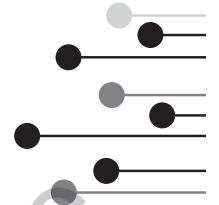


Clinical Research

A Qualitative Trail Map Within a Mixed-Methods World



What's Coming?

- A Mixed-Methods Research Approach
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- Worldviews, Paradigms, and Theory
- Choosing a Research Style and Methods
- Qualitative Methods: A Map, Sampling, and Design Overview
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Welcome to the excitement, diversity, and possibilities of clinical and primary care research. Welcome to a journey filled with adventures. This chapter prepares you for these adventures and presents a trail map of research methods to facilitate the development of a mixed-methods approach with emphasis on qualitative strategies. In the first half of this chapter, we offer a holistic vision for conducting qualitative research in diverse clinical settings and in the context of mixed-methods. Five styles of inquiry are identified and described, and research aims and analysis objectives then matched with these styles. We explore the concepts and roles of paradigms and worldviews for conducting research in clinical settings and provide an overview of their relationship to choice of methods. We also highlight the role of theory and how it relates to the selection of methods. The second section in this chapter focuses on qualitative research and presents an organizational map for thinking about qualitative methods, goes into detail on sampling strategies, and presents a brief overview of qualitative research design. We finish by recontextualizing the methods with a discussion of the disciplines from which the different methods emerged.

A Mixed-Methods Research Approach

Doing research is, in many ways, like taking a descriptive and explanatory snapshot of empirical reality. For each particular photograph or image, the investigator must decide what kind of camera, upon what to focus, using which lens, and with what intent. At least five styles of inquiry are distinguishable based on the camera, focus, lens, and intent: experimental, observational epidemiology, documentary-historical, qualitative, and philosophic (see [Table 1.1](#)).

Experimental researchers create study designs which test carefully constructed causal hypotheses. The laboratory is the camera used to focus the experiment on an isolated variable(s) and a causal hypothesis. The laboratory is a controlled setting, whether in a building, in the field of human activity, in an ecological habitat, or in a computer simulation. All the variables of interest are actively and measurably manipulated in tightly controlled conditions as the investigator precisely examines what happens to the isolated variable(s) of particular interest. The researcher doing the experiment applies a quantitative lens that selectively gazes with accurate, measurable precision. The experimental style includes the many types of experimental and randomized controlled trial designs.

The **observational epidemiological** style of inquiry, on the other hand, focuses on a representative probability sample from a defined population by means of a research instrument, such as a structured interview, observational rating scale, or questionnaire, with the intent of generalizing the resultant descriptions and/or associations to the larger population. “Observational epidemiology” is used here in the broad sense intended by the social science traditions (Babbie, 1979, 2020; Last

Table 1.1 Characteristics of Different Research Styles

Characteristics of Style	Research Style				
	Experiment	Observational Epidemiology	Documentary-Historical	Qualitative	Philosophic
Camera	Laboratory (controlled setting)	Research instrument(s)	Researcher(s)	Researcher(s)	Thinker
Focus	Isolated variable(s) of interest	Probability sample	Artifacts	Human field	Ideas and language
Lens	Mostly Quantitative	Mostly Quantitative	Mixed-methods	Qualitative, but also with mixed-methods	Rationality and logic
Intent	Test causal hypotheses	Generalize to population	Multipurpose	Multipurpose	Clarity and principles

& International Epidemiological Association, 1983, 2001). The epidemiologists' understanding of this style as cross-sectional research is here understood as one example of a more encompassing "observational epidemiology" research style. As with the experimental style, the lens and form of expression are quantitative and statistical with emphasis on validity and reliability. Unlike the experimental style, observational epidemiological research involves passive manipulation of the variable(s) of interest. The observational designs of epidemiology, such as cohort, cross-sectional, and case-control, are examples of the style. Other observational epidemiological designs include: descriptive surveys, correlational, longitudinal, and comparative survey designs, time series designs, theory-testing correlational surveys, ex post facto designs, and quasi-experimental designs (Kelsey, 1996).

The common denominator of the **documentary-historical style** is a focus on artifacts and material culture. This style, with the researcher(s) as camera, utilizes an eclectic assortment of lens. The researcher using this style gazes at an artifact through the lens most appropriate for the intent. The artifacts can be archives, literature, medical records, instruments, art, clothes, or secondary data from someone else's research. Examples of documentary-historical research include literature review, artifact analysis, chart audits, archive analysis, historical research, secondary analysis, and meta-analysis (Hodder, 1994; O'Toole & Were, 2008).

The **qualitative** researcher is personally engaged in an interpretive focus on a natural, often human, field of activity with the goal of generating holistic and realistic descriptions and/or explanations. The field is viewed through the experientially engaged and perceptually limited camera of the researcher using a qualitative lens. Unlike experimental and observational epidemiological research styles, qualitative research has no prepackaged research designs. Rather, specific data collection methods, sampling procedures, and interpretive strategies are used to create unique, question specific designs that evolve throughout the research process. These qualitative designs can take the form of either a case study or a topical study. Case studies examine most or all the potential aspects of a particular distinctly bounded unit or case (or series of cases) (Hamel, Dufour, & Fortin, 1993; Thomas, 2015; Yin, 2014). A case can be an individual, a family, a community health center, a nursing home, a habitat or neighborhood, or an organization. Topical studies investigate only one or a few selected spheres of activity within a less distinctly bounded field, such as a study using depth interviews to understand the meaning of pain for selected persons in a community.

