of physician organizations who have a shared system of medical records	46%	35%
Percentage of physician organizations who have a QA program	100%	98%
Percentage of physician organizations who have QA staff†	96%	82%
Percentage of physician organizations who have some physician compensation tied to QA performance	24%	18%
Percent of medical directors who indicated that their physician organization would be willing to participate in a study	83%	68%

IPA = independent practice association; QA = quality assurance.

*Altruistic responders responded without monetary incentive; \$50 responders responded after provision of a \$50 incentive.

† $P \leq .03$.

... RESEARCH METHODS ...

mailings), this likely reflects the paucity of women in these leadership positions and not simply their reluctance to participate in research. Of note, responding with or without the \$50 incentive was not associated with any differences in the medical directors' reported beliefs about the efficacy of screening tests.

... DISCUSSION ...

This study has several limitations. First, the study evolved out of the real-world situation of an extremely low response rate. Therefore, our results are from an observation study instead of a more rigorous experimental design. Second, because we were attempting to improve a response rate that was untenably low for the research we were conducting, we used multiple interventions simultaneously to increase the response rate. In addition to the \$50 incentive, we mailed the survey in a priority mail envelope. We chose to do this because our experience in calling the offices of medical directors indicated that often they did not open their own mail (and thus would not receive the survey or the \$50 incentive) unless it was a priority mail envelope.

However, because we implemented both strategies simultaneously, we were unable to determine the independent effect of each strategy or the strategies' interaction.

Including a \$50 cash incentive and priority mailing improved our response rate from medical directors to a mailed survey from 13%-17% to 66%. A low response rate raises concern among researchers because the results obtained from such a sample may be biased. When only a limited number of individuals respond to a survey, their views may not reflect those of the population. Interestingly, we found no significant differences in the physician organizations, medical directors' characteristics, and medical directors' beliefs about the efficacy of cancer screening between \$50 responders and altruistic responders. Thus, we could find no evidence of bias in the results of our survey, either from nonresponse before the \$50 incentive or introduced by the financial reward itself. Nevertheless, the potential for bias exists when studies have a poor response rate, and a large cash incentive appears to significantly improve the response rates of medical directors to a mailed survey.

The monetary incentive used in this study was a \$50 bill. We do not know whether we would have

Table 3. Characteristics of Medical Directors: Comparison of Altruistic Responders and \$50 Responders

Characteristic	Completed Survey Without Incentive (n = 46)	Completed Survey With \$50 Incentive (n = 78)
Percent older than age 55	30%	26%
Percent male*	100%	88%
Percent with specialty of family medicine or internal medicine	76%	88%
Average time in position	4.9 y (± 3.5 y)	5.3 y (± 4.5 y)
Average time with medical group/IPA	9.2 y (± 6.1 y)	9.2 y (± 6.8 y)
Mean no. reporting belief		
Mammography reduces mortality	4.4 (± 0.7)	4.3 (± 0.9)
Pap smears reduce mortality	4.7 (± 0.5)	4.7 (± 0.6)
FOBT reduces mortality	3.5 (± 0.8)	3.5 (± 1.1)
Sigmoidoscopy reduces mortality	3.8 (± 0.7)	3.9 (± 0.8)

FOBT = fecal occult blood test; IPA = independent practice association.

**P* ≤ .02.

had the same response using a check for \$50. Berry and Kanouse reported that 26% of physician nonresponders who were mailed a check with their survey questionnaire cashed the check.⁸ In our sample, all but 3 (92%) of the nonresponders kept the \$50 bill. Thus, prepayment with a check might be a more cost-effective strategy if a check stimulates the same response rate from medical directors as cash. However, we do not know whether prepayment of the same monetary value by check would have the same effect as cash. Many hypotheses have been proposed to explain how financial incentives induce physicians to participate in survey research, including reciprocity, conveying the importance of the research, and inducing feelings of guilt.^{7,8,18} Notwithstanding their equivalent monetary value, cash and checks may have a different impact on the way physicians and medical directors view their participation in survey research.

Despite the acknowledged effectiveness of financial incentives in recruiting research participants, the practice of paying research subjects remains controversial. Although the payment of medical directors or physicians for participation in survey research does not appear to pose the same risk of "undue inducement" as it may for disadvantaged subjects participating in clinical trials, some of the same ethical issues of concern in other studies are also factors when attempting to recruit medical leaders in research. Dickert and Grady propose that of 3 models of payment, the "market model," the "wage payment model," and the "reimbursement model," the wage payment model represents the most ethical approach to paying research subjects.¹⁹ In the market model, the economic forces of supply and demand determine how much a research subject is paid. In the wage payment model, subjects are paid on the same scale, regardless of their incomes or opportunity costs, and payment is determined by the going wage for the subjects' time and effort in participating in the study. In contrast, in the reimbursement model, payment is provided to cover subjects' expenses so that participation is "revenue neutral." This latter approach would result in people who earn more being paid more for their research participation. The higher payment of physicians and medical directors for participation in survey research reflects the reimbursement model of payment for research participation and is less egalitarian than the wage payment model as a societal approach to encourage research participation. However, researchers would be faced with low response rates if they did not provide enough of a

financial incentive to offset the higher opportunity costs of physicians and medical directors devoting the time to a study.

In this study, we also considered the ethics of not paying the altruistic responders when we began offering the incentive to medical directors who had been nonresponders. Unfortunately, we did not have the resources to retrospectively pay \$50 to the prompt responders and the nonresponders. Although one could argue that we could have decreased our incentive to an amount that would have allowed us to pay all of the participants, our experience in tracking the medical directors had revealed an extremely high turnover rate as well as changes in addresses and phone numbers (after the first mailing, we had to update over 80% of our contact information even though our original information had been obtained from the Blue Cross contract office). Given the volatility of the medical directors and their offices, we believed that a financial incentive mailed 6 months after we had received their survey response would be unlikely to reach them (and might be intercepted by someone who had not participated in the survey). In addition, this research posed minimal risk to the respondents, and the altruistic responders had freely chosen to participate without the promise of any incentive or reward. Though it is not consistent with egalitarian principles that the late responders received \$50 and the altruistic responders did not, in no way were the rights of the altruistic responders violated. Nonetheless, the design of studies that are consistent with ethical principles and permit effective recruitment of the study population remains a challenge.

While this report on the effects of incentives is limited by being based a single observational study, we believe that these results are useful to researchers trying to understand managed care by surveying the medical directors of physician organizations. Further research is needed to delineate the most cost-effective strategies of engaging the participation of busy physician leaders in survey research. Research budgets must include the cost of providing these incentives if valid results are to be obtained. However, as researchers, regulatory agencies, and HMOs all seek to obtain information about the new structures of managed care, medical directors are becoming increasingly burdened with survey questionnaires. As they face a growing onslaught of survey questionnaires, it will become ever more difficult to engage their participation, even with monetary incentives. Instead of competing for the limit-

ed time of medical directors, researchers, regulatory agencies, HMOs, and physician organizations need to collaborate and develop a systematic way to make this information available.

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