

# A Concise Review of Qualitative Research Methods in Healthcare Research

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## ABSTRACT

Qualitative research is a method of collecting data that does not involve numbers. It is used to understand human behavior, attitudes, beliefs and personality traits. It is different from quantitative research as it does not rely on numbers and statistics. Qualitative research questions encourage open-ended, non-biased and evolving responses. The study design is flexible and iterative, which can be adapted and refined throughout the research process. Purposeful sampling is a frequent method for selecting those who are the most pertinent to the study subject. Theoretically, saturation determines the number of observations when no discoveries or perspectives are forthcoming. Data can be collected employing many approaches, including Observation Methods, In-Depth/one-on-one Interviews and Document Review. The data is collected via audio recordings and tagged for analysis using qualitative information management software. Navigation, checklists, reflexivity and stakeholder involvement are all possible criteria for warranting research quality. Qualitative research serves different purposes, such as describing the existing situation, exploring the reasons or connections between things, evaluating the effectiveness of what exists and helping to develop new strategies. However, it has some limitations. Qualitative research is a valuable tool that can offer detailed insights and encourage openness. However, it can be time-consuming to deal with complex and evolving questions. Additionally, it may not be readily generalizable due to its limited number of participants and making systematic comparisons can be challenging as responses may vary subjectively. Despite these limitations, qualitative research can accurately simulate individual experiences and help avoid pre-judgments. This brief overview aims to provide an understanding of the different types, uses and evaluations of qualitative research methods, specifically in healthcare research.

**Keywords:** Quality evaluation, Qualitative research methodologies, Healthcare research.

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## INTRODUCTION

Most health sciences research has used quantitative methods.<sup>1</sup> Unlike quantitative studies, which collect numerical information and get involved or introduce medications, qualitative studies help form concepts in addition to deeper analyses and interpretations of quantitative data. Qualitative investigation methods are widely regarded as effective instruments in studies on healthcare because they provide a distinct viewpoint regarding the social, economic and environmental aspects that impact healthcare provision.<sup>2,3</sup> At its essence, qualitative study asks open-ended questions like "how" and "why" that cannot be simply quantified. Because of the

open-ended nature of the research questions, the methodology for qualitative studies is not always as linear as the quantitative methodology. One of the advantages of qualitative research is its capacity to describe mechanisms and trends in individuals that are challenging to analyze.

While qualitative research can be positioned in disagreement with research that is quantitative because the two were inevitably opposing forces and thus 'compete' contrary to one another along with the conceptual frameworks that accompany all of them, both types of work do not constitute inevitably two opposing forces or inconsistent.<sup>4</sup> Notwithstanding the increasing acceptance of qualitative research within the healthcare field,<sup>5</sup> healthcare scientists continue to have limited knowledge and grasp of it. This brief review gives a summary and recommendations for doing qualitative studies in healthcare to assist those in the medical field who desire to perform a productive and scientifically robust study. Figure 1 displays a list of qualitative research approaches.



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## Why is it important to conduct qualitative research?

There are several reasons why conducting qualitative research is obligatory. First, it provides a deeper and richer understanding of the research subject. Qualitative research enables researchers to delve deeply into individual experiences and opinions.<sup>6</sup> Second, qualitative research can help researchers to identify patterns and themes that may be missed in quantitative research. By gathering data through open-ended questions, interviews and other methods, researchers can identify themes and patterns that may not have been previously considered.<sup>6</sup> Third, qualitative research can be used to generate hypotheses for further testing in quantitative research by identifying themes and patterns through qualitative research, researchers can develop testable hypotheses that can be further examined through quantitative methods.<sup>6</sup> Fourth, qualitative research can be helpful in areas where little is known about a particular subject. It can help uncover individuals' perspectives and experiences and provide a basis for further research and understanding.<sup>6</sup> There are additional reasons to undertake qualitative research, including the fact that many research issues cannot be solved purely by using quantitative approaches. Australian research explored why individuals who belong to Indigenous communities frequently look for specialized health services in university hospitals late or not at all. The study employed qualitative interviews with patients, which is a significant barrier to obtaining these treatments. For example, certain towns and localities may need transportation to the healthcare facility, rendering it hard for patients to receive expert medical treatment.<sup>7</sup>

Qualitative research methods are especially useful for addressing complex research questions involving multiple components or systems. These methods are also helpful in assessing what works for whom, when, how and why, going beyond simply determining what works.<sup>8</sup> Furthermore, qualitative research can aid in intervention improvement and provide insights into the less tangible aspects of medical treatment.<sup>9</sup>

The primary concepts of qualitative investigation are evaluating the significance individuals place on their observations and observing them within typical contexts. Due to these diverse factors, there is no standard way of conducting qualitative research.<sup>3</sup> However, Figure 2 depicts a research cycle that can be used as a guideline when conducting qualitative studies.

