

Designing, Conducting, Analysing and Presenting Surveys

Guidance Document



Document Outline:

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1.0 Context and scope of this document

Surveys are an effective way to quickly gather information and data. Surveys may be suitable if you are seeking:

- **Feedback** – to gather feedback on a particular topic
- **Facts and information** – to gather fact and information about people
- **Knowledge** – people’s knowledge about something
- **Opinions** – what their opinion is about something they experienced or that happened
- **Attitudes/values** – their attitudes towards their colleagues, their workplace, ideas etc
- **Background information** about the respondent¹

Surveys can be administered in paper format, over the phone or through a number of commercial online sites (such as Survey Monkey or Feedback Server) which are particularly useful when it comes to analysing your responses.

However, there are some **limitations** regarding the type of information and data you can collect using surveys which should be considered when deciding if surveys are appropriate for what you are seeking to find out:

- **Lack of in-depth information** – surveys cannot capture in-depth, detailed information about respondent’s perspectives and insights, or the subtleties and complexities of healthcare contexts. Respondents are often reluctant to complete free text questions or open questions in detail.
- **Poor at capturing context** - surveys struggle to capture the impact of culture, norms and interactions, or the impact of political, institutional, team or individual interactions on people’s understanding of a situation or experience.
- **Lack of flexibility and responsiveness** – a survey is a standardised tool that cannot respond to individual circumstances.
- **Sensitive and complex issues** – surveys may not be appropriate if dealing with a sensitive topics and struggle to explore complexity.

In these instances, qualitative methods such as interviews or focus groups may be more useful, or a mixed-method approach should be considered whereby a combination of surveys and qualitative

¹ Matthews and Ross (2010) A Practical Guide for the Social Sciences

methods are used. The following information is designed to guide you through the keys steps and considerations (planning, doing your survey, studying your responses and acting on the results) when using surveys as a means to gather data.

2.0 Planning Your Survey

2.1 Purpose

The first thing to establish is the **purpose of the survey**; what is it you need to know, who needs the information and what is the relevance for patients and/or staff? Once you have clarity regarding what you need find out, write this aim or question down as simply and clearly as possible. Eliminate anything that would be *nice* to know and focus on what you *need* to know to answer your question or address your aim at this planning stage.

2.2 Sample

Consider *who* you would like to complete your survey. It may not be possible to survey everyone who could potentially answer your questions. In this case, you should select a smaller group or sample to be *representative* of your entire population or potential respondents, from which you can draw inferences about the whole population. This is called your *sample size* – the percentage of completed surveys that you require to reflect your target population. The closer your sample size is to your target population, the more representative your results will be through minimising inaccuracies or errors. There are a number of tools available to help you choose the correct sample size for your survey.² Furthermore, by randomly selecting your respondents you will help to ensure that you minimise bias and enhance the reliability and usefulness of your results.

You may also want to consider response rates at this stage. Not everyone who receives the survey will complete it. Remember that you can always increase the number of people you send the survey to in the case of low response rates.

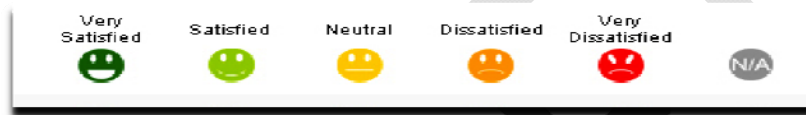
In some instances purposeful or convenience sampling may be appropriate. This is where you target specific individuals to gather 'just enough' data and information to answer your questions. In particular, where measurement is carried out regularly, the sample size need only reflect the minimum number of responses to allow for calculation of robust control limits.

² <https://www.surveymonkey.com/mp/sample-size-calculator/>

2.3 Types of Questions

You should use a variety of question types to keep the respondent's attention. It's best to use a combination of :

1. **Yes/No Questions** (respondent must either choose 'yes or no')
2. **Multiple Choice Questions** (provide a selection of responses that respondent can select one or all that apply)
3. **Ranking** (ask respondents to rank a list of options in order of preference)
4. **Rating Questions** (Likert scale – the level of agreement or disagreement with a statement)
Including images can add an interesting visual dimension to your survey. For example you could use icons or emojis on a scale and ask respondents to rate their experience.



