How to Design a Qualitative Health Research Study. Part 1: Design and Purposeful Sampling Considerations

Come Disegnare uno Studio di Ricerca Sanitaria Qualitativa. Parte 1: Considerazioni sui Disegni e sul Campionamento Propositivo

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ABSTRACT

In this first part of the article, we aim to provide health researchers with an understanding of how to design a qualitative health research study, including: topic identification, design selection, and engagement in reflexivity. We offer practical guidance for writing an overarching question using a novel framework that helps develop a clearly articulated question that includes the following elements: emphasis, purposeful sampling, phenomenon of interest, and context. We then expand on specific methodological issues: study designs, contexts, sampling, and recruitment. Finally, we provide examples of qualitative health research studies that illustrate the application of different research designs. In part two of this article, we will discuss how to prepare for going into the field, how to generate, manage and analyse data, and plan for the dissemination of qualitative health research.

Keywords: Research Methodology, Qualitative Research, Qualitative Health Research, Research Design, Purposeful Sample, Recruitment

RIASSUNTO

Attraverso le nostre esperienze di insegnamento della ricerca qualitativa agli studenti in varie discipline sanitarie, abbiamo concluso che molti ricercatori alle prime armi richiedono un supporto chiaro, pratico e focalizzato per sviluppare protocolli di ricerca. In questa prima parte di articolo, miriamo a fornire ai ricercatori sanitari una comprensione di come progettare uno studio qualitativo sulla ricerca sanitaria, tra cui: identificazione dell'argomento, selezione del disegno e del coinvolgimento nella riflessività. Offriamo una guida pratica per scrivere una domanda utilizzando una nuova framework che aiuta a sviluppare una domanda chiaramente articolata che include i seguenti elementi: enfasi, campionamento propositivo, fenomeno di interesse e contesto. Quindi, esponiamo questioni metodologiche specifiche: disegno di studio, contesti, campionamento e reclutamento. Infine, forniamo esempi di studi qualitativi di ricerca sanitaria tratti dalla letteratura. Nella seconda parte dell'articolo, discuteremo come prepararsi per andare sul campo, come generare, gestire e analizzare i dati e pianificare la diffusione della ricerca qualitativa sanitaria.

Parole Chiave: Metodologia della ricerca, Ricerca Qualitativa, Ricerca Sanitaria Qualitativa, Disegni di Ricerca, Campionamento Propositivo, Reclutamento.

INTRODUCTION

There is increasing use of qualitative research methods across different health disciplines, thus allowing for the examination and description of complex health issues (Luciani et al., 2019). Qualitative studies answer different questions than quantitative studies; the complex, holistic findings that emerge from this type of knowledge production can deepen our understanding of individuals' experiences of health and illness, policies, programs, interventions and health services. Qualitative inquiry functions to provide rich descriptions of social or human phenomena from the perspective of those who experience them, explain human behaviour within particular contexts, or contribute to evaluations of interventions, programs or health services (Creswell & Poth, 2018). Qualitative studies are also an essential component of mixed methods health services research, where they are purposefully linked with and conducted before, during, or after quantitative studies (Watkins, 2012).

Despite the evident utility of, and increased interest in conducting qualitative research by health professionals and researchers, there is a lack of consistency in methodological congruence and quality among published qualitative studies (Cambon et al., 2016; Thorne, 2011). While qualitative studies published in leading health and social science journals have been reported to demonstrate a high degree of congruence between researchers' methodological orientations and the sampling, data collection and analytic strategies used (Bradbury-Jones et al., 2017), in other fields many studies are methodologically weak resulting in low quality research and findings which may have limited credibility (Pope & Mays, 2009; Sandelowski, 2000). Many scholars have called for health researchers to be responsive to their environments and produce quality findings that are methodologically sound (Morse, 2012; Sandelowski, 2010; Thorne, 2011). Thus the use of qualitative health research approaches can support the development of knowledge that is specific to applied practices (Thorne, 2014).

In our experiences of teaching undergraduate and graduate qualitative research courses across health disciplines including nursing, medicine, and rehabilitation sciences, we have discovered that students, as well as researchers new to qualitative methods, require practical guidance on how to develop study purpose statements, write research questions appropriate for qualitative health studies and select the qualitative health research design most appropriate for meeting the study goals and answering the overarching question. Providing researchers with a blueprint to study design may help to support the development and conduct of rigorous studies, which will result in robust and trustworthy evidence.