The research process usually begins with the researcher's intention to investigate a social phenomenon. This intention is then divided into specific research questions or objectives. Assuming ethical clearance, the study moves sequentially from the design stage to the real-world implementation phase. The field deployment phase includes several critical components: volunteer recruiting, study instrument design and information collection.<sup>10</sup> As a result, investigators must provide sufficient opportunity to address developing concerns across the procedure for qualitative studies.<sup>3</sup>

To evaluate the quality of qualitative research, various Appraisal frameworks have been developed.<sup>9</sup>

## Conducting a Qualitative Research

### *Determine the research theme and formulate the research questions*

Given the fundamental notion that what happens is socially produced, qualitative research emphasizes addressing the "why" and "how" issues to comprehend a phenomenon or circumstance better.

Establishing investigates, propose, comprehend and communicate are frequent verbs used in qualitative research inquiries. If the research topic's aims incorporate words like "test," "measure," or "compare," quantitative methods were more appropriate for accomplishing these. Bezuidenhout and van Schalkwyk offer an effective method for generating and improving an investigation theme. Lingard's concept of entering the discussion, in conjunction with the problem-gap-hook method, can help you think about your dilemma and frame it in an opening to a paper that will pique the curiosity of the publication's editors and users.<sup>11,12</sup>

Developing a research question is not simple Maxwell reasonably describes possible concerns, such as being overly generic, making assumptions about the issue/problem and asking questions that focus on differences rather than procedure.<sup>13</sup> Designing pertinent, vigilant, answered research questions and developing practical questions requires considering the questions themselves and their relationships with the various research elements (the conceptual /theory and procedures).<sup>13</sup>

## Design

To build an effective model of qualitative research technique, data collection and analysis, theory development and modification and investigation questions expansion or refinement are often carried out concurrently, with each phase influencing the other.<sup>13</sup> As new findings emerge, the researcher may be obliged to examine or revise any design decisions made throughout the study. This technique distinguishes qualitative research design from quantitative research, which is much more chronological and rigid.

This does not indicate a lack of organization or planning. Qualitative investigations are often pre-structured, at the very least in the form of a research protocol, that outlines what you are doing (with a goal and target), why (why is this required) and how (theoretical foundation, design, methods and assessment).<sup>14</sup>

There are six main types of qualitative research design: Ethnography, Narrative, Phenomenological, Grounded theory, Case study and Action research.<sup>15</sup> Table 1 provides descriptions of Categories of qualitative research design.

## Sampling Method

Purposive sampling is more effective in qualitative research than statistical probability sampling used in quantitative research.<sup>19</sup> The study population for qualitative research is often modest because theoretical saturation is reached.<sup>20</sup> In qualitative studies, the analyzed sample may comprise persons and recordings, photographs and documents.<sup>20</sup> Non-probability sampling methodologies (such as purposive, snowball, quasi and convenience) and probability (randomized) sampling are also used in qualitative research.

## Collection of Data Methods in Qualitative Methodologies for Healthcare Research

Qualitative research methodologies are typically classified into four categories: observation, in-depth interviews, focus groups and document review. Tables 2 and 3 present the different steps in conducting data collection and qualitative methodologies, respectively.

## In-Depth Interviews

In qualitative healthcare studies, primary data is often collected through in-depth interviews. This approach entails one-on-one conversations with respondents to collect thorough and rich data on their experiences, attitudes and viewpoints on the study subject.<sup>23</sup> While in-depth interviews enable researchers to investigate complicated and sensitive themes, they need substantial preparation and instruction to ensure the person conducting them builds relationships with those being interviewed and offers a secure and supportive atmosphere.<sup>24</sup> In-depth conversations in health research enable researchers to collect rich and extensive data on respondents' opinions and experiences, revealing significant insights into the cultural and social components that influence health outcomes. Furthermore, in-depth interviews can be especially effective for delving into delicate themes like stigmatized health problems or prejudiced encounters in healthcare.<sup>24</sup> In-depth conversations in medical studies typically use a semi-structured or uncontrolled method, allowing for flexibility and investigation of unanticipated concepts

