



ISSUE BRIEF

STUDY PROTOCOL FOR SURVEYING VACCINE PROVIDERS- ACHIEVING A HIGH RESPONSE RATE USING GIFT CARD INCENTIVES

ABSTRACT Physician surveys often suffer from low response rates which may result in biased estimates. The aim of this study was to evaluate the perspectives of vaccine providers in Washington and California with an evidence-based survey instrument designed to maximize response rates. We drew a stratified random sample of 800 vaccine providers each from California and Washington, to survey providers about vaccine administration during public health emergencies. To maximize response rates we combined evidence-based protocol elements which included a gift card incentive, courier delivery, respondent-friendly questionnaire, multiple methods for survey return, and mixed-method follow-up. Completed questionnaires were returned by 619 out of 765 (81%) and 533 out of 777 (69%) eligible vaccine providers sampled in Washington and California, respectively. Use of similar protocol packages could improve the efficiency and accuracy of future physician surveys.

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INTRODUCTION

Physician surveys are a useful tool for examining attitudes and practices in healthcare settings. However, for results to be generalizable, surveys should be conducted such that response rates are maximized. A high response rate may limit non-response bias since there is less influence from systematic non-response as the pool of non-respondents shrinks. This approach also typically costs less per response received and are commonly interpreted as a proxy for survey quality ^{1; 2-4}. However, achieving a high response rate can be challenging, especially among physicians. In a meta-analysis of published mailed physician surveys over a one year period, Asch et al.⁵ found an average response rate of physician surveys was 54% compared to 68% among non-physician surveys.

Offering incentives is the most studied way to increase response rate for mailed surveys ^{6,7}. In one meta-analysis, financial incentives produced higher response rates in every physician survey included for analysis ⁸, even for those with a modest \$1 incentive ⁶. In studies comparing financial incentives to non-financial incentives, financial incentives appear to be more effective than non-financial incentives ^{9,10}. Comprehensive research has not been done on the effect of gift cards on response rates.

In addition to incentives, other survey elements have been proposed to increase response rates, either alone or in tandem with other elements and incentives. Generally, these elements serve to make the survey more respondent-friendly, increase the perceived legitimacy of the survey, or increase the likelihood that the physician reviews the survey. Shortening surveys appears to have the greatest effect ^{8,11}. Other helpful elements include focusing on salient topics to the study population ¹², including a stamped return envelope in the original mailing ^{13,14}, pre-notification of the survey, assurances of confidentiality ⁸, partnering with relevant organizations ¹⁵, personalization of survey materials ¹⁶, follow-up ⁸, and offering replacement surveys ¹⁶.

Despite widespread adoption of these methods, there has been no observed upward trend in response rates over time ^{3,17}. We conducted a survey of vaccine providers which, in addition

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to physicians, included nurses, medical assistants, managers, and pharmacists in Washington in September–November 2010 and in California in June–October 2011. The purpose of the survey was to assess provider experiences responding to the H1N1 pandemic and ongoing pertussis outbreaks. This paper describes the survey design and implementation for this study where we used a comprehensive evidence-based protocol which included a gift card incentive and other elements designed to maximize the response rates and return on investment while minimizing nonresponse bias.