There are two parts to this article. In part one, we introduce the key elements associated with the design and conduct of qualitative health studies. These include identifying an appropriate topic, developing an overarching question, selecting an appropriate qualitative health research design and the importance of engaging in reflexivity. We then expand on some specific methodological issues: study designs, contexts, sampling, and recruitment. Finally, we provide examples of qualitative health research designs from the literature. In part two of this article, we will discuss how to prepare for going into the field, how to generate, manage and analyse data, and plan for the dissemination of qualitative health research. The purpose of this paper is to provide health researchers with an understanding of how to begin to design a qualitative health research study.

PREPARING TO CONDUCT A QUALITATIVE HEALTH RESEARCH STUDY

In all health research, a primary principle is that once a research question is clearly articulated, then it is the responsibility of the researcher to identify the best study design to answer that question (Ploeg, 1999). However, there is considerable background work that is required prior to stating the overarching research question. So where do qualitative health research questions come from? We would encourage novice researchers to look to two primary sources to help them identify an issue suitable for qualitative exploration: a) the available scientific literature on a phenomena of interest; and b) clinical, policy, or educational experiences or observations.

While there has been debate in the social sciences about the role of, and need for, conducting a thorough literature review prior to conducting a qualitative study (Birks & Mills, 2015) given the propensity to influence the inductive analysis process, within the health sciences, inclusion of a literature review is a standard expectation in all health research protocols. The literature review serves to provide background information to contextualize the phenomena under study, introduce relevant theoretical frameworks and assumptions, and identify key gaps in knowledge.

Methodologists have developed applied qualitative health research designs that allow clinicians to engage with the practical nature of their phenomena and interests (Sandelowski, 2000; Thorne, 2014, 2016; Thorne & Darbyshire, 2005). Qualitative health research, as a distinct sub-discipline of qualitative research, requires attention to unique considerations as researchers enter into a study focused on a health or health systems issue (Luciani et al., 2019; Morse, 2010; Thorne, 2011). At the inception of a qualitative health study, the researcher must attend to some important factors that frame their study. Clinicians have insider knowledge that allows for thoughtful examination of specific issues that may direct study decisions (Morse, 2012). For example, health care providers will have an understanding of patient care practices and privacy

issues, awareness of hierarchies and positions of health care practitioners, the ability to understand patients' needs, and the knowledge of how to respond appropriately (Morse, 2010). With this knowledge, qualitative health researchers are able to reflect on and pose important questions about their research projects. These questions are useful to guide the researcher in developing and refining the research focus; however, they are not research questions. Instead they serve the purpose to guide the researcher in reflecting on engagement. Examples of these questions can be found in Table 1.

Early engagement within health sciences in qualitative inquiry, particularly within health, requires that researchers ponder many possible outcomes to determine who may need to be involved in the research (Morse, 2012). It is vitally important to consider potential participants and their capacity or willingness to participate because this will influence the development of the research question (Morse, 2012). If health care professionals are included as participants, researchers need to determine the timing of interviews (e.g. during breaks, work time, or personal time) as well as how data are generated. If the goal of the study is to explore health care professionals' perceptions of a topic that may be deemed sensitive or controversial, then it might be appropriate to conduct one-to-one interviews rather than discuss the topic in a group format such as a focus group, so that shared personal values and beliefs do not ultimately influence how colleagues view and treat one another in the work setting. The setting will also influence design decisions and clinicians may be equipped with knowledge necessary to understand the appropriateness of physical health care contexts. Applied qualitative research approaches are responsive to the clinical environment and support active engagement with contextual considerations and also provide methodological guidance. Fostering critical thought and reflective practice in novice researchers may help to develop qualitative researchers who engage with the methodological issues associated with qualitative work as well as the functional aspects associated with the healthcare setting (Jaye, 2002).

Table 1. Guiding Questions for Engaging in Qualitative Health Research.

