

## Surveys/questionnaires

### How to conduct a survey

A survey is the gathering and analysis of information about a topic, an area or a group of people [62].

Surveys can be an economical and efficient tool for collecting information, attitudes and opinions from many people and for monitoring a project/program's progress.

When designed and administered correctly, the information collected can be a true reflection of opinions held by the group from which you want information [63]. However, a high level of knowledge and skill is needed to design and implement a good quality survey.

This document looks at three basic types of surveys:

- self-completed questionnaires
- face-to-face interviews
- telephone surveys.

There are **nine steps** to conducting a survey, including:

Step 1: Decide what you want to find out

Step 2: Decide who to survey

Step 3: Select survey method

Step 4: Decide how many people to survey

Step 5: Write the questions

Step 6: Trial the questionnaire or interview questions

Step 7: Conduct survey

Step 8: Analyse information

Step 9: Report findings

## Step 1: Decide what you want to find out

The first decision to be made is what information do we need to collect.  
(Answering the following questions can help determine this:)

- › What information is the survey trying to collect?
- › What do the survey questions need to determine?

**Examples of the possible survey questions are:**

- › How much does the community know about fall related injuries?
- › What does the community consider the most prominent cause of falls which needs attention?

**Second, decide if a survey is actually the best way to gather this information.**

Deciding what information is required early in the process helps to avoid frustration, wasting time and energy or gathering unwanted information.

## Step 2: Decide who to survey

The perfect survey would involve getting information from every member of the community in whom you are interested (eg. all community dwelling residents aged 65 to 75 years, local shopkeepers and businesses and home care nurses).

As it is not usually possible to survey the whole community, you will need to survey a sample that represents the group. The sample needs to be representative of the people you really want to talk to so that as little bias as possible occurs. A biased sample would mean the results of the survey do not accurately reflect the views of the people from whom you want information.

There are three main ways of selecting survey participants.

### Selecting survey participants

Sample type	Definition	How to do it
<b>Random (less bias)</b>	A random sample is a selection where each person has had the same chance of being selected as all other people. A pure random sample is often difficult, as lists of all people are not always available.	If lists of all people from which information is wanted are available, number each person and select numbers randomly. Survey the people with the corresponding numbers.
<b>Systematic</b>	Survey people according to a set pattern or criteria.	Survey every third person on a list.
<b>Convenient (more bias)</b>	Survey people who can be easily reached.	Survey people who walk past or who visit a display.

Choose the way that fits best within your time, quality and financial constraints.

All methods are effective as long as potential bias is acknowledged.

The results will not be completely true or accurate, but they will give a fair idea.

### Step 3: Select the survey type

The survey type determines the way a survey is conducted, what is collected and what is recorded. The type of survey used depends on the type of information you want, how much information can be analysed and the time and resources available.

A combination of survey types can also be used.

There are three common types of surveys:

- › **Self-completed questionnaires** are most commonly presented as written questions on paper. The questions are completed or ‘filled in’ by the participant, usually without any assistance from the people who designed the questionnaire.
- › **Telephone surveys** involve an interviewer asking questions verbally to a single, anonymous individual over the phone.
- › **Face-to-face interviews** involve an interviewer asking questions verbally to an individual in-person.

The **advantages** of each type of survey are listed in the table below.

Self-completed questionnaires	Telephone surveys	Face-to-face interviews
Least expensive	Good response rate	Highest response rate
Fastest/least time consuming	Allows for probing, reduces misunderstanding and missing answers	Allows for probing, reduces misunderstanding and missing answers
Can be mailed to respondents	Can give some assistance to the participant to comprehend the question being asked and respond appropriately	Can assist the participant to comprehend the question being asked and respond appropriately
Consistent as respondents are all asked exactly the same questions	Participants do not require reading and writing skills to be involved	Participants do not require reading and writing skills to be involved
	Good for getting large amounts of information	Good for getting large amounts of information, can ask more complex questions

The **disadvantages** of each type of survey are listed in the table below.