**Table 1: Categories of qualitative research design. Qualitative research approach examples.**

No.	Category [Reference]	Description/Highlights
1.	Ethnography. <sup>16</sup>	This research approach can be helpful in social and health sciences research for understanding how cultural and social factors influence health behaviors and healthcare practices. Through this immersion, the ethnographer can comprehensively use various data collection techniques to account for social phenomena during the research period.
2.	Narrative. <sup>16</sup>	The narrative approach involves presenting a series of events in a cohesive story, typically from the perspective of one or two individuals. Interviews are often conducted over weeks, months, or even years, but the final narrative need not be presented chronologically.
3.	Phenomenological. <sup>17</sup>	Phenomenology is "the study of the meaning of phenomena or the study of the particular." This research method might be used in social and health sciences research to elicit patient viewpoints on health and healthcare. The phenomenological technique is employed in medical education research and you may learn more about it by reading some exciting publications.
4.	Grounded theory. <sup>18</sup>	This research approach can help generate new insights into the complex and dynamic processes that shape health, healthcare systems and social lifestyles in social and healthcare research.
5.	Case study. <sup>19</sup>	Case studies can be helpful in social and health sciences research by exploring the unique features of a particular health condition, healthcare system, or society. Case studies explore and investigate contemporary real-life phenomena through detailed contextual analysis of a limited number of events or conditions and their relationships. Case studies are a helpful approach that focuses on explaining the complexities of real-life situations.
6.	Action research. <sup>18</sup>	This approach involves collaborative research, in which researchers work closely with stakeholders to identify problems, develop solutions and implement changes in real-world settings. This research approach can be helpful in healthcare research for engaging with communities and healthcare providers to improve health outcomes and healthcare.

or subjects.<sup>23</sup> The interviewer may ask open-ended questions and follow up on the replies to elicit further information. To ensure that participants are treated ethically and respectfully, comprehensive interviews should be conducted in a secure and anonymous atmosphere, with the provision of informed permission during the session.<sup>24,25</sup>

### Observation methods

Observation is a strategy that includes witnessing and capturing people's conduct, conversations and settings as they pertain to the subject of the research issue. Observing can occur in natural and organized situations, including healthcare facilities or clinics.<sup>26</sup> Participating in observations may be particularly beneficial in healthcare research since it allows accessibility to many individuals with diverse findings.<sup>27</sup> The pros and cons of doing feedback involve minimizing the gap between the investigator's perspective and the topic being studied, discovering issues that the researcher was not aware were significant and getting a greater understanding concerning the practical problems components of the study subject at grasp.<sup>28</sup>

### Reviewing documents

Documents research (documentary research) pertains to an investigator's written content assessment.<sup>9</sup> They may encompass intimate and anonymous records, including records, yearly states, regulations, strategy papers, logbooks and letters.<sup>9</sup>

### Focus Groups

Focusing groups are conversations between groups designed to elicit members' insights and observations, as well as to investigate reasons why individuals act in specific avenues.<sup>29</sup> Focus groups are also a popular data-gathering approach in qualitative methodology for healthcare research. The strategy involves conducting conversations in groups with respondents who have comparable features or backgrounds linked to the study issue, which are guided by an experienced facilitator using a topical outline or "script".<sup>30</sup> They may include a person who draws a record of the gestural features of the scenario, potentially utilizing a guide for observations.<sup>31</sup> According to the investigators' as well as respondents' likes and dislikes the conversations can be recorded or filmed and then documented.<sup>31</sup> A focus group is led by a facilitator who organizes a conversation amongst a handful of respondents to elicit a variety of perspectives, encounters



Figure 1: Types of Qualitative Research.

and viewpoints about a particular medical problem or subject.<sup>30</sup> Focus groups are especially beneficial for addressing subjects which might prove challenging to talk about in individual conversations, as group dynamics can provide an easier and more encouraging atmosphere for respondents to express their experiences and viewpoints.<sup>32</sup> Members in focus groups can also debate along clarify the questions/topics that have been raised. In addition, focus groups might prove particularly beneficial with underrepresented or stereotyped people, who might be better at ease addressing delicate health issues in an inclusive environment.<sup>33</sup> Although focus groups enable investigators to gather varied viewpoints while offering complex and meaningful data, they may also add interactions along with prejudices, affecting the accuracy of the data.<sup>32</sup>

### Selecting the "right" approach

As previously stated, the way of thinking behind qualitative research implies no neutral sequence between proof and methodologies. This implies that the selection of individual or

mixed techniques must be founded on the research question to be replied to, in addition to an objective evaluation of how well the chosen approach will achieve it - which means the "fit" among question and method.<sup>11</sup> These choices must be acknowledged whenever they are made and rigorously addressed once strategies plus outcomes are presented.