Selecting study participants
Who/what needs to be involved? Consider all of the people who need to be involved to help answer your research question. Does this involve patients?
Who is willing and able to participate? Does the clinical condition of participants hinder or complicate their participation to the study?
Does it provide a different and complementary perspective to include the family members of patients (partners, parents, children, siblings, etc.)?
Are there health professionals that should also be invited to share their perspective of the phenomena under study? Would an organizational perspective offer new insights into your phenomenon of interest? Should any of these people be included as co-researchers?
In additional to identifying and sampling participants, would the inclusion of any documents add value to your research study (policies, forms, patient information documents, charts, etc.)? What background preparation is required to secure access to these types of documents or medical record?
Reaching your participants
During this stage of study design, it may be necessary to establish relationships with key "gatekeepers" who can provide access to your ,study population. This may include hospital/clinical setting managers or administrators. What organizational requirements are they responsible for ensuring are met prior to any new research being conducted?
Within the organization, ask, "what steps need to be addressed to access the clinical setting and then to identify, recruit, and consent patients/health care professionals into the study?"
Explore with your organizational partner all of the different strategies for increasing awareness about the study, and for recruitment. Ask if you can attend team meetings, post posters or hand out "postcards", or if staff will be required to assist with recruitment.
How stigmatised, controversial, sensitive, or stressful is your topic of study? Depending on this answer, it may be important to meet with your local gatekeeper to discuss safe strategies for recruitment and data collection, as well as to review procedures for ensuring the confidentiality of the participants and the privacy of the data.
Selecting the site for data collection
It is important to determine where data will be collected. How will the site for a scheduled interview or focus group influence confidentiality or privacy?
What site options can be offered to participants that offer safety, privacy, and confidentiality for both the participant and the researcher? Ensure that the site is mutually negotiated between the study participant and the researcher.
If data collection is to occur within the health care setting, who within the organization will be responsible for assisting the researcher with logistics e.g. room booking?
If study participants include health care professional, and if data collection is going to occur in the work place, explore if it is possible that data collection occurs during paid work time.
If data collection is going to occur in a community or home setting, explore and establish protocols for interviewer safety (e.g. have a procedure in place to "check-in" with someone following an interview) and again to ensure that the participant is able to share their information in a private space (e.g. no other family members present in room in home).
Begin with the end in mind – considerations for knowledge translation
Should decision makers (politicians, policy developers, directors, managers, etc.) be involved in the study?
If decision makers are involved, negotiate early in the study what their roles and responsibilities will be, and if or how they will contribute to knowledge translation or publication efforts.
Could the perspective of decision makers enhance your study?
Would decision makers be important to include when disseminating of findings?
Who needs to hear the study results?
How will they be reached? Would it be useful to reach lay journals and media?

Developing Reflexivity

Reflexivity is an important first step in study engagement that supports qualitative health researchers' self-awareness during the research process (Finlay, 2002). Often confused with reflection or critical thought, reflexivity is its own independent concept, which can build trustworthiness and rigour when applied to qualitative research (Bradbury-Jones, 2007; D'Cruz, Gillingham, & Melendez, 2005; Finlay, 2002; Gentles, Jack, Nicholas, & McKibbon, 2014). This distinction is important for qualitative health researchers who also engage in reflection as a regular expectation across nursing, medicine, and other health disciplines (Mann, Gordon, & MacLeod, 2009). Reflection has been defined as "the generalized practice in which researchers strive to make their influence on the research explicit—to themselves, and often to their audience" (Gentles et al., 2014, p.1). Reflexivity is the process whereby researchers are conscious of biases, values, and experiences that may influence their study (Creswell & Poth, 2018).

Many researchers have provided guidance for how researchers should practice reflexivity and apply it to their research (Bradbury-Jones, 2007; Finlay, 2002; Gentles et al., 2014; Rae & Green, 2016). Approaches range from Finlay's three stages of research (pre-research, data collection, and data analysis) to the Bradbury-Jones method of identifying the different subjectivities of the researcher. Gentles and colleagues offer an approach to reflexivity that reflects the multiple means by which researchers recognize their influence on decisions made during the research process. In a pragmatic approach, Rae and Green present a matrix to facilitate reflexivity for health researchers. Regardless of the multiple methods guiding the practice of reflexivity, its importance for enhancing rigour is consistent among all (Bradbury-Jones, 2007; Finlay, 2002; Gentles et al., 2014; Rae & Green, 2016).

Reflexivity is used in qualitative research to acknowledge the subjectivity inherent in qualitative inquiry and reclaim it as an opportunity to produce research that is rigorous and trustworthy (Bradbury-Jones, 2007). Because the researcher is the instrument of qualitative research (Creswell & Poth, 2018), attending to the social location, personal experiences, professional knowledge, and political beliefs of the researcher acts as a method of quality control during the research process (Berger, 2015). The ongoing critique and assessment of oneself that occurs during reflexive practice encourages an end-product that identifies the positionality and location of the researcher (Koch & Harrington, 1998). Frequently, this is written in a reflective journal, which can also serve as an audit trail of decision-making (Bradbury-Jones, 2007).