Lastly, there is **philosophic inquiry**, which often serves as a generator and clarifier for the other research styles. The philosophical inquirer uses their skills as thinker to examine an idea, concept, or words through the lens of logic in order to move toward clarity and the illumination of background conditions, assumptions, and language. Philosophic inquiry often proceeds as a thought "experiment" and is frequently based on a single case or even a hypothetical case with little or no empirical evidence.

Research Aims

The choice of research style for a particular project partly depends upon the research questions, the overarching aim of the research, and the analysis objective. The operating paradigm, the degree of desired research control, the level of investigator intervention, the available resources, the time frame, and esthetics also play a part in the choice of style and will be discussed later in this chapter. There are at least five aims of scientific inquiry: identification, description, explanation-generation, explanation-testing, and control. The first three of these comprise what is often termed exploratory research. Qualitative methods are usually used for identification, description, and explanation-generation; whereas quantitative methods are more commonly used for explanation-testing and control. These general guidelines have many exceptions depending upon the specific analysis objective (see [Table 1.2](#)).

Table 1.2 Research Aims, Analysis Objectives, Research Questions, and Appropriate Research Styles

Aim	Analysis Objective	Research Question	Research Styles
Identification	Identify/name	What is this? Who is that? What is important here?	Philosophic inquiry Qualitative Documentary-historical
Description	Qualitative description	What is going on here? What is the nature of the phenomenon? What are the dimensions of the concept? What variations exist? What meanings/practices occur in lived experiences	Philosophic inquiry Qualitative Documentary-historical
	Quantitative description	How many? How much? How often? What size? How is the phenomenon distributed over space and/or time?	Observational epidemiology
	Normative description	What is the value of a phenomenon? What is allowed and/or good and/or usual?	Philosophic inquiry Qualitative Documentary-historical Observational epidemiology

Table 1.2 Research Aims, Analysis Objectives, Research Questions, and Appropriate Research Styles (Continued)

Aim	Analysis Objective	Research Question	Research Styles
Explanation-generation/ Association	Interpretive explanation generation	What is happening here? What patterns exist? How do phenomena differ and relate to each other? How does it work? How did something occur/happen?	Qualitative Documentary-historical
	Statistical explanation-generation	What are the measurable associations between phenomena? Does variable x relate to other variables? Why does it work? Why did something occur?	Documentary-historical Observational epidemiology
	Deductive explanation	Given these premises, then ___?	Philosophic inquiry
Explanation-testing/Prediction	Causal confirmation	What will happen if ___? If ___ then ___? Does one variable cause the other?	Experimental
	Theory testing	Is the original theory correct? Does the original theory fit other circumstances? Are there additional categories or relationships?	Qualitative Documentary-historical Observational epidemiology Experimental
Intervention/ Control	Prescription testing	Does ___ have greater efficacy than ___? Is ___ more effective than ___?	Experimental (especially RCT)
	Evaluation	How can I make "x" happen? What difference does this program/intervention make?	Qualitative Observational epidemiology

The aim of identification is one of the most neglected aspects of scientific inquiry. All too often investigators create concepts based on some "gut" feeling, their own reasoning, or the literature. They then produce measurement instruments which reify the concept giving the appearance it really exists "out there." The result may be research that is powerful (minimal Type 2 error) and minimizes false positives (Type 1 error), but may also be solving the wrong problem (Type 3 error) or addressing a problem not worth solving (Type 4 error). Qualitative

research, the documentary-historical style, and philosophic inquiry are ideally suited for this essential task of identification.

At least three types of description are distinguishable—qualitative, quantitative, and normative. Qualitative description, using qualitative methods, explores the behaviors, perceptual experiences, and meanings of phenomena and their many variations, and often seeks to capture their holistic or interconnected nature. Quantitative description, based in descriptive statistics, refers to the distribution, frequency, prevalence, incidence, and size of one or more phenomena. Normative data seek to characterize what is usual or normative in a given population against which some current situation can be compared (O'Connor, 1990). Normative description answers questions about value and goodness (Viens, 2019). The choice of philosophic, quantitative, or qualitative methods depends on how one wishes to understand and characterize the norms of interest.

Explanation-generation/Association can have at least three analytic objectives: interpretive explanation-generation, statistical explanation-generation, and deductive explanation. Some research seeks to discover relationships, associations, and patterns based on personal experience of the phenomena under question. This interpretive explanation-generation is best achieved using research styles with a qualitative or documentary-historical style. When concepts have already been identified, described, and interpretively defined, another objective is to explore possible statistical relationships using quantitative-based styles of research. Another analytic purpose is to deductively generate explanations from a set of given premises. This purpose is best met using philosophic inquiry.