Self-completed questionnaires	Telephone surveys	Face-to-face interviews
Lowest response	Time consuming and expensive	Most time consuming and expensive
No opportunity for clarification, misunderstanding will go undetected	All questions must be asked in exactly the same the way for the answers to count	More difficult for all questions to be asked in the same way for the answers to count
Questions to be asked can not be complex	Questions can not be too complex	
Participants require reading and writing skills	Participants must have a telephone and not be listed on the do not call list	
<b>Note:</b> A self-completed questionnaire could provide the interview questions for a face-to-face interview or telephone survey.		

### Step 4: Decide how many people to survey

The more people surveyed, the more accurate the results are likely to be. However, the larger the group, the greater the time and energy needed to conduct the survey.

Considerations when deciding the sample size (eg. how many people to survey), include:

- how much data can be effectively collected and analysed, considering time, energy and access to sources?
- the type of survey that has been chosen.

The results will be more reliable with less bias if a larger sample size is surveyed.

## Step 5: Write the questions down

Questionnaires should be designed to be attractive, easily understood, easily answered and to give you the required information.

Therefore, a lot of time is usually spent in getting the questions right.

This step looks at:

- › the types of questions to ask
- › how to design questions
- › the sequencing and presentation of questionnaires
- › covering letters and introductions.

### The types of questions to ask

There are no hard and fast rules to decide which particular type of question to use, because the questions will depend greatly on the type of information being sought.

The information gathered by any type of question must be useful, easy to gather and easily interpreted.

There are two main types of questions:

- › open-ended
- › closed-ended.

## Open-ended questions

Open-ended questions are questions that can have unexpected answers as they allow the answer to be left entirely to the respondent so they can express their feelings without restriction. They can generate a wide range of replies [17].

Open-ended questions give ‘qualitative’ information. This type of information gives the feeling of what respondents mean. This information allows themes or ideas to be identified.

**For example:**

**What do you think about the current level of strength and balance programs in your community?** (Please write your answer in the space below)

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Open-ended questions often involve participants being asked to complete a sentence about a subject.

**For example:**

Please answer the following question by completing the statement below.

**I think that fall related injuries in older people could be reduced by...**

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The table below lists the advantages and disadvantages of open-ended questions.

Advantages of open-ended questions	Disadvantages of open-ended questions
Gives qualitative data	Has potential to collect useless or irrelevant information along with valuable information
Useful when the full range of responses to a given question is not known	Because respondents have the freedom to say whatever they like, analysis is much more difficult and time consuming
Useful when there are too many potential response categories eg. when it would be difficult to write a neat, closed-ended question to explore the issue	Requires higher writing skills from respondents
Responses are not influenced by a pre-arranged set of answers.	May lead to a lower response rate as greater time and effort is needed from respondents
Preferable for complex issues that can't be condensed into a few small categories	
Useful when respondents can give information to clarify their answer	

### Closed-ended questions

Closed-ended questions are questions followed by a list of answers and a format for making an answer [17]. These lists of answers are called response categories.

Closed-ended questions provide 'quantitative' information that can be counted. The information can be discussed in terms of numbers, frequencies, and percentages.

For more information on these statistics, see **Step 8: Analyse the information** and **Step 9: Report findings**.

There are several types of closed-ended questions, including:

- › multiple choice questions (one response)
- › multiple choice questions (multiple responses)
- › yes/no or true/false questions
- › scales and ratings
- › rank order questions.

#### Multiple choice questions (one response)

**For example:**

Are you male or female?

- Male       Female

#### Multiple-choice questions with multiple responses allowed

**For example:**

Which of the following home safety modifications have you installed in your home? (Please tick the appropriate box. You can tick as many boxes as needed)

- Double handrails on all stairs
- Contrast non-slip strips on all steps
- Non-slip surfaces in the shower/bath
- Grab rails in the bathroom

### Yes / No or True / False questions

**For example:**

Have you been physically active for 30 minutes each day in the last week?

Yes                       No

or:

Strength and balance exercise can help you to maintain your independence.

True                       False

### Scales and ratings

Respondents are asked to rate the degree to which they agree or disagree with a statement [17].

**For example:**

Older people can reduce their risk of falls. (Please circle)

1	2	3	4	5
Strongly agree	Agree	Not sure	Disagree	Strongly disagree

### Rank order questions

Respondents are asked to number or rank a list of items in order of their importance.