5. **Numeric textboxes** (respondents asked to fill in a number)
6. **Open/free text questions** (respondents are given the opportunity to enter their own response to a question without been given a pre-designed options)

General advice for questions:

- Avoid overly complex question types that will produce complex data for analysis– particularly if you don't have a statistician on your team!
- Clarity is vital. Good questions must be as clear and easy to understand.
- Leading questions should be avoided (eg. *'How bad was the situation before the improvement project is leading and suggestive'* – rather ask *'could you describe the situation before the improvement project?'*)
- Avoid double-barrelled questions; each question should address only one topic so respondents can answer one question at a time. Eg. *'did the project result in better patient care and staff morale?'*
- Combine using negative and positively poised questions. A mix of both positive and negative items will encourage respondents to consider the questions in more detail.
- Avoid double negatives eg. *'patients should never not take their medicine'*
- Remember to include a 'don't know', 'unsure' or 'not relevant' option where appropriate
- Do not ask questions that are **redundant** – in other words, only ask questions that are directly relevant to the overall purpose of the survey

- Keep the number of questions to the minimum required to find out what you need to know. A shorter Survey is more likely to be completed by respondents. Ideally, surveys should be no more than one page with less than ten questions.

2.4 Question Order

The **question flow** is important to ensure respondents complete the survey. Your initial questions should be easy and straightforward for your respondents to answer, with questions that require more thought following this. However, it is important that the most important questions are in the first half of your survey as some respondents will not complete the surveys in full. Move from more factual to abstract questions and open questions are best placed towards the end of a survey. Leave demographic or personal questions to last. Most online survey tools allow you to choose whether to give respondents the option of skipping questions – for example whether the survey can be submitted without completing all questions and sections.

2.5 Ethics

Consideration of **ethics** is vital when designing your survey. Your questions should be ethically sound and not make respondents feel uncomfortable. If your survey is to be administered to patients, and in many instances to staff, you will be required to apply for ethical approval.³

2.6 Informed Consent

Respondents should be informed regarding the purpose of the survey, how their responses will be used (will they be collated and presented as findings in a report for example?), who will view their responses, how the data will be stored and whether their responses will be treated in confidence. This information should be either at the beginning of your survey or on an accompanying information sheet. This will ensure respondents provide informed consent before they complete the survey.

People filling out a survey are much more likely to do so and to answer honestly if they are not asked for identifiable information and assured of anonymity (a process where any identifying information will be removed in responses). In some instances, you may need to seek consent from family members, advocate or career and the hospital ethics committee will advise on this.

³ <http://hse.drsteevenslibrary.ie/openaccess/ethics>

2.7 Survey Medium

You should make it as easy as possible for respondents to complete your survey. Decide how your survey will be presented to respondents; paper based, electronically or both. The appropriate administration of your survey will depend on the topic and your population. Online surveys are faster and cheaper to administer, are quicker and easier to analyse, and are more flexible (you can edit or change questions) than paper-based surveys.

However, online surveys may not be suitable in certain circumstances and should then be administered in paper format for respondents to complete on their own. In some circumstances respondents may need assistance completing the survey. In these cases a researcher can administer the survey in paper or electronic form (perhaps using a tablet), whereby they read the questions and fill in responses on the respondent's behalf.

2.8 Decide on Frequency

When a survey is a once off occurrence, you should decide on your timescale and inform respondents of the deadline for completion. Several reminders will be required to prompt respondents before your date of completion.

However, to measure for quality improvement, frequent regular small-scale surveys are preferable to once off, large-scale or yearly models. A year-round rolling approach allows for the regular monitoring of improvements or to gather regular staff or patient feedback as part of regular routine work. You should decide on the appropriate frequency of administering your survey.

