

## **Fact sheet 15: What are the best research/evaluation methods to use?**

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This fact sheet aims to give you an introduction into research and evaluation methods to help you to understand:

- The difference between quantitative and qualitative research;
- Different types of research methods you can use to gather data and
- Ways of sampling to select your participants.

Research or evaluation methods can broadly be divided into quantitative and qualitative research methods.

### **Quantitative Research**

Quantitative research refers to systematic, empirical investigation, often analysed using statistics. Quantitative research is generally deductive in its approach and often involves theory testing. The researcher starts with general ideas and develops, or deduces, specific theories and hypothesis from them, which are then tested by collecting and analysing data. Quantitative research is useful to find out information from a lot of people and to help you understand the scale of a problem or condition. All quantitative research will have a defined research question to answer. See [Factsheet 9: How do I turn my idea into a research question?](#)

Research methods that are quantitative in nature include:

- Survey – telephone, postal, face to face, internet
- Cohort study
- Randomized controlled trial (RCT)
- Case study
- Case control study

#### *Survey*

Surveys are a means of collecting quantitative information about a population. They can be delivered via telephone, post, face to face or the internet and usually use a questionnaire or structured interview format.

#### *Randomized controlled trial (RCT)*

An RCT is a type of experiment where individuals are randomly allocated into different interventions (treatments or controls). RCTs are often used to assess the effectiveness of a new intervention of pharmaceutical product.

#### *Cohort Study*

A cohort study is one which identifies a group of people and follows them over a period of time to see how exposure to various interventions (i.e. smoking, salt in diet, chemicals, increased exercise etc) affect their health/other outcomes.

#### *Case control study*

Case control studies are studies which are often used to identify risk factors for medical conditions or set of behaviours. They compare a group of patients/users who have a condition/set of behaviours

with a group of patients/users that do not, and looks back, retrospectively, in time to see how the characteristics of the two groups differ.

#### *Case study*

A case study is an in depth, longitudinal examination of a single instance or event: a case, in an attempt to gain an understanding of why the instance happened as it did.

### **Qualitative Research**

Qualitative research seeks to understand concepts, giving value to the experiences and views of participants. It seeks to explore why, what and how, rather than how many. Qualitative research is explorative and aims to produce rich, in-depth data. It tends to be more flexible and interactive than quantitative research and so can be beneficial when working with hard to reach groups.

Research methods that are qualitative in nature include:

- Interviews
- Focus Groups
- Case study
- Drawing/photography/writing diaries
- Action research

#### *Depth Interviews*

Interviews can be conducted one to one, with two (paired depths) or three (triads) people. These are usually a good means of asking people about sensitive topics. Interviews can be structured (following a prescriptive list of questions), semi structured or unstructured. Unstructured interviews often allow the interviewee to freely discuss the topic with little input or interruption from the interviewer. This technique is also often used for case studies (see below).

#### *Focus Groups*

A focus group usually involves gathering a group of about 8 to 10 individuals to share their views, opinions, perceptions on a topic. A moderator will facilitate the discussion to ensure that the group stays on topic and everybody has the opportunity to be involved. Focus groups are a good way of generating discussion around a topic.

#### *Case study*

Unlike a quantitative case study which may record number of appointments, treatment doses or occurrences or episodes of ill health, a qualitative case study is likely to consider in detail a person's experiences of, for example, a condition, illness, treatment etc. Often the questioning technique used is open and led by the participant.

#### *Drawing/photography/writing diaries*

This technique can be used to illicit discussion about experiences with groups that can be difficult to engage such as children and young people or when discussing sensitive topics. Drawing and photography can be a fun way of working with people generally and often adds a visual aspect to other qualitative methods. The use of writing diaries can help when exploring patient/user's journeys or tracking people's experiences over time.

#### *Action research*

Action or participatory research is often carried out within and/or by communities, often with the aim of solving a problem or issue that the community is experiencing. It is an excellent way of engaging the participants of research in working together for a common goal for their community. Examples may include coming together to discuss ways of tackling anti-social behaviour or improving relations

between two communities. The researcher who leads the work will often be a member of the community that is involved or work closely with community members in the design and delivery of the project.

### *Mixed methods approach*

It is important to note that quantitative and qualitative research methods can be used together and often complement each other.

## **Sampling**

Sampling is the process of selecting a few (your sample) from a bigger group (the population). Taking a sample and working with them enables us to generalise our findings to the population as a whole. The population is all those who possess the certain characteristics, attributes or information that are needed to be involved in the study e.g. all those living in a certain part of Wirral or all those who have been diagnosed with a certain condition in the last year.

Quantitative research sampling places emphasis on representativeness, repeatability and generalisability whereas qualitative research sampling emphasises validity (closeness to the truth).

Examples of sampling techniques used in quantitative research include:

- Random sampling – each participant has an equal chance of being selected
- Stratified random sampling– ensures representatives of all groups are included
- Systematic sampling – taking every 'nth' person (i.e. every 10<sup>th</sup> or 50<sup>th</sup> person)
- Cluster sampling – when the population is diversely spread over a geographical area, randomly select a cluster (i.e. randomly select a one school out of ten in an area)

Examples of sampling techniques used in qualitative research include:

- Convenience or opportunistic – using readily available subjects but may not be representative of the population
- Sequential – sample size not preset – keep collecting data until no new information is generated
- Purposive – selected for having certain characteristics
- Snowball – when participants are referred by other participants – good for hard to reach groups

For more information about designing your research see [Fact sheet 10. How do I design my research project?](#)



### **More on this topic and further reading**

[www.nao.org.uk/publications/Samplingguide.pdf](http://www.nao.org.uk/publications/Samplingguide.pdf)

<http://www.jrf.org.uk/publications/researching-voluntary-and-community-action-potential-qualitative-case-studies>