Writing a focused overarching research question

Once the focus and purpose of the study is identified, the next step is to develop an overarching research question to guide the focus of inquiry. Nurse researchers at McMaster University have developed the EPPiC framework to help support novice researchers develop a clearly focused qualitative health research question. Within this framework, we assert that a single, overarching question to guide the study should include four key elements or language that: 1) highlights the **Emphasis** (or focus) of the study; 2) acknowledges the **Purposeful** sample; 3) identifies the social or human **Phenomena** of interest being studied; and which is situated within a specific 4) **Context**. In Table 2, we provide a definition of each component as well as suggested content.

Table 2. EPPiC Research Question Components.

Research Question Component	Description	Examples
Emphasis	Use of terms that illustrate the purpose of the study or coded language (see **Table 3**) aligned with the selected study research design	**Study Purpose:** Description: *What…*? Exploration: *How….*? Explanation: Why…?
Purposeful sample	Detailed articulation of the individuals, group, or culture whose perceptions or experiences will be explored. May be reflective of a single data source (e.g. nurses) or multiple data sources (e.g. nurses, physicians and physical therapists).	In what ways do *full-time, registered nurses working in an emergency department*, explain their experiences of patient-initiated violence in Italian, urban acute care hospitals? How does the culture of an emergency department, in hospitals located in southern Italy, *influence health care providers'* responses to patient-initiated violence?
Phenomenon of **i**nterest	The core social or human phenomenon to be examined in the study – may be a concept. (e.g. trust), action or process (e.g. caregiving, termination of therapeutic relationships)	In what ways do full-time, registered nurses working in an emergency department, explain their experiences of *patient-initiated violence* in Italian, urban acute care hospitals? How does the culture of an emergency department, in hospitals located in southern Italy, influence health care providers' *responses to patient-initiated violence*?
Context	All social and human phenomena are influenced and shaped by the social, geographic, or political environment (context) in which they occur	In what ways do full-time, registered nurses working in an *emergency department*, explain their experiences of patient-initiated violence in *Italian, urban acute care hospitals*? How does the culture of an *emergency department, in hospitals located in southern Italy*, influence health care providers' responses to patient-initiated violence?

METHODOLOGICAL DECISIONS

In qualitative health research it is essential to demonstrate methodological congruency between the study purpose statement, overarching research question, design, sample, and selected data gathering techniques and analytic strategies. We delineate, in this section, how to coherently choose a design, a context, a sample, and a recruitment strategy.

Design: how to select one?

Once the research question is designed using the EPPiC framework one can focus on the "emphasis" of coded language (Table 3), namely the form of the research question, to extrapolate what design is most suitable to answer the question posed. During this process, a researcher may spend ample time carefully challenging the question, rephrasing, and revising, in order to be sure that the question conveys the exact meaning the researcher has in mind. As a general rule, the researcher might want to focus both on the coded language of the question and on the focus of the design. For example, descriptive or "what" questions can be answered with many different designs (qualitative description, interpretive description, focused ethnography, case study, etc.). However a "what" question that stems from a clinical question, is rooted in a disciplinary orientation, and seeks to develop pragmatic implications for practice, is best answered with interpretive description.

Table 3. Type of design, associated coded language, and focus of the design.

Design	Coded Language	Focus of the design
Qualitative Description (Sandelowski, 2000)	What are the factors that influence … What are the facilitators and barriers …	**Description**
Interpretive Description (Thorne, 2016)	What are the dimensions of the (concept) … How do values, belief, attitudes shape (topic) in (sample)? How do (purposeful sample) explain their experiences of (phenomena of interest)?	**Disciplinary Orientation**
Focused Ethnography (Cruz & Higginbottom, 2013; Knoblauch, 2005)	What are the shared beliefs, values, and practice patterns of (sample/topic) …	**Culture**
Case Study (Yin, 2018; Stake, 1995)	How do (sample) experience (health-related experience)? Why do (sample) attending different health care sites make decisions about a (health-related experience)?	**Description, exploration, or explanation**

Context and site: where should the study be conducted?