3.0 Doing Your Survey

3.1 Pilot Your Survey

It is good practice to pilot your survey among a small group of colleagues or stakeholders to gather feedback on the clarity of questions, to ensure the language used is appropriate to the target group, comments on usability and to identify typos or omissions before wider circulation. You should then pilot your survey with a small group of your population to ensure there are no issues that need to be addressed.

3.2 Adminstrating your Survey

Once you have incorporated the feedback from your pilot, it's time to administer your survey! Ensure to provide clear instructions so respondents know exactly how to complete the survey. It may be important to promote your survey to increase awareness among respondents. This can be achieved through the use of posters, information leaflets or emails for example. Reiterate that their responses will be anonymous and confidential (if this is the case).

4.0 Studying Your Survey

4.1 Review Your Response Rate

It is important to track and review the number of responses and your response rates. If your response rate is lower than anticipated, consider the number and complexity of your questions. You should also review the completeness of responses – how many surveys are returned incomplete? If respondents consistently do not answer a particular question, consider editing, removing or replacing the question. Review your mode and timing of administering the survey and adjust if required.

Analysing Your Responses

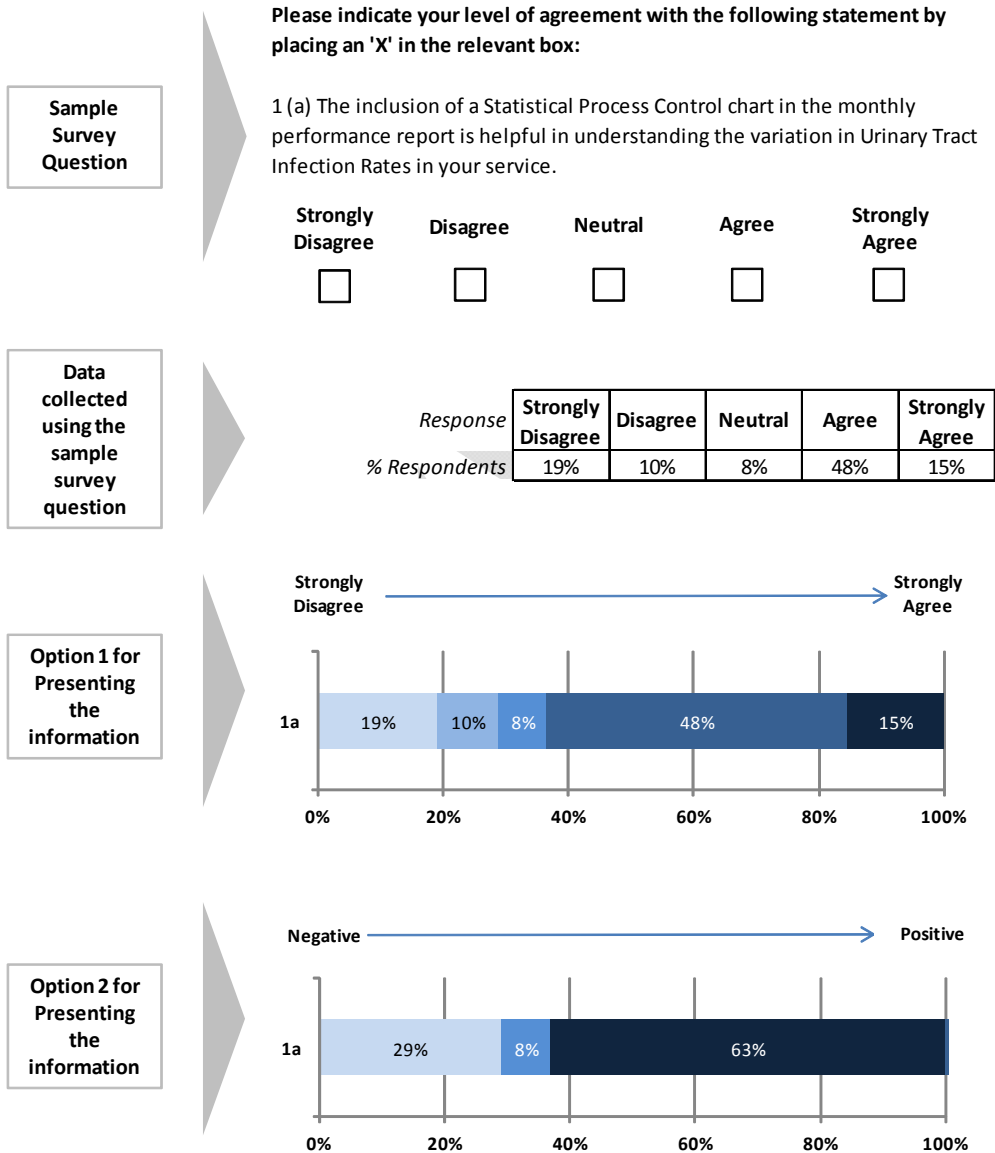
- Type of analysis

Often, surveys are administered on a small scale. For example, if you wish to survey the members of a committee on a particular topic, the numbers of responses will be low. In such circumstances, it is advised to simply present the data in an appropriate chart and include some summary statistics where appropriate. For the most part, the type of data collected using surveys is quantitative. In the majority of cases, including summary statistics such as response rate, mean or median and the range of responses is sufficient. For large scale surveys, the use of validated surveys developed by experts is an option worth considering as, often, analysis and presentation tools are also available (e.g. AHRQ, Picker Institute).

- Presentation of results

For quantitative results, avoid using pie charts. Although frequently used, they are not helpful when trying to identify the largest or smallest segments for example. Column and bar charts are often recommended. In the following example, bar charts are used to show the percentage of positive, neutral and negative responses to a sample question. Some points to remember in creating these kinds of charts include:

1. Consider the orientation of the chart. In the example provided, the chart is in the same orientation as the question was posed (the gradient is from strongly disagree on the left to strongly agree on the right).
2. Choosing a colour palette. In this example a gradient of colours is used which is appropriate given that there is a gradient of response.



Where measurement is carried out regularly, consider using an Statistical Process Control chart (Shewhart or control chart) to plot the measures in time series. For more information on using SPC charts, go to <http://tinyurl.com/MIT-QID>.

- Turnaround time

Timely feedback to those who have participated in the survey is critical in using the information to effect change. In order to minimise the amount of time taken to analyse results, consider which staff are assigned to the task and use statistical analysis software where appropriate (e.g. SPSS, Stata, JMP).

Your qualitative data that emerges from your open or feedback questions should be grouped into themes rather than presented individually. This will ensure that a balanced account of your responses is presented in your findings. However, where there are a very low number ($n < 5$) of qualitative pieces of information, it may be feasible to simply report them all, rather than perform an analysis.

5.0 Acting On Your Survey

5.1 Using Your Results for Quality Improvement

- Once you have decided on a survey and how results will be analysed and presented, consider the audience to whom the results will be presented. Where areas for improvement are identified, is the information being presented to the right senior decision makers so that action can be taken as appropriate?
- Where continuous measurement makes it feasible to plot your data over time, ensure that the data is presented in a way that allows you to know if a change has resulted in an improvement.
- Triangulate information where possible. Surveys are just one method of collecting information. If more qualitative information is available on the same topic, consider the two sources of information together to give a richer understanding of the subject.

A good Survey:

- has a short meaningful title
- is as short and succinct as possible
- provides respondent with clear information regarding the purpose of the survey
- is easy to use and has clear instructions regarding how to each question
- has questions that are easy to understand
- has a good layout, has enough space for respondents to answer and the font and spacing allows for easy reading
- is convenient for respondents –e.g. a link to an online survey or includes a stamped addressed envelope

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