DATA AND METHODS

- We drew a stratified random sample of 800 vaccine providers from 2,523 practices in Washington and 800 vaccine providers from 9,071 practices in California who ordered H1N1 vaccine from their respective state health department during the 2009-2010 H1N1 influenza pandemic, as previously described.¹⁸ The sample included women's health providers, correctional facilities, pharmacies, non-traditional vaccinators (e.g., alternative medicine, rehabilitation, occupational health, specialists), under-25-year-old priority group practices (e.g., pediatrics, college health services), pharmacies, government providers (e.g., Indian Health Service, local health jurisdictions, Veterans Affairs), hospitals and acute care, and traditional family practices.
- We worked closely with collaborating research partners from the Washington State Department of Health and Human Services, the California Department of Public Health and the Taskforce for Global Health to develop survey questions.
- In both surveys, we collected information on practice demographics, vaccine administration, participation in emergency preparedness activities, communication strategies and use of immunization registries. Questions and responses were collected using a variety of methods including multiple choice, Likert-like scales, and open-ended responses. Respondents were allowed to skip or refuse to answer any question.
- Identical printed and online survey instruments were used to collect data from study participants. The online survey tool was administered using Feedback Server version 2008.1 (Geneva, Switzerland). The printed survey instrument was a five-page (Washington) or four-page (California), single-sided questionnaire. The paper survey was single-sided in order to facilitate the option of returning the survey by fax.
- In each state we used the same process for survey delivery summarized in Figure 1. Two weeks prior to survey launch in Washington and one week prior to survey launch in California, sampled providers received a fax that informed them about the upcoming survey and outlined the survey goals. Two weeks later, we sent the survey by FedEx to study participants as a "survey kit". Each was addressed to the person identified by the state health department as the primary contact for ordering H1N1 vaccine at the practice. We used FedEx for delivery with the goals of increasing response rates and tracking signed receipt of the survey and gift card. Also included in the survey kit were a hard copy of the survey instrument, a cover letter, an informed consent framed as a Frequently Asked Questions (FAQ) page, a postage-paid addressed return envelope, a pen, and a \$25 gift card to Target to thank the contact for their time.

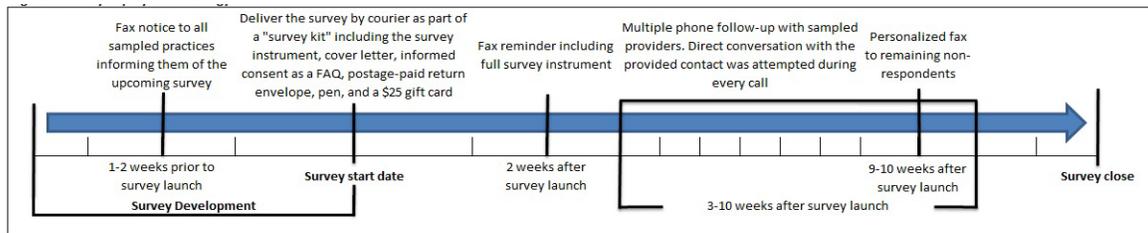


FIGURE 1. Survey methodology for survey delivery and follow-up

- The cover letter described the contents of the survey kit and the objectives of the survey, provided contact information of the investigators, and indicated ways that respondents could complete the survey (mail, fax, or online). In addition to addressing general concerns about confidentiality, the voluntary nature of the survey and the risks and benefits of the survey, the FAQ addressed gift card use, survey funding, and the multiple ways to return the survey. The website address of the online survey tool was chosen to be simple, easy to remember and was printed on all survey materials. Gift cards could be used in-store at any Target location or online at Target.com.
- In Washington, non-respondents received a fax reminder two weeks after the first mailing, which included the full survey kit. Three weeks after the first mailing, we attempted contact with non-respondents by telephone a maximum of three times over a period of 9 weeks. Nine weeks after the initial mailing, remaining non-respondents received a personalized fax reminder. The reminder addressed the targeted survey respondent by name, included the full survey instrument, a history of follow-up with that individual to date, and a reminder that his or her response was valuable for obtaining a representative sample. The California reminder process was the same except that phone follow-up extended to 10 weeks and remaining non-respondents after the personalized fax reminder received an additional fax reminder 12 weeks after the initial mailing. During phone follow up we attempted to personally reach the contact provided by the state health department in order to confirm their intention to participate. With the exception of the first follow up in Washington and the second follow up in California, if the provider contact could not be reached directly by telephone for follow up we left a voicemail message; during these rounds of follow up, we made multiple attempts to personally reach the provider contact. Missing, incomplete, or outdated information was updated during telephone follow-up with the vaccine provider.
- Completed surveys mailed or faxed back to the Emory investigators were stored within locked file cabinets within locked offices in the Rollins School of Public Health. When hard-copy survey data was uploaded for electronic data analysis, the data was stored on a secure drive on a server that was backed up daily and was accessible only to members of the study team.
- Web-based collection was designed to allow participants to enter data individually online with a user-friendly data entry screen. The data was stored on a secure website accessible only to the researchers. Upon closure of the survey the data was stored on a secure server that was backed up daily and was accessible only to members of the study team.