### Data Analysis Techniques in Qualitative Methodology for Healthcare Research

Qualitative research generates a significant amount of data for analysis.<sup>4</sup> Information analysis in qualitative studies frequently occurs either during or immediately after gathering information to find novel patterns, revise study objectives and cope effectively with large amounts of non-numerical information.<sup>15</sup> That necessitates the researcher using an easily understood categorization and referencing approach while answering the study's general topics. Computer-Assisted Qualitative Data Analysis Software (CAQDAS) can arrange and classify vast data.<sup>16</sup> Table 4 describes the data analysis framework.

**Table 2: Data collection by In-Depth Interview, observation methods, focus group and document review.<sup>21,22</sup>**

Data Collection Method	In-Depth Interview	Observation Methods	Focus Group	Document Review
Data generation	One-on-one interview.	Systemic surveillance.	Group interaction.	Review of recorded or written materials.
When to use	Investigating topics in depth and detail.	Exploring what occurs.	Creating data influenced by group interactions.	Reflecting patterns across time When interviews do not provide sufficient information
	Investigating complicated processes and concerns.	Observing spontaneously occurring and subconscious behaviors.	Demonstrating a social context.	Requiring extensive background knowledge.
	Investigating private issues or concerns.	Exploring Public Behaviors with Environmental Involvement.	When innovative thinking is necessary.	
Study population	For those who are unwilling or unable to travel.	Participants will be engaged in a public context.	For participants willing and able to travel.	Hospital records Case study Depends on types of study and availability of records.
	Where the players are spatially distributed.		Where the participants are geographically concentrated.	
	Where the players are highly varied.		Where participants share some similar ground.	
Recording method	Fieldnotes	Fieldnotes	Fieldnotes	Notes (Ex: Hospital records Diaries, Letters, Archives, Annual reports, Policy documents.
	Audiotapes	Audiotapes	Audiotapes	Watching videos
	Audio-video tapes	Audio-video tapes.	Audio-video tapes.	Listening to oral recordings.

### Thematic Analysis

Thematic analysis is a qualitative data analysis method that examines a dataset to identify, analyze and report recurring patterns.<sup>34,35</sup> The process of thematic analysis typically includes several stages. The initial phase was getting acquainted with using it, simply going through it several times. A further step is to recognize and label parts of data related to the identical idea. The coding technique is carried out via qualitative data management software, the most common of which are Reformer, Dovetail, Transana, LiGRE, MaxQDA and Qualtrics XM. This should have emphasized that they are data management tools that assist investigators with their analyses.<sup>9</sup> Themes in research may be detected by looking for parallels or discrepancies in codes and detecting topics that appear repeatedly across the information.<sup>35,36</sup> The next stage is to organize those concepts and classifications within an organized structure to provide an in-depth and straightforward description of the study's topic. Thematic analysis is a treasured tool for investigators. It empowers them to comprehend the data's complexity and diversity, thereby

generating insightful conclusions that inform policy, practice and supplementary research.<sup>36</sup> Figure 3 demonstrates the main approach and outcome of the analysis.

### Grounded Theory

Grounded Theory (GT) aims to develop a theory based on empirical evidence and observations. This method entails creating a theory or structure based on evidence acquired through continual comparing and refinement.<sup>37</sup> GT enables investigators to produce novel and creative data-driven conclusions, including hypotheses, which may ultimately result in establishing novel procedures, procedures and initiatives.<sup>37</sup>

### Reflexive Analysis

Reflexive analysis is a data analysis approach in which investigators consider their position and function during the study. This enables them to examine their biases and preconceptions critically and understand how they may have influenced the data gathered and evaluated.<sup>38</sup>