Often in research articles we can find information about the context of the study but it is difficult to find an operational definition of what context means in research. That being said, context is the environment, circumstances, or situation in which the phenomenon occurs and that influence how the phenomenon is experienced. The main two types of micro context are spatial and temporal, which can be controlled by the researcher through selection, and the macro context is social, political, cultural and which by nature, cannot be controlled, only observed.

Geographic or spatial contexts, or "where" an action or experience occurs, are examples of micro contexts. It is common for researchers to identify then the physical space, area or country in which a phenomenon is being studied. For example, in this phenomenological study focused on informal caregivers' needs in patients discharged from a spinal cord unit (Conti, Garrino, Montanari, & Dimonte, 2016), the geographical context is an affluent area in northern Italy. While in this interpretive description study focused on public health nursing, the geographical context is rural communities of British Columbia, Canada (Campbell, MacKinnon, Dobbins, Van Borek, & Jack, 2019). We also recognize that spatial context can be an organisational or cultural space, such as a specific ward or a particular team or group in healthcare, for example a psychiatric (Salzmann Erikson, 2018) or neonatal (Thorne, Konikoff, Brown, & Albersheim, 2018) intensive care unit.

The other type of micro context is the temporal one: the "when". This includes, but is not limited to, historical research. The temporal context can also be linked to current events or new technologies. As an example, returning to the vaccination issue (Jack, 2019), it is very different to design a qualitative study on vaccine hesitancy today rather than 15 years ago. eographic, spatial and temporal contexts remain at a micro level as they are immediate and identifiable. With this example, we can also quite easily see how context influences the phenomenon: Italy and Canada have similarities (e.g. type of health care system, status as first world countries) and differences (e.g. Italy's population is 60% higher than Canada's in 1/33rd of Canada's space); designing a study on Community Care in these two countries would likely produce different results that are influenced by the geographical or spatial context.

Context can also be subjective. When we approach the macro context (political, social, cultural) what we observe might depend on the knowledge the observer holds about the context, their discipline, and the insider/outsider perspective. Remaining within the realm of health sciences, let's imagine a health economist, a nurse, and a psychologist observing the same emergency department at the same time: they will most definitely observe different things, such as the risk of having an insurance based health

care system (Musgrove, 2006), how working in an overcrowded emergency department can make nurses feel powerless and lower the care provided (Kilcoyne & Dowling, 2007), or the management of burnout for the emergency department personnel (Salvarani et al., 2019).

It is important to note the difference between context and site. The site is the tangible, real place in which the researcher will identify, recruit and invite individuals to participate in the study, and perhaps the location where data are collected. For example, in this study on instructional methods for multi-patient management in the emergency department (Chan, Dewark, Sherbino, & Lineberry, 2019), the context is the emergency department as a concept and the sites are the actual, distinct wards, emergency departments and urgent care centres, selected. Since the advent of the Internet, sites can also be virtual. For example, in this study on the blogging practices of women undergoing in vitro fertilisation (Orr, Jack, Sword, Ireland, & Ostolosky, 2017), the chosen site was virtual and involved sampling and data extraction from online, publicly available blogs. The site selection also requires thought and preparation. Borrowing from case study research (Yin, 2018) we can divide sites in critical, extreme, common and revelatory, exactly how we would do with a sample. Often the site selection is a convenient choice of proximity and availability, which is possible as long as the context is fully understood and explained for transparency and transferability. In other situations, a site is specifically selected because of its unique characteristics, because it is politically important or offers a novel or exemplary program or health procedure.

Sampling: who should be in the study?

Sampling is a critical and complex part of any research study. In qualitative health research, sampling refers to the purposeful decisions that help determine who will be the individuals or groups that will be included in the study. Depending on the research question, a researcher may sample at multiple levels including at a site, at a process or event, or at a participant level (Creswell & Poth, 2018). All sampling decisions should be purposeful and chosen because they best answer the clearly articulated research question.

Purposeful sampling

Two principles underlying qualitative sampling are appropriateness and adequacy (Morse & Field, 1996). It is important that the right sample is selected to ensure the research questions can be adequately answered. To achieve appropriateness, qualitative research uses purposeful sampling (Creswell & Poth, 2018; Patton, 2015). Unlike quantitative research designs that use random or probability sampling in order to generalize data from the sample to a population (Palinkas et al., 2015), qualitative research intentionally seeks those individuals or sites that can best speak to the research problem being investigated (Creswell & Poth, 2018). Therefore, purposeful sampling is selecting information-rich and relevant cases (Patton, 2015). This refers to choosing participants and sites for data collection because they will inform understanding of the research problem and phenomenon under study (Creswell & Poth, 2018). The aim is to achieve representativeness or comparability (Richards & Morse, 2013).