RESULTS

Completed questionnaires were returned by 619 out of 765 (81%) eligible vaccine providers sampled in Washington and 533 out of 777 (69%) eligible vaccine providers in California (Figure 2). Every provider type had a response rate higher than the average reported in meta-analyses^{3,5,6} including notably hard to reach sectors, such as correctional facilities. This study demonstrated that the use of a gift card incentive, along with comprehensive survey design factors can achieve a high response rate

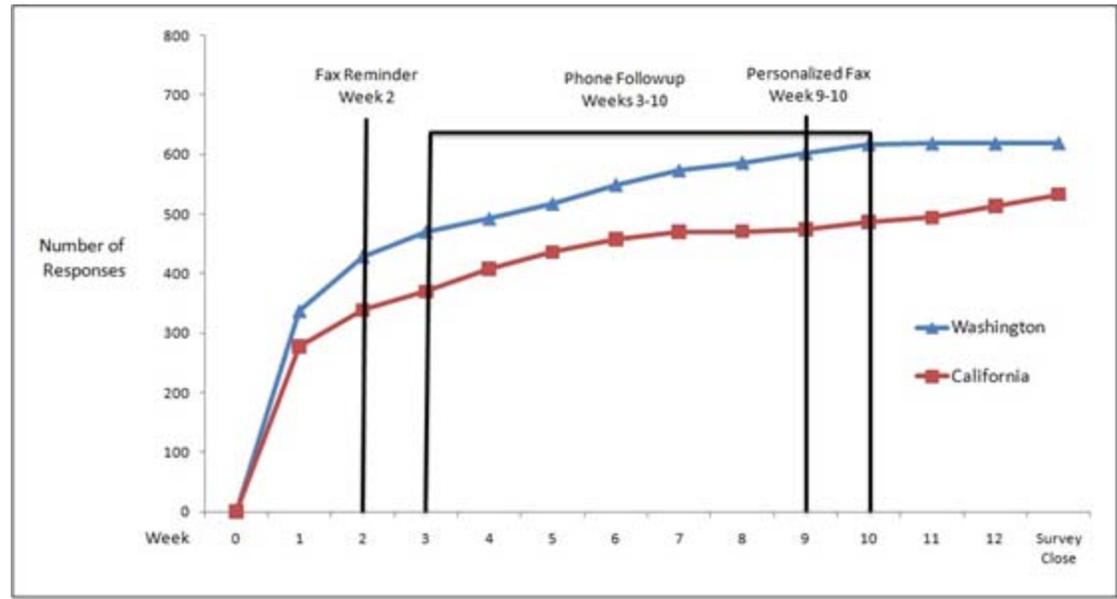


FIGURE 2. Survey response rate by timing of follow-up during California and Washington Surveys

without inducing bias. Beyond the use of gift card incentives, this protocol illustrates the importance of collaborations with local stakeholders, follow-up and other elements of survey design.

To our knowledge this study is the first published protocol of a mailed physician survey using gift card incentives. This protocol can act as a guide for achieving high response rates in future mailed physician surveys. The survey methodology is not specific to vaccine providers and can be tailored to any professional medical population. Use of similar protocols could improve the efficiency and accuracy of future physician surveys.

RECOMMENDATIONS

- *Future physician surveys should follow the protocol examined here, including a pre-survey fax informing them about the survey, gift card incentives, collaboration with local stakeholders, and follow-up*

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CONTACT

Saad B. Omer, MBBS MPH PhD
Assistant Professor
Global Health, Epidemiology, and Pediatrics
Emory University, Schools of Public Health & Medicine
& Emory Vaccine Center
1518 Clifton Road, NE
Room 7017 (CNR Building)
Atlanta, GA 30322
Phone: 404 727 9814
Fax: 404 727 4590
Email: somer@emory.edu

AUTHORS

Joshua Van Otterloo¹, Katherine Seib¹, Saad B. Omer, MBBS, MPH, PhD¹

1. Emory University Preparedness and Emergency Response Research Center, Atlanta, Georgia, USA

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