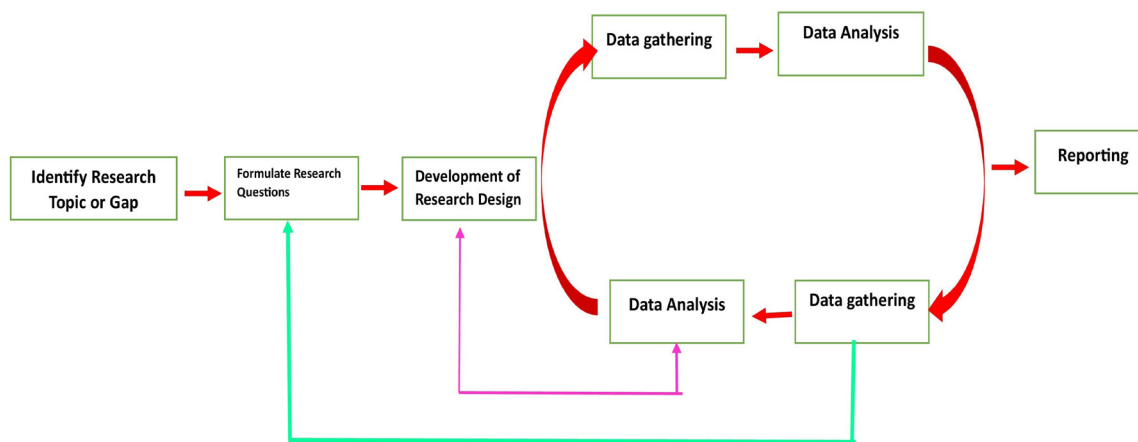


Figure 2: Steps for Conduction of Qualitative Research.<sup>11</sup>

Table 3: Steps in conducting by In-Depth Interview, observation methods, focus group and document review.<sup>21,22</sup>

Step	In-Depth Interview	Observation Methods	Focus Group	Document Review
1	Arrival and introduction	Site arrangement.	Setting scenarios and ground rules.	Ready your materials.
2	Introduction to the research	Identifying the participants.	Individual introduction.	Review the materials.
3	Starting the interview	Collecting background information.	Opening topic discussion.	Extract data from materials.
4	During the interview	During the observation.	During the discussion.	Analyze data
5	Ending the interview	Closing the observation.	Ending the discussion.	Distill your findings.
6	After the interview	Post interview Post discussion.	Post discussion.	Post-document findings/review discussion.

**Table 4: Data analysis framework.**

Analysis	Approach of Data Collection and Analysis	Outcome
Thematic Analysis	Data collection and transcription.	Report major themes with quotes.
	Develop a coding framework, read the transcripts and identify patterns/themes from the data.	
	Inductive/deductive or mixed approach.	
Grounded	Data collection	Validation or development of new theory.
	Form concepts based on a theory/framework.	
	Constant comparison and iteration.	
Reflexive	Reflection of a researcher's interaction and positionality in the data collection and analysis process.	Researcher's reflections/ insights on how the experiences, assumptions, bias and values influence the study.
	Evaluate the researcher's biases and assumptions.	

### Assessment of Qualitative Research Methodology

A range of assessment criteria and lists for qualitative investigations have been developed and produced, with varying degrees of concentration as well as thoroughness.<sup>9,39</sup> Nevertheless, neither of these documents was ever recognized as the "standard of excellence" in the profession.<sup>40</sup> Within the sections, we concentrate on frequently employed evaluation requirements that an academic might use to evaluate a qualitative research report or article.

### Checklists

Investigators ought to examine the study's usage as well as a commitment to an appropriate collecting checklist (e.g., Standards for Reporting Qualitative Research (SRQR)) to ensure every problem relevant to this type of study is handled.<sup>14</sup> Presentations of quantitative indicators in addition to or instead of qualitative indicators may indicate a lesser quality of study (article). Developing and following a checklist for qualitative research helps to meet an essential quality requirement for qualitative research: accessibility.<sup>9,41</sup>

### Samples and saturation

The purpose of qualitative sampling is to gather all relevant observations throughout the investigation and incorporate them into the group to aid analysis "to see the issue and its meanings from as many angles as possible";<sup>31,42,43</sup> in addition to maximizing "information-richness".<sup>44</sup> An iterative sampling strategy is recommended, in which data is collected, analyzed and then collected again to identify variations missing from the present sample. This procedure proceeds unless no further (pertinent) evidence can be retrieved and additional sampling is rendered unnecessary, a condition known as saturation.<sup>31,44</sup> This additionally constitutes another explanation for why numerous qualitative research employ purposeful rather than random sampling procedures. That is sometimes referred to as "purposive sampling," whereby investigators choose what kind of persons or

instances they require to include to encompass all varieties which are deemed significant according to the literature, experience, or theory (i.e., theoretical sampling).<sup>9,43</sup> Investigators of qualitative research ought to investigate if the sampling strategy's concerns were appropriate, as well as when researchers attempted to adjust and enhance their tactics through incremental or cyclical approaches between data collection and analysis to attain completion.<sup>9</sup>