**For example:**

Please number the following issues in your community in order of importance. Place a '1' next to the issue that you think is the most important. Place a '2' next to the issue that you think is the next most important and so on through to '5' for the issue of least importance [17].

Issue	Rating
Road traffic crashes	
Crime	
Falls in older people	
Pollution	
Fires	

## Advantages and disadvantages of closed-ended questions

Advantages of closed-ended questions	Disadvantages of closed-ended questions
Provides quantitative data (i.e. can be counted)	May miss some crucial information because it was not included as a response category
Consistent and easier to answer, code, analyse, and compare from respondent to respondent	Respondents may feel frustrated that their response is not listed or is not exactly what they wanted to say
The meaning of the question is often clearer to the respondent as they can tell from the response categories what is expected	It is easier for respondents to guess or answer randomly
Respondents are more likely to provide the exact information being sought	Can be difficult to know which categories to include or there can be too many categories
Best used when categories are discrete, distinct and relatively few in number	Makes the questionnaire look longer
<p><b>Note:</b> To overcome some of these disadvantages, allow respondents the opportunity to add information that has not been included in the categories. In addition, a 'Don't know' category helps to ensure all respondents can answer the question but their answers may not help with your decision-making.</p>	

### Comparing open-ended and closed-ended questions

It is often assumed that open-ended questions will gather more information than closed-ended questions. However, open-ended questions can sometimes actually provide less information than closed-ended questions.

For example, look at a question such as “What do you think about the current level of falls in older people in the community?”. Each respondent is likely to write a different answer. Some may write about a particular experience they had with their elderly parent’s last injury, or some might write one word such as ‘terrible’ or ‘okay’. When interpreting this information, there is no way of knowing what it is about falls in older people that is ‘terrible’ or ‘okay’. Are they concerned about the risks, costs, or services offered? [17]

Knowing the type of information you want will help which type of questions to use.

You can use both open-ended and closed-ended questions in the same questionnaire or interview.

## How to design questions

The way questions are worded is crucial to obtaining useful and relevant information.

The checklist below provides the steps needed in order to create a good question that gives answers worth collecting.

- 1. What information is needed from this question?**
- 2. What is the most direct question that will obtain this information?**
- 3. Does this question satisfy all the requirements of a good question:**
  - › Is it going to provide useful information?
  - › Is it short and simple? Use an example like: “Have any residents in the over 50’s village broken their arm from falling?” rather than “Have any residents in the over 50’s village experienced a fracture of the radius or ulna from falling from a height less than 0.5 metres?”
  - › Can all respondents answer it? Use language to suit respondents by limiting the use of jargon, acronyms or other shorthand.
  - › Does it appear relevant? Respondents are likely to stop answering if they see the questions as irrelevant to the subject being surveyed.
  - › Is it specific, clear, direct, and fully explanatory?  
Take the example: “Do you think community members are satisfied with the falls in older people prevention practices?” Although this question may seem specific, it is still quite vague.
    - which community members? – carers, children of elderly parents, aged care nurses, hospital based health care workers
    - which community practices? – this could refer to policy and procedures in residential aged care or hospitals, safety in the home, relevant legislation, emergency treatment and/or education

- Over which timeframe? – current (last two months) or past community practices (last year)?

Therefore, you need to be clear about the dimensions of the variables. Provide very clear instructions on how to answer. Do not assume that respondents will know what to do [17].

- › Is it designed so people feel comfortable about sensitive questions? Preface sensitive questions with a statement that gives people permission to answer truthfully. For example: “Some older people find it difficult to make their homes safer. What have you been able to do in your own home to make it safer for you?”
- › Is it designed with both positive and negative choices included?
  - For example: *I find that the safety equipment currently available is:*
    - Too expensive     Well-priced     Difficult to install
    - Easy to install     Easy to access     Limited in choice

#### 4. Does the question avoid the following?

- › **Ambiguity.** For example: “Please tick which of the following community safety activities you have participated in this year” rather than the less specific question, “Please tick the following community safety activities you know about”.
- › **Double-barrelled questions.** This means asking for more than one piece of information in a question. For example: “Do you think the community needs to improve the central and river public walkways?” This should be asked as two separate questions.
- › **Leading respondents.** For example: “Don’t you think a new aged care free transport scheme would be a good idea? Yes / No.”
- › **Double negatives.** For example: “Do you not think that home care nurses have no time for questions?”

