

Electronic surveys: how to maximise success

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Abstract

Aim To draw on the researchers' experience of developing and distributing a UK-wide electronic survey. The evolution of electronic surveys in healthcare research will be discussed, as well as simple techniques that can be used to improve response rates for this type of data collection.

Background There is an increasing use of electronic survey methods in healthcare research. However, in recent published research, electronic surveys have had lower response rates than traditional survey methods, such as postal and telephone surveys.

Review methods This is a methodology paper.

Discussion Electronic surveys have many advantages over traditional surveys, including a reduction in cost and ease of analysis. Drawbacks to this type of data collection include the potential for selection bias and poorer response rates. However, research teams can use a range of simple strategies to boost response rates. These approaches target the different stages of achieving a complete response: initial attraction

through personalisation, engagement by having an easily accessible link to the survey, and transparency of survey length and completion through targeting the correct, and thereby interested, population.

Conclusion The fast, efficient and often 'free' electronic survey has many advantages over the traditional postal data collection method, including ease of analysis for what can be vast amounts of data. However, to capitalise on these benefits, researchers must carefully consider techniques to maximise response rates and minimise selection bias for their target population.

Implications for research/practice Researchers can use a range of strategies to improve responses from electronic surveys, including sending up to three reminders, personalising each email, adding the updated response rate to reminder emails, and stating the average time it would take to complete the survey in the title of the email.

Keywords Electronic, email survey, questionnaire, response rate, survey

Introduction

SURVEYS ARE an important method of collecting data in healthcare and nursing research. The goal of a survey can be to understand respondent attitude, knowledge and practice at a point in time or to compare changes over time (Duffett *et al* 2012). Developing a survey or questionnaire involves writing questions and statements in such a way as to enable the researchers to subsequently convert participants' responses into numbers and carry out a statistical analysis (Ratray and Jones 2007).

Surveys can be delivered to potential participants in different ways, including post, telephone, face-to-face and electronically. This paper draws

on the researchers' recent experience of developing and distributing a UK-wide electronic survey.

Electronic surveys

There are two main types of electronic survey. Web-based surveys invite prospective respondents to visit a website where the questionnaire can be found and completed online (Bryman 2012). Email surveys are either embedded in the text of an email or the questionnaire arrives as an attachment to an email that introduces it.

Electronic surveys have many advantages over other types of survey methodologies (Robson 2011). They can be cheaper than postal and telephone

surveys, for example, and Scott *et al* (2011) report a 38 per cent reduction in costs using an online survey.

The value of being able to easily analyse data using web-based survey packages cannot be overestimated (Jones *et al* 2008). Simple descriptive statistics are usually embedded, providing accessible concurrent analysis for researchers (Evans and Mathur 2005), and more complex statistical analysis can be achieved by exporting the data to appropriate statistical software. This feature, which is unique to electronic surveys, can reduce the time and resources required, especially when handling large datasets (Duffett *et al* 2012). This feature also reduces the chance of human error affecting the integrity of the dataset, which improves the reliability of subsequent analysis (Bryman 2012).

Potential selection bias of participants is a major challenge for individuals conducting research using an electronic survey (Ahern 2005), since it is not necessarily suitable for many groups of participants. As a result, it may not obtain a representative cross-section of the population (Jones *et al* 2008). A further drawback of electronic surveys is poorer response rates compared with other types of survey methodologies' (Robson 2011, Scott *et al* 2011). However, researchers can adopt a number of strategies to improve response rates.

Distributing surveys

A major problem with the use of online surveys is ensuring that an up-to-date and accurate email address list is available for potential participants. Email addresses for institutions and individuals change for many reasons and contact lists are sometimes accurate only for short periods of time. A further disadvantage is that many people have more than one email address and may rarely check other accounts (Bryman 2012).

Additionally, individuals move jobs and institutions, which may affect whether a respondent can appropriately participate in a survey. When conducting a recent survey, we found that almost 10% of emails sent using a one-year-old contact list were returned as undeliverable. If this problem is encountered, the researchers must check institution websites to ensure that their internet domain names have not changed. Websites are also useful in determining whether specific individuals still work for an institution and in the specialty relevant to the study subject.

Response rates and reminders

Rates of return are important in survey research, since a higher response rate should decrease the risk of bias (Groves and Peytcheva 2008, Robson 2011). Traditionally, a response rate of 60% has been viewed as acceptable by many biomedical journals (Livingston

and Wislar 2012). However, response rates to web and email surveys are known to be lower than those of postal surveys (Sheenan 2001, Couper and Miller 2008, Scott *et al* 2011). Scott *et al* (2011) suggest a number of reasons for this:

- The population being surveyed.
- Possible lack of familiarity with the web.
- Inconsistent reliability of internet access, particularly in remote areas.
- Lack of trust respondents may have in sending confidential information over the internet.

In the authors' opinion, a further, poorer documented reason for lower response rates in electronic surveys may be 'survey saturation'. Healthcare professionals are regularly asked to complete surveys and questionnaires in many aspects of their professional roles. This may lead to their only completing questionnaires that are absolutely necessary and avoiding or disregarding optional surveys.

Finally, individuals may prefer the portability of a paper questionnaire, which they can fill in anywhere. This may become less important as internet access through smartphones and other mobile devices becomes more common.

Several strategies can be used to improve response rates. First, keep any survey as short as possible, without threatening the integrity of the data to be collected (Sahlqvist *et al* 2011). Although shorter surveys are not associated with an increased response rate (Beebe *et al* 2010), it may encourage busy clinicians to complete them.

The estimated time to complete a survey should also be included in the introductory email, as should the email subject, since this information provides an indication of what work might be required from the participant (Ganassali 2008).

Reminder packs or alerts can increase response rates to surveys (Sahlqvist *et al* 2011, Duffett *et al* 2012). The impact of reminders on response rate in our survey is shown in Table 1. These data support the value of sending at least two reminder emails.

Table 1 Response rates from each email invitation sent in a recent survey		
	Response rate from email (%)	Overall response rate after each round (%)
Initial email invitation	42	42
First reminder	16	58
Second reminder	4	62

The current response rate should be included in each reminder email sent to participants, with the aim of motivating individuals to complete the survey. However, there is little evidence to suggest that prenotification improves response rates (Hart *et al* 2009, Beebe *et al* 2010). In each reminder email sent to participants, with the aim of motivating individuals to complete the survey. However, there is little evidence to suggest that prenotification improves response rates (Hart *et al* 2009, Beebe *et al* 2010).

Conclusion

This paper has discussed the advantages and drawbacks of using electronic surveys to collect data, as well as strategies that research teams can use to improve success rates from electronic surveys (Box 1).

The fast, efficient and often 'free' electronic survey has many advantages over the traditional postal method, including ease of analysis for what can be vast amounts of data. However, researchers must carefully examine strategies to maximise response rates with this method.

Box 1 Key strategies in conducting electronic surveys

- Personalise your email to each individual participant, for example, 'Dear Dr Smith'.
- If an email is returned as undeliverable, ensure that the institution has not changed its standard email address domain.
- Send at least two reminders, reporting response rates and setting goals with the community of respondents. This has the potential to motivate participants.
- If the survey is short, tell respondents how quickly it can be completed, for example, 'less than five minutes'.
- To ensure ease of response, embed the link to the survey in the text of your invitation email, rather than including the survey as an attachment.

Online archive

For related information visit our online archive and search using the keywords.

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Conflict of interest

None declared

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