Creswell and Poth (2018) outline three components of a purposeful sampling approach: 1) the individuals or sites to select for study; 2) the type of sampling strategy; and 3) the size of the study sample. The next sections will address these components.

Individuals or sites to select for the study

While Patton (2015) identifies criterion sampling as a type of purposeful sampling, in health research it is more common to refer to these initial boundaries placed upon the sample as inclusion and exclusion criteria. To define the study population from which cases will be sampled, inclusion and/or exclusion criteria must be created (Robinson, 2014). Inclusion criteria are the characteristics that a site or individual must have to be eligible to take part in the study, while exclusion criteria specify the characteristics that would make them ineligible to be studied (Robinson, 2014). By delineating the characteristics needed for the sample, which may include specifying particular demographic (e.g. age, gender), clinical (e.g. relevant diagnosis, use of a therapy), or sociocultural (e.g. ethnicity, income, education level) attributes, researchers can identify participants for recruitment (Arcury & Quandt, 1999).

Sampling should be thought of as a key component of study design (Denzin & Lincoln, 2018) and it is important to plan the sampling approach while writing your research protocol. However, sampling in qualitative health research should be responsive to the study as it progresses and revisions might be needed. During data collection and analysis stages, it may be necessary to adjust sampling criteria to include cases with different characteristics or to modify the sample size.

The modification of the sampling strategy may be acceptable if different individuals or sites are needed for comparison across different contexts or to confirm/discredit themes in the data (Morse, 2003). Including an anticipated sample size range (e.g. 8-12 participants or 2-4 sites) may provide flexibility while writing the protocol and final sample size can be determined while conducting the study.

Type of sampling strategy

Many types of purposeful sampling strategies exist and researchers need to determine which is most appropriate to use (Patton, 2015). Sampling strategies refer to how the sample is selected (Creswell & Poth, 2018). Multiple sampling strategies may be used depending on the study question and design (Patton, 2015). Some of the most frequently used purposeful sampling strategies are criterion

Table 4: Definitions and Purpose of Common Sampling Strategies

	Definition	Purpose
Criterion	Selecting cases that meet a predetermined inclusion or exclusion criterion (Creswell & Poth, 2018; Palinkas et al., 2015).	May be compared to cases that do not meet this criterion. Often used in quality assurance (Creswell & Poth, 2018; Patton, 2015).
Typical Cases	Selecting cases that are average to understand (Palinkas et al., 2015).	Illustrates what is usual, normal, and average (Patton, 2015).
Maximum Variation	Choosing a wide selection of cases or individuals to obtain variations on the constructs/dimensions of interest (Creswell & Poth, 2018; Patton, 2015).	Highlight diversity and identify patterns or commonalities in traits across the diversity (Creswell & Poth, 2018; Patton, 2015).
Extreme Cases	Select atypical or unusual cases, such as individuals who have an uncommon experience (Creswell & Poth, 2018; Palinkas et al., 2015).	Learn about the atypical dimensions of a phenomenon of interest (Creswell & Poth, 2018).
Theoretical	Selection of subsequent data is influenced by the developing analysis (Patton, 2015). Deliberately looking for individuals based on emerging themes (Richards & Morse, 2013).	Develops and explores a theory or constructs of a theory (Creswell & Poth, 2018; Patton, 2015).

homogeneus, typical cases, maximum variation, extreme cases, and theoretical. Their definitions are included in Table 4.

Size of the study sample

The principle of adequacy in qualitative sampling is addressed by determining sample size (Creswell & Poth, 2018; Morse & Field, 1996). Sampling enough participants is important to ensure adequacy and depth of information (Patton, 2015), while sampling more participants than necessary is considered unethical (Faber & Fonseca, 2014). Determining sample size is a challenge unique to qualitative research, as sample size calculations are not used and there are no strict rules to determine when to stop data collection (Morse, 1995; Tuckett, 2004). The issue becomes even more complex when we take into account different methodologies, as a sample of 10 can be perfectly adequate in a homogenous sample such as in an Interpretive Phenomenological Analysis (Smith, Flowers, & Larkin, 2009) while not appropriate if the researcher was trying to achieve a maximum variation sample (Sandelowski, 1995).