5. What range of answers is the survey likely to get?
  6. Do all the possible answers provide the information we are looking for?
  7. Can we analyse the answers to this question to find the information required?
- › If you have answered ‘yes’ to all these questions: test the questions on someone else.
  - › If you have answered ‘no’ to any of these questions: try writing the questions again.

**Remember:** people cannot provide answers to questions they are not asked.

## The sequencing and presentation of questionnaires

The sequence of questions and the presentation of the questionnaire can sometimes influence the willingness of respondents to participate in a survey [17].

### Sequence

- › Use a logical sequence eg. ask about the number and age of older people in the community before asking about aged care needs.
- › Include questions at the beginning to gain demographic information of interest eg. age, family size, gender or ethnic status.
- › Begin with easier questions and place difficult, sensitive or potentially threatening questions near the end.

### Presentation of written questionnaires

- › Leave enough space between questions.
- › Select a good, clear font and larger print size for easier reading (especially if older people are being asked to respond).
- › Ensure it is clear where the responses for each question are to be written, eg. having answers lined up all on one side where it is clear and easy to notice if questions have been missed.
- › Within budget, use colour, graphics and good quality paper to increase attractiveness.
- › Consider using cartoons or pictures to maintain the interest of the respondent.

## Covering letters and introductions

A covering letter and introduction should always accompany a self-completed questionnaire.

Interview surveys need to have introductory remarks. These aim to interest respondents and persuade them to participate or help focus them on the topic [17, 63].

While keeping the introduction short and easy to understand, these are some points that could be addressed in the covering letter including:

- › the importance and purpose of the survey
- › the credibility of the organisation conducting the survey
- › the importance of the respondent's participation
- › the approximate time it will take to complete the questionnaire/interview (see step 6: Trial the questionnaire or interview questions)
- › your assurance and reference to the appropriate legal requirements to keep answers confidential
- › a note of urgency
- › your appreciation for their valuable time and effort
- › a person's name and contact details for further enquiries
- › an offer for feedback of results
- › an explanation as to why they were selected to participate.

Include clear instructions on the actual questionnaire in addition to the covering letter.

For a spoken introduction, speak firmly, clearly and not too fast.

For face-to-face introductions, make eye contact and smile.

When giving feedback about the results of the survey, do not promise anything that cannot be given.

## Step 6: Trial the questionnaire or interview questions

A trial or pilot study refers to testing or ‘having a practice’ run of the questionnaire or interview.

Testing is done to ensure:

- › the information you receive is the information you set out to get
- › there are no unexpected flaws
- › the information you obtain can be interpreted [62].

Circulate the questionnaire among colleagues, friends and a variety of people to get their opinion [17]. Incorporate any valid suggestions into the questionnaire design.

It is also necessary to choose a small number of the actual target group, to fill in the questionnaire or sit through the interview (don’t forget to time the process) and then talk to them afterwards. This way you can find out if:

- › each question was easily understood
- › the response categories, layout and sequence were adequate [17]
- › the presentation was attractive and easy to read or listen to
- › any questions were considered too threatening or offensive
- › the information wanted is actually being obtained.

This also allows a trial data analysis to make sure the data received can actually be used. Any missing or unnecessary information can be detected and questions can be either added or removed as a result.

Don’t forget to re-test the questionnaire after changes have been made.

## Step 7: Conduct the survey

### For questionnaires

#### Elect a questionnaire coordinator

A coordinator can be responsible for the distribution and return of self-completed questionnaires and/or the organisation of reminder notices.

#### Organise questionnaire distribution

Tasks include:

- › writing the covering letter to accompany the questionnaire
- › including details about how, where and when to return the questionnaire
- › double checking that the questionnaire instructions are clear.

The number of respondents could be increased if you alert potential participants that a questionnaire will arrive soon. For example, an initial letter or advertisement could be sent out via an older person's network newsletter. This allows you to give some background information about why the questionnaire is needed and how important it is for people to respond.

