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RESEARCH METHODS

How to use qualitative methods for health and health services research

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Abstract: Qualitative research makes a major contribution to health research and is increasingly a requirement for funding bodies and as part of clinical trial research. For the uninitiated, it is easy to feel overwhelmed and daunted at the prospect of undertaking a qualitative study. This paper provides some practical guidance on undertaking qualitative research. It is intended for clinicians wanting to collect rich data about complex issues and experiences and to understand the patient, the family and factors influencing decision-making.

Key words: qualitative; health services research; thematic analysis.

Key Points:

1. Incorporating qualitative methods into research can enrich findings and provide otherwise unmeasured insight and perspective.
2. The process and theoretical models behind qualitative research are just as rigorous as quantitative methodology.
3. Guidance and understanding of the use of qualitative research methods in clinical trials and health services research can optimise translation of findings into practice and policy.

Introduction

While quantitative research focuses on numeric data, data in qualitative research are not in the form of numbers. Qualitative data can capture the underlying beliefs, opinions or motivations of different groups of people, and can help describe their behaviours and lived experiences. Qualitative research provides insight into a problem and can inform hypotheses for quantitative research. It is just as applicable to clinical trials as it is to health services research, enabling an in depth understanding of the problem that quantitative research alone cannot deliver. [1] It is imperative however, that qualitative studies are well-designed with pre-determined methods to ensure reduction in research bias. While quantitative research has clearly defined study designs and considerations to undertake well conducted research, the process and theoretical models behind qualitative research are just as rigorous. This 'how to' guide aims to provide practical guidance on undertaking qualitative research.

Is qualitative research the right approach?

Qualitative research provides a detailed, in-depth understanding of phenomena or experiences. It can answer the "how", "why" or "what" questions rather than simple "yes" or "no" questions. It is often used to explore the experiences, perceptions or preferences of a population, or to better understand a certain behaviour and what influences it. Qualitative research is typically not generalisable to a wide population, but it can be particularly useful when designing and targeting a health intervention in a particular context or for a specific population.

What is my research question?

Good research questions are well-defined, clear and manageable. In qualitative research, these questions explore reasons for why people do things or believe in something and tend to try to cover the drivers for behaviours, attitudes and motivations, instead of just the countable details. [2] It is important to strike a balance between a research question that is all-encompassing and one that is researchable. The research question should capture what you want to understand, without being too broad or too narrow. The question itself will also influence your data collection and analysis methods.

For example, you may be interested in improving the functioning of your hospital's immunisation clinic. The first step to improving the clinic is to understand how it currently operates. However, "How does the immunisation clinic operate?" is not a clear and focused question. Instead, you could identify the population you are most interested in hearing from: "What are the experiences of parents who access the hospital immunisation clinic?" From this starting question, you can explore a range of issues such as how parents experience making appointments, get to the clinic, length of time waiting to be seen, and their interactions with healthcare providers to start to understand clinic quality and engagement with parents. Depending on your interest and aims, you could narrow your topic even further to consider the experiences of vaccine hesitant parents or parents of children with needle phobia or those who experienced an adverse event.

What is already known? Is there a knowledge gap?

A literature review will help to tell you what others have written about the research question and topic. Read more broadly than your specific question and examine studies that relate to your topic. For instance, you may find studies from other countries or about other healthcare

settings that may have useful parallels to your question. The easiest way to search for related literature is with Google Scholar, but if you have access to a research librarian, you may want to conduct a more thorough scoping review or systematic review.

Write up the existing research but avoid simply summarising other papers and integrate your question into the context. Reviewing the existing literature will help you refine your question and provide the solid base needed for your own research.

For example, if your research question focuses on how parents of children with needle phobia experience hospital immunisation clinics, you would want to examine the literature on vaccination encounters for children with needle phobia. How many children have this issue? Where do most receive vaccinations? What motivates parents to use hospital-based immunisation services? What is the success rate? The background work will also provide you with a sense of other factors that might impact your research, such as age or education, that may need to be considered.

How will I do it?

Sampling

First, identify the population you want to study in order to answer your research question. In our example, this would be parents of children with needle phobia attending the hospital immunisation clinic. Next, you need to decide who will be invited to participate, or how you will *sample* from your population. A “convenience sample” is made up of the easiest or first people you find. They may all be very similar, and you may miss out on important perspectives if you rely on this approach. A “purposive sample” involves selecting people

with a range of traits or features that you think might affect their experiences to ensure a wide variety of perspectives are captured. For some questions, you may also use “key informants”, or specifically targeted individuals with relevant experience, such as the immunisation paediatricians or nurses who work with these patients.

The number of participants you need can vary depending on your question and your data collection and analysis methods. Generally, qualitative sample sizes are based on the concept of “saturation.” This means collecting data until you don’t hear any new information or identify any new themes from your data – that is, after a period of time or a certain number of interviews, everyone starts to describe the same range of experiences or perspectives. Of course, budget and time constraints can also limit the number of participants. However, having fewer participants reduces the confidence you can have in your findings.

Collecting data

There are several different ways to collect qualitative data (Table 1), and you may also be able to use data sources that already exist. [3]

******[N.B. Production editor: Please insert Table 1 here]*****

Ethics

Before you commence any research study, consider whether ethics approval is required. If publication of research findings is a desired outcome, approval will need to be sought from a human ethics review committee or HREC. Many hospitals have their own HREC, with guidelines and support staff to guide researchers through the application process.

How do I make sense of it all?