A common rule in qualitative research, despite being a contentious issue, is data saturation, which is commonly defined as when no new themes emerge from the data (Morse, 1995). We suggest that novice researchers follow the sampling guidelines of their chosen research methodology, rather than determining sample sizes based on data saturation because of its antithesis with the ontology of health disciplines (Thorne, 2016). For example, although the sample size for an interpretive description design typically includes up to 30 participants (Thorne, 2016), published studies exist where sample sizes have included 60 participants (Thorne, Oliffe, & Stajduhar, 2013).

It may be also be helpful to review high quality, published research studies, such as those listed in Table 5, and identify the sample sizes used. If using this strategy, researchers must be confident in their ability to critically appraise qualitative health research. In the next article of this series, we will provide further details about the meaning and myth of data saturation specifically for qualitative health research.

Recruitment: how to find people?

Once the sampling strategies have been determined, the researcher can begin planning for recruitment of participants who fit the sampling approach. Recruitment can be done in-person, indirectly when advertisements or posters for a study are placed in strategic areas where the population of interest is thought to frequent, or it can be done through the Internet, i.e. via e-mail, bulletin board, social media. The researcher needs to consider the various sites where individuals in the population of interest will be found. This could be places, organizations or services, which may include clinics, community centres, schools, churches, residential areas, other community services or businesses (Arcury & Quandt, 1999).

Recruitment requires obtaining access to the sites and individuals of interest. Access can be facilitated by identifying gatekeepers, who are key individuals who can provide access or introductions to your sample of interest (Patton, 2015). Gatekeepers can be members of the sociocultural group of interest and may have "insider knowledge" (Creswell & Poth, 2018). Often gatekeepers will be leaders in the community, institution or organization of interest, for example the nursing manager of a clinical unit in a hospital. Identifying and gaining rapport with gatekeepers is of key importance when the selected sample is part of a population which is difficult to access (Patton, 2015). All types of qualitative research will require approval from a local research ethics board to verify the research to be undertaken is ethically sound and has the appropriate measures in place to protect participants and processes for participant involvement, including informed consent from recruited participants (Creswell & Poth, 2018). The research ethics board will be looking for thoughtful consideration of any benefits and risks, as well as what will be done to mitigate any risks in the informed

Table 5. Examples of purpose, context, sample and recruitment extracted from recently published articles (Carr & Weir, 2017; Campbell et al., 2019; Hales, de Vries, & Coombs, 2016; Ziegler, Valaitis, Yost, Carter, & Risdon, 2019)

Qualitative Description	Purpose: To qualitatively examine factors that contribute to successful aging during different decades of older adulthood. Context: Canada. Sample: 42 community dwelling older adults. Recruitment: Participants were recruited from a local Centre for Seniors (examples of activities at the Centre for Seniors include woodworking, choir, ceramics, and cards; n = 11), a senior's walking program (n = 8), a senior's exercise program (n = 4), and a local church (n = 7). Twelve additional participants were identified through snowball sampling. Citation: Carr, K., & Weir, P. L. (2017). A qualitative description of successful aging through different decades of older adulthood. Aging & Mental Health, 21(12), 1317–1325. https://doi.org/10.1080/13607863.2016.1226764
Interpretive Description	Purpose: To explore and understand the influence of rural geography on the delivery of the Nurse-Family Partnership program in British Columbia, Canada. Context: Rural British Columbia, Canada. Sample: 10 public health nurses and 11 supervisors who were delivering the Nurse-Family Partnership program outside of urban areas. Recruitment: All public health nurses who were delivering the Nurse-Family Partnership intervention to participants enrolled in the British Columbia Healthy Connections Project process evaluation were eligible to participate in the study. The total population of supervisors within the Nurse-Family Partnership program was invited via email to participate in one-to-one interviews. Citation: Campbell, K. A., MacKinnon, K., Dobbins, M., Van Borek, N., & Jack, S. M. (2019). Weathering the rural reality: Delivery of the Nurse-Family Partnership home visitation program in rural British Columbia, Canada. BMC Nursing, 18(1), 17. https://doi.org/10.1186/s12912-019-0341-3
Focused Ethnography	Purpose: To explore the culture and influences on physicians and nurses within the intensive care setting when caring for critically ill morbidly obese patients. Context: Tertiary ICU in New Zealand. Sample: 67 intensive care nurses and 13 intensive care physicians involved with the care and management of seven critically ill patients with a body mass index ≥ 40 kg/m2. Recruitment: The setting for this study was an 18 bedded tertiary ICU in New Zealand. Staff caring for patients with a BMI 40kg/m2, who were not undergoing bariatric surgery and expected to remain in the unit for more than 12 hours were observed. Citation: Hales, C., de Vries, K., & Coombs, M. (2016). Managing social awkwardness when caring for morbidly obese patients in intensive care: A focused ethnography. International Journal of Nursing Studies, 58, 82–89. https://doi.org/10.1016/j.ijnurstu.2016.03.016
Case Study	Purpose: To understand how the implementation of primary care services for transgender individuals compares across various models of primary care delivery in Ontario. Context: Primary care models in Ontario, Canada Sample: Three cases known to provide transgender primary care and represent different primary care models in Ontario, Canada (i.e., family health team, community health centre, fee-for service physician). Recruitment: Organizations were identified as potential sites through the primary researcher's networks and through Rainbow Health Ontario, a province-wide program to improve access to services and to promote the health of Ontario's LGBT communities. These organizations were then invited to participate in the study. Citation: Ziegler, E., Valaitis, R., Yost, J., Carter, N., & Risdon, C. (2019). "Primary care is primary care": Use of Normalization Process Theory to explore the implementation of primary care services for transgender individuals in Ontario. PLOS ONE, 14(4), e0215873. https://doi.org/10.1371/journal.pone.0215873