### Reflexivity

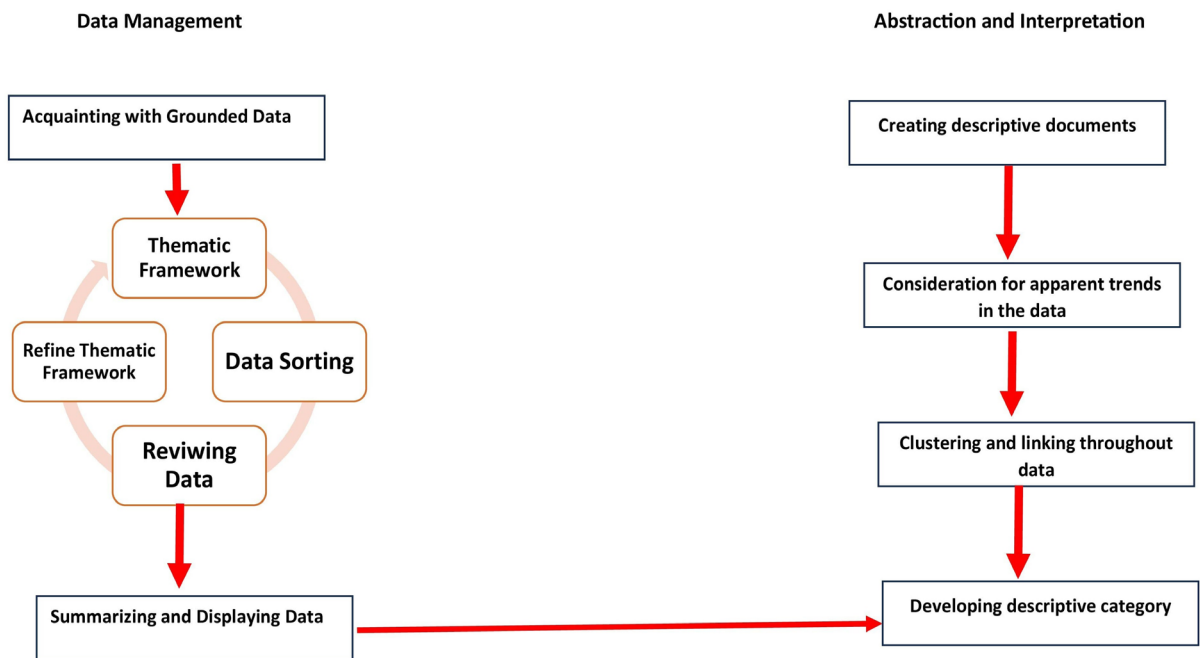
A reflexive approach helps us be aware of our research's social, ethical and political impact, the central, fluid and changing nature/s of power relations (with participants, hospital employees, research funders, etc.) and our relationships with the researched.<sup>45</sup> Although methodological accessibility and complete documentation are important for all research forms, qualitative research requires special considerations.<sup>40</sup>

### Piloting

A compelling qualitative study is incremental, alternating between data gathering and analysis, changing and enhancing the technique as needed. Pilot studies were a prime instance of that, whereby various components of the interview process (particularly the guide to the interview, as well as, for example, the location of that conversation or if the conversation may be recorded) are tried with only a handful of people participating before being assessed while amended.<sup>42</sup> As a result, the interviewer discovers whether phrasing or sorts of questions are most effective and the optimal length of an interview with patients who have difficulty focusing for lengthy periods. The same logic applies to observations or focus groups that can be further tested.

### Checking with members

Participant verification, additionally referred to as responder validation, seems to follow up with study participants to verify whether the study's findings are consistent with their



**Figure 3:** Data analysis process of qualitative research.<sup>3</sup>

perspectives.<sup>9,39</sup> For example, interviewees are routinely provided with their transcripts and asked if they feel they accurately represent their ideas or whether they will want to explain or remark upon their answers.<sup>41</sup> Participants' comments on these concerns were subsequently incorporated into the data collection and evaluation.<sup>39</sup>

### Stakeholder participation

In areas where qualitative techniques can develop and expand, an emerging pattern has come about whereby patients and their representatives are included not just as study participants but also as advisers as well as involved in the larger study procedure.<sup>22,23,33</sup> Considering participants on or approaching dialysis as an example, a recent comprehensive assessment showed that 80% of clinical research failed to address caregivers' and patients' top ten research goals.<sup>23,36</sup> In this regard, the engagement of significant stakeholders, particularly patients and their relatives, has become increasingly accepted as an indicator of excellence.

### Ethical Considerations in Qualitative Research Methodology for Healthcare Research

Ethical issues are critical in qualitative research to guarantee that the study is performed ethically and that everyone's privacy and satisfaction are protected. Ethical issues must be carefully weighed because of the potential for vulnerability and the vulnerable characteristics of the issues in healthcare-related qualitative research.<sup>46</sup>

### Acquiring informed consent

In research, informed consent is an ethical concept that requires participants to agree before joining the study voluntarily, knowingly and continuously.<sup>47</sup> In qualitative research, informed consent entails informing volunteers about the research's objective, processes, possibilities and advantages and their rights as participants. Volunteers should be able to submit inquiries and leave the research anytime.<sup>48</sup>

