



Just the fax, please: Updating electronic/hybrid methods for surveying pharmacists



To the Editor:

International research and evaluation work increasingly has recognized the need for pharmacists to be part of comprehensive healthcare teams and be involved in responding to emergent healthcare issues.^{1,2} Surveys of pharmacists continue to be a primary source used to inform directions for such research and practice, both in the U.S.³ and internationally.⁴ Our research team's own work surveying pharmacists, which we described in *Research in Social and Administrative Pharmacy* in January, 2017⁵ and later in studies derived from the survey,^{6,7} relied heavily on established literature and best practices for surveying pharmacists.^{8,9} In preparing our 2016 hybrid survey, which used mailed paper invitations to an electronic instrument designed in Qualtrics, we carefully sought to avoid issues identified in previous cautionary literature.¹⁰ We expected that an enclosed pre-incentive would improve the response rate¹¹ (a procedure recently supported for physicians¹²) and leveraged the modern ubiquity of U.S. smartphone access with a QR code. We also noted the lack of data transcription error as a meaningful benefit of the hybrid method. After completing our 2016 census of managing pharmacists in Indiana (n = 993), we reported a 32.9% fully completed response rate at a cost of \$24.67 per completed response, and provided two additional recommendations for future surveys: inclusion of a QR code and noting directly in the study information sheet that pharmacists unable to accept the pre-incentive should donate it to charity.

Recently, in preparation for a multi-site cluster randomized trial of a preventive pharmacy intervention, our team conducted a feasibility census of Indiana managing pharmacists from July to October, 2018. We incorporated our prior lessons learned as well as emergent research indicating that a tan envelope likely improves response rate in a hybrid (mailed/telephone) survey relative to a white envelope.¹³ We also addressed letters to 'Dear Managing Pharmacist' rather than individual names, as, unlike in 2016, we were unable to obtain a current list of managing pharmacists working at each community pharmacy. This may have adversely affected our overall response rate. We sent two staggered invitation letters in tan envelopes (the first containing a \$5 pre-incentive), each with a unique identifier, QR code, and study information. Then, we conducted telephonic follow-up with non-respondent pharmacies (n = 753, attempting no more than two calls per pharmacy). After eliminating pharmacies we identified as closed, our census included 1018 Indiana community managing pharmacists. We obtained a base response rate of 37.6% and a final response rate of 31.4% (n = 320 fully complete surveys by managing pharmacists or individuals who took the survey on behalf of the managing pharmacist). Especially because of the telephonic follow-up, we are able to share several observations that may be useful to research teams conducting experimental assessment of pharmacist survey methodologies, or those interested in single-case experiential survey data.

- (a) QR codes continue to be an important means of surveying practicing pharmacists. 20.3% of the fully completed responses were completed via smartphone using QR codes.
- (b) Of 753 pharmacies whose managing pharmacist did not respond to the mailed invitations, 311 (41.3%) indicated during the first phone call that the best way to reach the managing pharmacist was by fax. Given that some pharmacies restrict Internet use and others do not have a consistent procedure for retrieving postal mail, inclusion of faxed invitations may be a low-investment method of improving response rate.
- (c) Very few pharmacists (n = 3) opted to complete the survey telephonically.
- (d) Pharmacists who completed the survey during the phone call period (n = 80) were sociodemographically similar to those who responded prior to that period (n = 302). By establishing a two-week lag time between the stated mailed survey end date and observing cessation of survey completion, we attribute the completion of the survey during the phone call period to the telephonic follow-up.
 - i. The gender ratio was equivalent ($\chi^2 = 0.017, 0.897$).
 - ii. More than 93% of all respondents were White; distribution of White/non-White pharmacists was equivalent ($\chi^2 = 1.140, 0.286$).
 - iii. The mean age in each group (41.81 years/41.86 years) was equivalent (t = 0.035, p = 0.972).
 - iv. The mean number of years as a licensed pharmacist in each group (16.50 years/16.89 years) was equivalent (t = -0.241, p = 0.809).
 - v. The ratio of complete to incomplete surveys was equivalent ($\chi^2 = 1.101, 0.295$).

Our 2018 census was not an assessment of survey methodology, so we acknowledge limited generalizability of the content presented herein. However, this is the second time that we have identified QR codes as a meaningful driver of response rate, and it is the first discussion, to our knowledge, of pharmacists' apparent receptiveness to faxed survey invitation, despite ubiquitous advances in secure digital health information technology.¹⁴ Although we used telephonic survey invitations for non-respondents, the additional respondents were sociodemographically similar to respondents to the mailed invitations. Additional research is needed to identify whether substantive responses differ by the contact methodology used for pharmacists. Based on general response rate research by the Pew Research Center¹⁵ and others,¹⁶ we hypothesize that they do not. If each of these findings is validated experimentally, it might be concluded that a 2-wave mail-and-fax survey invitation using a QR code and pre-incentive is the most cost-effective method of recruiting pharmacists for an electronic survey. At the same time, this recommendation, even if validated, may be limited to certain populations (e.g., U.S. pharmacists). For example, one study of pharmacists in Qatar used fax as a survey collection tool, and only 6

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of 126 collected surveys were obtained in that way, with the majority being submitted online.¹⁷ Given the increasing recognition of pharmacists as key members of the healthcare system, continued exploration of these topics is warranted.

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Declaration of interests

None of the authors report any conflicts that would influence or be perceived to influence the content of this paper.

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