#### Organise questionnaire returns

This involves:

- › setting a due date for the return of questionnaires
- › ensuring that the date allows a reasonable amount of time for people to complete and return the questionnaires eg. two weeks
- › organising a place of return such as a drop off box, a location where people physically return their questionnaires, or including stamped self addressed envelopes or, envelopes printed with the return address with the questionnaire (with or without postage stamps).

## Send reminder notices for self-completed questionnaires

This will require a timetable but is important because reminder notices increase the number of people who complete the questionnaire. Another copy of the questionnaire may or may not be included with a reminder notice which could be sent halfway through the allowed return time.

<b>Example: Survey timetable</b>	
Week 1, Monday	Letter and newsletter article to advise participants that a questionnaire will arrive in a week
Week 2, Monday	Questionnaires sent/distributed
Week 4, Monday	Reminder notice sent
Week 6, Wednesday	Questionnaire due date
Week 7	Analyse surveys
Week 9	Finalise report
Week 10	Summary of the results given to the community eg. published in newsletter

## For telephone surveys or face-to-face interviews

### Elect a coordinator

A coordinator of telephone surveys or face-to-face interviews can be responsible for contacting respondents to organise interview times. A coordinator can also organise the interviewers if more than one interviewer is used, organise appropriate interview rooms and arrange translations into other languages if needed.

### Set up an interview procedure

Design a procedure to be followed by all interviewers to ensure that all respondents are being told and asked the same information, especially when there is more than one interviewer. This will standardise the way the survey is conducted.

The procedure may include what to do when respondents are not home, or when respondents do not turn up. The procedure could also contain the introduction that interviewers say to respondents and instructions on how to answer any possible questions respondents may have.

## Step 8: Analyse the information

An analysis and discussion is necessary to make sense of the data collected.

It is important to think about how the data will be analysed when designing the survey. Gathering information is useless if it cannot be analysed.

Analysis is also likely to take up a significant amount of time in the survey process. The method of analysis used depends on the type of data gathered.

### Analysing closed-ended questions by hand (quantitative data)

For small surveys (under 100 respondents), sorting and tallying by hand is an option. However, this can be time consuming and prone to error [62].

Some basic analysis techniques include using **frequencies** and **percentages**.

**Frequencies** are tallies of the responses. These are the actual number of respondents who chose each response.

#### For example:

Question 1 in a trial questionnaire:

'Yes' response	=	32 respondents
'No' response	=	8 respondents
'Not sure' response	=	5 respondents
Total responses	=	45

**Percentages** are the proportion of people who chose each response out of the total number of respondents.

#### For example:

For the example used above, the percentage of participants who chose 'Yes' would be the frequency (32), divided by the total number of responses (45), multiplied by 100 to equal a percentage. This would give the following results:

Question 1 in a trial questionnaire:

'Yes' response	=	$32 \div 45 \times 100$	=	71%
'No' response	=	$8 \div 45 \times 100$	=	18%
'Not sure'	=	$5 \div 45 \times 100$	=	11%

## Analysing open-ended questions (qualitative data)

For open-ended questions, the analysis of responses is more complex.

Before the responses can be tallied, they have to be sorted and categorised.

- › Sort through the responses for each question to find common themes, words or elements in order to group responses into common categories. Sometimes it is helpful to cut up the questionnaires so that responses can be physically put into different ‘piles’ during the categorisation stage. Other times, the responses can be coded for computer analysis by assigning specific numbers to the categories [62].
- › Tally the number of responses in each category.
- › Repeat the same procedure for each question.

The most commonly expressed themes could form a list of issues.

This type of data can give frequencies and identify general trends. Qualitative type data cannot reveal percentages.

When discussing the results from open-ended questions, it is better to generalise about the frequency of responses eg. “the majority...”, “most respondents indicated...”, or “a few respondents identified...”. For example, you cannot say, that “40% of respondents thought better medication management was an issue that needed addressing”.

If someone fails to mention something in an open-ended question, it is not clear whether it is because they did not think of it, or because they thought of it and subsequently dismissed the idea.

Computer programs such as Excel, Access or SPSS can assist with the analysis of the data if there is access to people with the necessary technical skills.