### Protecting confidentiality and privacy/ Confidentiality and Anonymity

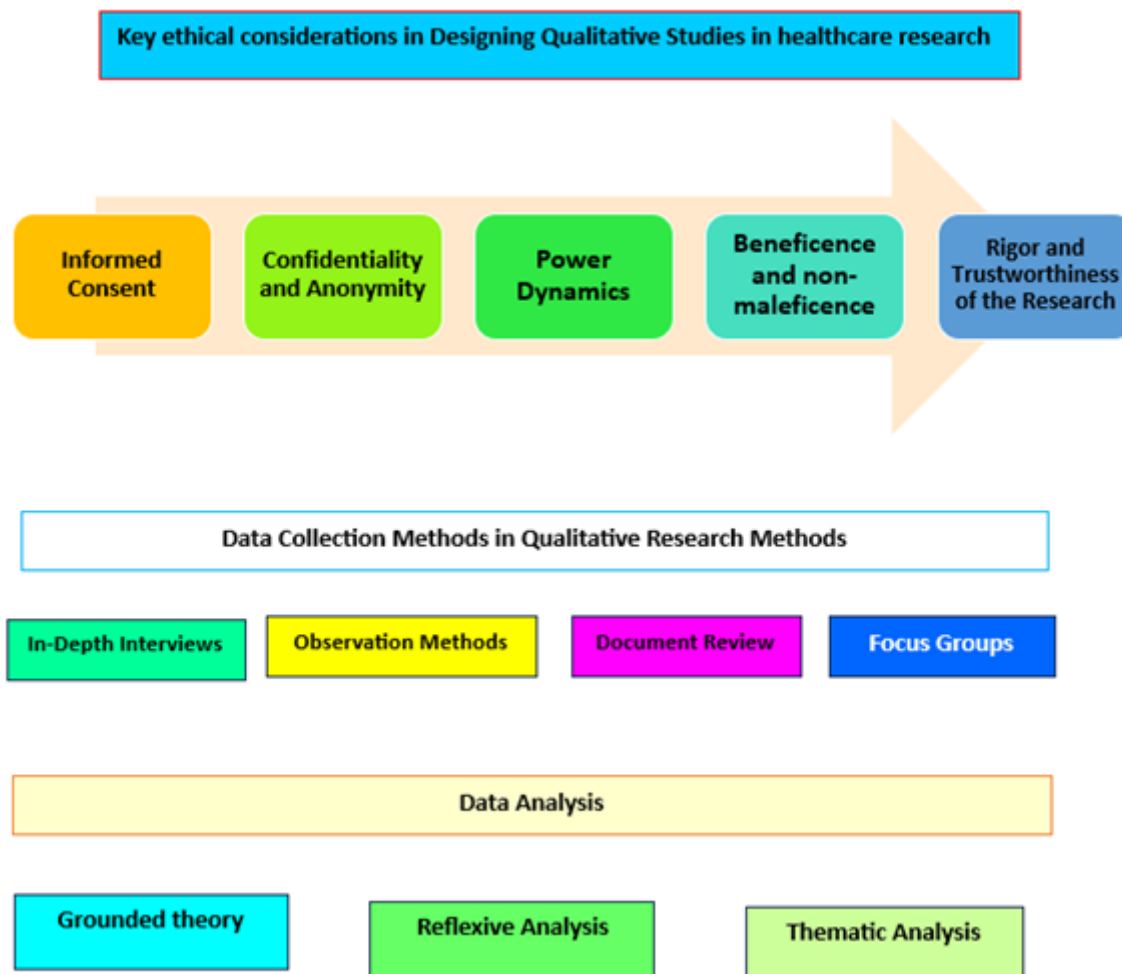
Because of ethical concerns, qualitative research promotes secrecy and anonymity.<sup>49</sup> It is critical to reassure individuals that their data and identity will be kept private and confidential. To guarantee this, researchers must safely save their findings and erase any personally identifiable data before analyzing and disseminating the results.<sup>49</sup>

### Power Dynamics

Researchers must know power dynamics in research relationships and prioritize participants' comfort and empowerment to share experiences.<sup>50</sup>

### Beneficence and non-maleficence

As researchers, it's our responsibility to ensure that our work has a positive impact and adheres to the principle of "do no harm". This means we should aim to maximize the benefits of our research while minimizing any potential harm to the participants involved.<sup>50</sup>



**Figure 4:** Summary of critical qualitative data collection and analysis components in healthcare research.

When conducting qualitative research, we must prevent emotional distress or psychological harm to our participants. We must be ready to provide appropriate support and resources to anyone needing assistance. Our findings should guide the development of culturally responsive interventions and policies promoting health equity.<sup>50</sup>