Analysis methods

You've collected your data, now you need to find a way to make sense of it all and communicate these findings to others. A thematic analysis is a common method of analysing qualitative data and is frequently employed in health services research. [4] You can either transcribe the audio files containing the data to text yourself or use a professional transcription company. The next stage is to familiarise yourself with these data. To achieve this, you can listen to the audio files or you can read through your text files, or both. You are on the lookout for common themes: topics, ideas and patterns of meaning that come up repeatedly. The use of qualitative data analysis software such as NVivo (QSR International) will facilitate further analysis and may be useful if you have collected data in more than one format, such as video or digital media files. Once the text files are in NVivo it is a matter of categorising your data. This analytical process of categorising data is called coding.

In NVivo, the containers that hold the text that you identify as being similar are called "Nodes". Coding involves taking snippets of text and allocating them to nodes. It's not uncommon for two researchers (or more) to work on developing the framework and coding the data. Any differences between the two coding schemes can then be discussed. Thematic analysis can either be led by the data to develop the framework based on themes identified (inductive) or seek to identify themes identified, either from other research or existing theory as a lens through which to organise, code and interpret the data (deductive), sometimes both. [4] It may be helpful to undertake a short course at a convenient Research Institute or University to learn these methods. It's important that the author group revisit the coding process to discuss themes as they emerge. There is no one definition of a theme, however commonly themes include patterns of shared meaning, underpinned or united by a central

concept, which are important to understanding the experience and are relevant to the research question.

"Write up" involves a clear, concise, and sincere account of the story, deciding which themes make the most meaningful contributions to understanding what is going on within the data. It is important to define what each theme is, and what is noteworthy about each theme. Extracts or quotes should be included in the narrative to capture the full meaning of the points in analysis.

Reflection

Due to the subjective nature of qualitative research, it is considered good practice to reflect on your role in the research and the ways in which your personal background or perspectives may have shaped your data collection, analysis or interpretation of data. For instance, if you are a clinician researching the experience of parents at the immunisation clinic where you work, there may have been a perceived power imbalance and some parents may not have openly shared negative experiences. This is something you can summarise in a brief "reflexivity statement" at the end of your paper or report.

Summary/Conclusions

Though it may seem daunting to undertake a qualitative study, it is often the best way to collect rich data about complex issues and experiences. It is especially useful in health services research, where it may be necessary to understand more about the patient, the family and factors influencing decision-making.

Establishing an answerable research question is a critical first step in qualitative research. Consider your target population and your available resources to determine the most appropriate sampling and data collection methods. You may use more than one qualitative method, or you may decide to combine quantitative and qualitative methods together in a mixed methods study (e.g. conducting a quantitative survey to better understand the scope of a problem, and then investigating it in depth through qualitative interviews). The best way to begin analysis is to spend time familiarising yourself with all your transcripts or other materials, and then begin coding. There is no one “right” way to analyse qualitative data, but as themes emerge it is helpful to check back with your research team and your original research question to make sure your findings make sense. A short course may assist you to be more confident in using this methodology and can actually be quite enjoyable.

While quantitative numbers can seem more “real” or certain, qualitative research can offer something unique: the voice of your participants.

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Table 1 Advantages and disadvantages of different methods of data collection

DATA COLLECTION METHOD	PROS	CONS
Focus groups: small groups of 4-8 people (numbers can vary) discussing a topic. The moderator may be the researcher or a professional moderator. A set of open-ended questions and/or follow-up prompts are generally used to guide discussion and ensure consistency between focus groups, but interaction and exploring different conversational directions are encouraged. Focus groups are generally audio or video recorded and transcribed verbatim. A note-taker may also be present alongside the moderator to record where people are sitting, observe who is speaking and/or any non-verbal reactions.	- Can be an efficient way to collect data from multiple people - Can generate richer data as participants interact with one another and build on each other's comments - Can feel like a safer space to share information if the participants are comfortable with one another	- Can be difficult to coordinate a suitable time and place for everyone - If the participants are imbalanced in authority (ie managers and staff), some participants may not be comfortable providing an honest opinion - If there are dominating personalities, quieter people may not have a chance to speak - Difficult to arrange and conduct remotely
Interviews: one-on-one or small group interviews prioritise discussion between the interviewer/researcher and the interviewee/s. Interviews may be open, semi-structured (following a loose question guide), or structured (following a strict guide, like a survey conducted face-to-face). Question guides may be changed over time as more interviews are conducted and new ideas or issues emerge. Interviews can be held in person, or remotely by phone or video conferencing. They are generally recorded and transcribed.	- Suitable for discussions of sensitive or difficult topics - Very rich data on personal experiences - Scheduling more flexible	- Takes longer to collect data from sufficient participants - More expensive and time-consuming to transcribe and analyse
Observations: observational field notes or video recordings may be used to understand how a behaviour occurs or how people interact in a natural setting. These may be combined with quantitative methods to triangulate the data collection.	- Helpful to understand how something happens in real life; not reliant on opinion - Reduces the influence of the researcher if	- If multiple observers are used, clear guidance is required to ensure comparable data are recorded - Can take a long time to collect

	conducted subtly and repeatedly over time	
Review of written materials: in some cases, existing data may be used alone or to supplement primary data. These may include free text responses in surveys, social media posts, transcripts of discussions or interviews conducted for another purpose, field or case notes, newspaper articles, or other pieces of writing.	- The researcher's influence is reduced or negligible, depending on the data source - Views may be more freely expressed outside the context of a research study (eg social media)	- Ethical considerations may arise with regard to data collected for another purpose - Important to ensure that the data sources are public or their use is cleared by an ethics review board - Depending on the materials, may not directly answer the research question