## Interpreting results

**When interpreting what the results of the survey mean, it is important not to generalise too much.**

For example, the results of a falls prevention survey at one community would not necessarily apply to another community.

It is also important to recognise and acknowledge any possible bias in the results. Not all people in the community have been asked (only a representative sample), and not all people asked have given their responses (because not all people completed the survey). Therefore, the survey results will not represent the exact opinions of the whole community.

Some bias in the results will always exist. This should be remembered when making decisions that affect the whole community.

The **response rate** is the number of people who actually responded to your survey, expressed as a percentage of the number of people who were approached [62]. For example, 45 people returned the survey out of 100 surveys sent which gives a 45% response rate.

Looking at the response rate can indicate how biased the results are likely to be. The lower the response rate, the more biased and unrepresentative the results will be of the group that was surveyed. This is because the type of person who completed the survey is likely to be different from the type of person who did not participate (eg. people with good reading and writing skills are more likely to participate than people who have trouble reading and writing).

This example highlights the need to be aware that some processes can exclude some groups within your community.

Researchers generally aim for a response rate of 65% or better from the target group or community [17]. A response rate of this proportion will give more confidence in making accurate judgments about the group surveyed.

### **Response bias**

Response bias is when respondents give an answer that they think you want to hear, rather than what they really think. Surveys attempt to reduce such possible bias by making sure that all respondents are presented with the same series of questions [17]. This would mean that different responses occur because of a difference between the respondents sampled, not because of a difference in the way the questions were asked. For example, for consistency to occur with interviews, each question has to be asked in exactly the same way, including tone of voice and body language. In telephone surveys, all respondents must be asked the same questions. It is important to try and minimise any response bias in a survey. Ensuring anonymity, confidentiality, and having a non-judgmental interviewer can help.

## Step 9: Report the findings

**It is important that information gathered is given back to the community from which the information was obtained.**

The survey results should also be given to and used by relevant decision-makers.

The survey is only as good as the sorts of planning decisions and interventions that grow from it and this depends on how well the results can be communicated to others [17].

In the report, it is important to recognise and discuss any difficulties or problems that might affect the interpretation and generalisation of the findings. The people you are communicating the results to should be aware of how representative of the community the results are.

Traditionally, the results of surveys are conveyed through written reports.

It is therefore useful to keep:

- › a record of the survey procedures used
- › the questionnaire or interview questions
- › the results found, which may or may not be in the form of a formal report.

Communicate survey results by using one or more of the following strategies:

- › a letter
- › a newsletter or newspaper article
- › public meetings
- › static displays eg. in shopping centres, at local events or in libraries
- › using electronic media, email and websites.

## How to write a report

Decide on the exact purpose of the report and plan the structure of the report to suit the purpose.

Sometimes a more formal report may be needed. Other times, you may like to put key points in a colourful, friendly-looking booklet. Occasionally, a presentation or display that communicates survey results directly may be more relevant to the target audience.

Write the report, considering the following headings.

- › **Executive summary** provides a summary of the main themes, findings and/or recommendations (usually only needed for lengthy reports)
- › **Introduction** provides some background information, sets the scene and usually includes a rationale eg. what has been achieved so far and reasons for the activities and the report
- › **Method** explains the steps taken and the processes used eg. questionnaire design, how respondents were selected
- › **Results** includes the facts, the data, and the outcomes (ie. whatever it is you want people to know about). The results are grouped and placed in a logical sequence
- › **Discussion** allows for interpretation and explanation of the results, discusses findings and conclusions and examines any conflict in the results
- › **Recommendations** provides suggestions for further action
- › **Conclusion** sums up what has been discussed and states a focus, outcome, dominating theme or position and what is going to happen next.
- › **References/appendices** should also be included as appropriate.

**Citation:** Queensland Health. 2007. *Queensland 'Stay On Your Feet'® Community Good Practice Toolkit- Phase 1 materials: Surveys/questionnaires*. Health Promotion Unit, Division of the Chief Health Officer, Queensland Health.

This information is based on *Health Promoting Schools – A toolbox for creating healthy places to learn, work and play, Booklet 6 – How to gather information*, produced by Public Health Services, Queensland Health, 2001.