

How to get the right sample for your research

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About this guide

At Healthwatch we must ensure that our research appropriately represents the people in our communities. It is therefore important to understand how to choose a good sample of participants for your research projects.

This guidance outlines the different types of sampling methods you can use, so that you can draw correct inferences about the wider population from your research sample.

What is sampling?

When we refer to a 'sample,' this means the people or participants you talk to for your research.

Sampling is about making sure that your research gives a good picture of all the different opinions and situations that exist for the people your research is focused on. This means that people who contribute to your research are not just a group of people you already hear from or who may share your views.

Inappropriate sampling can result in biased or inaccurate findings. It is therefore important to have the right mix of people in your research sample. To read more about avoiding bias in research, please refer to our guidance [How to avoid bias in research](#).

Different sampling methods

Below are some common methods of sampling which Healthwatch might use in their research. We have ordered these methods starting with the most commonly used and most relevant.

Self-selection sampling

Self-selected samples consist of those who have volunteered to participate after they have been asked to or in response to an advert.

This sampling method is beneficial when researching sensitive topics as it helps you to gather experiences from participants who are committed to taking part and providing meaningful insight.

However, the sample may not be representative of the population and so could produce biased findings.

Example: Experience of using maternity services

You want to find out how women felt about using the maternity services in your local hospital. You advertise your project to new mums via different channels and ask them to get in touch if they wish to participate.

In this scenario, only those women who are genuinely interested in your research are likely to contact you. Be aware that it is possible that those with poorer experiences would be more willing to participate, which may bias your findings.

Opportunity sampling or convenience sampling

In this method, people are chosen based on convenience, i.e. they are accessible and available to participate at the time of the research. It is the easiest method of sampling, however, the people selected may not be truly representative of the target group and this could generate biased findings.

This method of sampling is useful in pilot studies to find out the initial results, which can then help you to design further research.

Example: Effect of coronavirus-related lockdown on residents

Using opportunity or convenience sampling, you send a link to an online survey to people who are on your mailing list or connected to you via social media platforms such as Facebook, LinkedIn, Twitter etc. The people who respond to your survey will only be those who are on your lists (accessible) and are willing to complete the survey (available).

Analysis of the survey results will help you to identify the broader issues that people are facing as a result of the lockdown.

Purposive Sampling

Purposive sampling involves researchers using their own judgement or expert knowledge to choose members of the population to participate in the research project. Researchers identify individuals that appear to them to be representative of that population.

This sampling method is most common when recruiting participants for qualitative research and is one of the most cost and time effective sampling methods available. It can be most useful when there are restricted numbers of people in a population who have the qualities that the researcher wants from the target population, due to the research design, aims or objectives.

For example, for research evaluating the effects of winter pressures on the performance of A&E nurses, the researcher may use their own judgement to choose A&E nurses who could participate in in-depth interviews.

Example: Staff perspectives on winter pressures in A&E

You want to find out the impact of winter pressures in A&E on nurses' performance and wellbeing during this season. You use your local knowledge and relationships to identify several A&E nurses in your local Emergency Department who you would like to interview in more depth about their views.

This way you have used your expert judgement and experience to recruit a sample with the characteristics that you are interested in.

Stratified sampling

Stratified sampling works by grouping your research population by the characteristics that are important to your research, for example, by gender, age, ethnicity, education level,

religion, etc. This method helps to ensure that every group that is important for your research is represented in the sample.

Example: Effect of digitalisation of services on specific groups of people

You want to find out how increased use of digital appointments during the coronavirus pandemic has affected those who are at greater risk of digital exclusion. To hear their voices, you select your sample from areas of social deprivation in your local community, specifically focussing on the experiences of people over the age of 65.

You find that 50% of the people living in these areas are over the age of 65, therefore, your sample should consist of 50% of respondents being over the age of 65.

Snowball sampling

Snowball sampling can be a quick and accurate way of generating a sample of people who are seldom heard, e.g. homeless people, sex workers or substance users. In this technique, you rely on your initial research participants to refer people who are relevant to your research. You can then connect with the new contacts for the purposes of your project and ask them to refer more people. This process can continue until you reach your desired sample size.

Example: Uptake of a public health campaign related to healthy living among local minority ethnic groups

You are interested in using a survey to find out about the interest of local minority ethnic groups in a healthy living campaign and identify potential barriers they may face to leading a healthy lifestyle. However, you're able to contact only a small group of people from these groups. In this case, you can ask your initial contacts to help you connect with more people from their communities and this helps you to build your sample size.

Random sampling

Random sampling is where you select people at random to take part in your research.

In this method, each member in the target population has an equal chance of being selected as a research participant. This reduces bias and increases the chance of generating a sample that is representative of whole communities or groups of people.

Random sampling is particularly useful when the target population is very large, and it is difficult to identify every member of the population. However, it is important to remember that in this method of sampling, you'll need a larger sample size, which may be difficult in practice.

Example: Healthcare access patterns among young adults

In this research project, you decide to have university students as your target population. You have a list of the student accommodation room numbers and use an electronic random

number generator to select which rooms to post your survey to.¹ For each number generated you select the room number that matches and post our survey into that letterbox.

It may not be possible to ask every student in the university to participate, however, if you get responses from a significant proportion of all university students in the area, you'll be able to draw meaningful insights about your target population from this random sample.

Using a sample size calculator can help you to determine how many people you will need to engage with to obtain a significant proportion and reach these conclusions.²

Systematic sampling

Systematic sampling involves choosing samples mathematically to ensure everyone has an equal chance of being selected.

You can use this method of sampling when you have a large target population and you know the identity of the population, for example, if you have a list of names. In this case, you select every *n*th person (e.g. 5th) from that list for your research.

You can calculate the *n*th value by dividing the total number on your list by the number of people you want to participate in your research.

$$n\text{th value} = \text{actual population size} \div \text{desired sample size}$$

You should start by selecting a random starting point on the list and include this individual in your research sample.

Example: Experiences of social care support for asylum seekers

You have a list of 500 people who are registered asylum seekers in your community and you want to speak to 25 of them to gather their experiences of receiving social care support. In order to select 25 participants, you'll have to select every 20th person on the list:

$$500 \div 25 = 20$$

This method will generate a random sample and reduce the chances of bias in your research. Follow the snowballing technique until you have reached enough participants.

¹ Random Number Generator: <https://www.calculatorsoup.com/calculators/statistics/random-number-generator.php>

² Sample Size Calculator: <https://www.surveymonkey.co.uk/mp/sample-size-calculator/>

Top tips to keep in mind when planning your sample

- Be clear about who you want as the target population in your research and why your sample should be dictated by the core research question.
- For research projects that aim to explore the experiences of the general population, it is important to ensure the sample is as diverse as the local population.
- For research projects that aim to explore the experiences of specific groups of people, the sample should only include those who have the characteristics of the specific group(s).
- Understand the characteristics of your target population and how the findings from your sample may relate to your wider population.
- Consider the size of your sample so that you gain enough understanding of the issue you are researching without reaching data saturation.
- Be transparent in your reporting about how you selected the sample and whether there were any limitations in sampling that way.