### **Rigor and Trustworthiness of the Research/Showing respect for participants**

Maintaining rigorousness in qualitative studies is critical for establishing the results' legitimacy, adaptability, trustworthiness and reliability.<sup>51</sup> There are several methodological strategies that researchers can use to achieve this. One active tactic is to conduct interviews with a researcher who has undergone specialized training in qualitative research methods. This confirms a high level of expertise and compassion for the distinctions of qualitative inquiry.<sup>51</sup> Additionally, debriefing meetings can help review the acquired data comprehensively and identify

potential topics for further research. These meetings can be repeated until data saturation is reached.<sup>52</sup> Agreeing upon codes when working together within the study team is also critical. Adding direct statements from participants may strengthen the conclusions reported. Moreover, established guidelines such as the Comprehensive Criteria for Reported Qualitative Research (COREQ) can provide direction for study design and transparent reporting of qualitative research findings.<sup>52</sup> Figure 4 depicts the essential elements of qualitative analysis in practice.

### **Qualitative Methodologies in Healthcare Research: Problems and Limits**

Qualitative research can provide in-depth insights into cultural and social factors that impact health outcomes. This can assist in developing more efficient and culturally relevant interventions and policies.<sup>2,48</sup> However, the technique poses some obstacles and limits that must be addressed to ensure its accuracy and reliability.<sup>52</sup>

## Subjectivity and biases

Biases and subjectivity pose significant barriers to qualitative research during data collection, analysis and interpretation.<sup>53</sup> Qualitative research strongly depends on the viewpoints and experiences of participants and researchers, which can be affected by a wide range of variables like one's own prejudices, social and cultural expectations and the dynamics of power.<sup>54</sup> Researchers must be aware of their biases and restrict their influence on the research by utilizing different data sources and methodologies, participating in reflective practice and employing redundancy to validate the study results.

## Sample Size and Generalizability

Another issue with qualitative studies involves using small samples, which may restrict the ability to generalize the outcomes. Qualitative research aims to delve deeply into the thoughts and feelings of a small group or community instead of generalizing across diverse populations.<sup>55</sup> However, in healthcare research, regulators and healthcare practitioners might seek comprehension that can be applied to broader populations to make educated decisions.<sup>56</sup>

## Reliability as well as validity

Qualitative research includes complicated and recurrent data gathering, evaluation and understanding methods that can be impacted by various circumstances.<sup>55</sup> Consequently, establishing the reliability and legitimacy of qualitative data may be a significant difficulty. Researchers must guarantee their results are valid and trustworthy by employing rigorous data collecting and analytic procedures, practicing reflexivity and triangulation and soliciting suggestions from respondents and other stakeholders.<sup>57</sup>

## Considerations of Ethics

Qualitative healthcare research involves close interaction with participants and discussing sensitive and emotional topics, making it crucial to ensure that the study is conducted respectfully and culturally acceptable.<sup>55</sup> Researchers must take precautions to avoid causing damage or distress to participants, such as acquiring written consent, protecting anonymity and confidence and offering adequate assistance to those who require it.<sup>50</sup> Ethical considerations are crucial in research to ensure participants are treated with respect and dignity.

## Timing and limited resources

Qualitative research can be challenging for healthcare researchers due to the considerable time and resources it requires.<sup>58</sup> Qualitative research is often a protracted process of data gathering, analysis and interpretation, which can be exacerbated by the requirement to work with varied populations and stakeholders.<sup>58</sup> Researchers must ensure they have the time, resources and support to conduct their research efficiently and handle any obstacles or limits that may develop throughout the study period.

## CONCLUSION

The qualitative research approach in healthcare research provides a powerful lens through which to investigate the social and cultural aspects that influence health and healthcare, enabling the creation of treatments and policies that better meet the health needs of marginalized people. However, a researcher has to carefully determine the constraints and obstacles of qualitative research and address them through robust study design and methodology. To genuinely improve healthcare research and practice, we must fund further research, emphasize education and fight for policy reforms that strengthen the rigor and influence of qualitative techniques in designing a more inclusive and effective healthcare environment. Overall, conducting qualitative healthcare research is important because it can provide a deeper understanding of the research subject, can help identify patterns and themes that may be missed in quantitative research, can generate hypotheses for further testing and can be useful in areas where little is known about a particular subject.

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## CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

## ABBREVIATIONS

**CAQDAS:** Computer-assisted qualitative data analysis software; **COREQ:** Comprehensive Criteria for Reported Qualitative Research; **GT:** Grounded theory; **SRQR:** Standards for Reporting Qualitative Research.

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