consent document.

The development of many online communities allows researchers access to well-defined populations which may be difficult to recruit in person because they occur less frequently and are spread out geographically (Hamilton & Bowers, 2006). Other benefits of Internet recruitment may include geographic diversity, less gatekeeping, the need for participants to choose to be included into the research, and greater access to marginalized groups (Hamilton & Bowers, 2006).

Recruitment Strategies

While Patton (2015) categorizes convenience, snowball, and opportunistic sampling as types of purposeful samples, within the context of health research, these strategies may be more appropriately conceptualized as specific recruitment techniques. Convenience sampling is selecting individuals for study participation who are easily available to the researcher (Richards & Morse, 2013). In this form of recruitment, participants are chosen based on their accessibility rather than other criteria and is often used when the researcher has easy access to sites or individuals for data collection (Patton, 2015). While this may be time and cost-effective, this form of recruitment must be used thoughtfully because it might limit the depth of information and credibility of the data, if individuals sampled are poor informants about the phenomenon of interest (Creswell & Poth, 2018; Morse, 1995).

In snowball sampling, the researcher asks existing participants who have provided rich information to nominate or provide the contact information for individuals they know who also have relevant characteristics or confirming/disconfirming experiences or perspectives (Patton, 2015). A second type of snowball sampling involves identifying an individual who is knowledgeable about the area of study and asking them to nominate "key individuals" who are best positioned to have a deep, comprehensive understanding of the issue or systems under study. In addition to the limitations listed above for convenience sampling, snowball sampling may be a less efficient method of recruitment (Arcury & Quandt, 1999). That being said, snowball sampling is a very useful recruitment strategy while researching stigmatised, hidden or difficult-to-reach populations and sensitive topics (Waters, 2015).

Lastly, opportunistic sampling occurs when the researchers identify instances that emerge through different

opportunities or events to collect data (Creswell & Poth, 2018; Palinkas et al., 2015). In this type of recruitment, researchers will need to follow new and flexible leads to collect their sample while in the field and take advantage of the unexpected (Palinkas et al., 2015; Patton, 2015). This type of recruitment is commonly used in ethnographic research, where participants are recruited directly on the field and according to the opportunity available at that particular time.

CONCLUSION

It is important for qualitative health researchers to be grounded in their own disciplines as they have distinctive abilities to look at and adapt to the health care context (Morse, 2012). This also adds value to research design, research findings and, thus, to practice and the disciplines themselves. The aim of this paper was to provide health researchers with an understanding of how to begin to design a qualitative health research study. We focused on how to identify an appropriate topic, develop an overarching question, select an appropriate qualitative health research design, engage in reflexivity, and how to address the methodological issues of study designs, contexts, sampling, and recruitment. In the next article, we will discuss how to prepare for going into the field, how to generate, manage and analyse data, and plan for dissemination of qualitative health research.

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