Explanation-testing/Prediction includes both objectives of confirming causality and testing theory. One form of causal confirmation is to establish predictability, and another is to definitively demonstrate causality using experimental research design. Another analysis goal is to test explanatory theory by evaluating it in different contexts. The research style used to meet this intent depends on the type of explanation being tested, but may often involve qualitative and mixed-methods strategies, especially when the theory concerns systems and/or holistic understandings.

Intervention/Control is an important aim for many clinical researchers—the testing and/or evaluation of some prescription or intervention, either intentional or natural, and associated responses. One analysis objective is to test an intervention in such a way that either its efficacy or its effectiveness can be generalized to other similar situations. This is the *raison d'être* for the randomized control trial (RCT). At other times, the analysis goal is to evaluate an intervention in a specific context with no immediate expectation for generalization. Qualitative evaluation strategies are especially useful for this purpose (Patton, 2015), as well as for discovering or tracking the systemic consequences of changes or interventions. When participants are actively included in the evaluative process, qualitative and mixed-methods research strategies are again most helpful (Palinkas & Zatzick, 2019).

Worldviews, Paradigms, and Theory

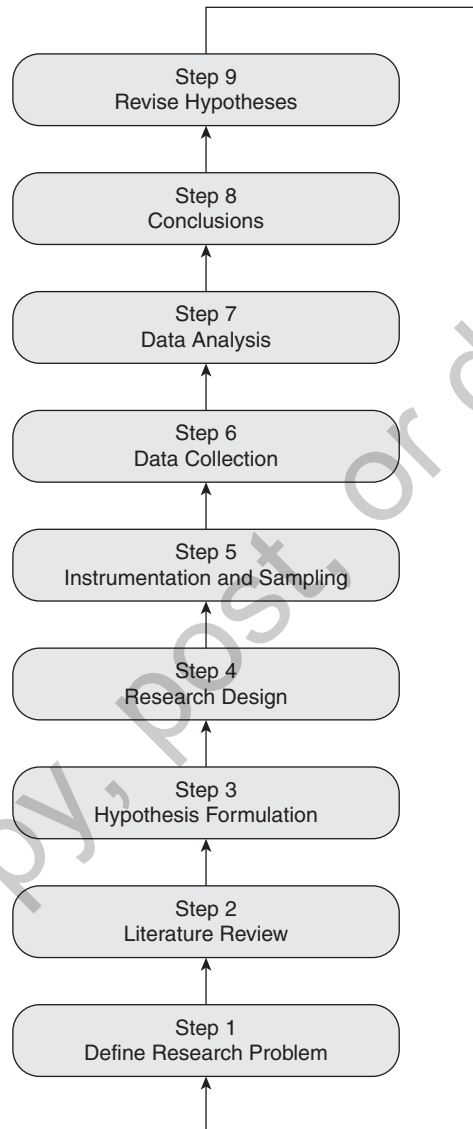
Everyone has a worldview, a set of assumptions about reality. These include the values, stories, and expectations of how the world works, our interpretive lens on life, how our culture works out in our individual everyday living (Gray, 2011; Koltko-Rivera, 2004). Much of our worldview remains hidden, packed in the unconscious. Excellent qualitative research requires unpacking that worldview and expanding it so that the worldviews of others can be surfaced and understood. This unpacking is the difficult work of reflexivity (see Chapter 3) and is made easier within a safe collaborative space of diverse colleagues (see Chapter 2). Research on uncovering and changing the unconscious or implicit bias of racism represents an example of how demanding this effort can be (Dasgupta, 2004; Kang, 2004). But there is more! The qualitative clinical researcher lives in at least two worlds, that of the everyday and the world of science. Science also has its worldviews which, since the work of Thomas Kuhn, are named paradigms (1962).

A paradigm represents a patterned and linked set of assumptions, shared by a scientific community, concerning reality (ontology), knowledge of that reality (epistemology), the particular ways for investigating that reality (methodology), and studying what is of value and ethical (axiology) (Guba, 1990; Kivunja & Kuyini, 2017). These assumptions and the ways for knowing are untested givens and determine how one engages and comes to understand the world scientifically.

The social sciences' community within which qualitative research developed recognizes several paradigms. Their importance for qualitative research is in highlighting key assumptions about reality and how you can know that reality. Each investigator must decide what assumptions are acceptable and appropriate for the topic and research question of interest and then use methods in a manner consistent with those assumptions. Remember that methods have their own underlying norms and suppositions. There are at least four paradigms we need to consider in clinical research: positivist or postpositivist inquiry; constructivist or interpretivist inquiry, critical inquiry, and pragmatic inquiry (Kivunja & Kuyini, 2017).

Postpositivist inquiry focuses on the knowledge which helps humans maintain physical life, our labor, and technology. Wet lab science and quantitative methods predominantly inform this knowledge (Figure 1.1). The postpositivist inquirer values progress, stresses the primacy of scientific and linear method, seeks an ultimate truth—a natural law—of reality, and is grounded in Western, monotheistic tradition. Postpositivist inquiry is best for social engineering and its need for control and predictability. It emphasizes rationality and, within the realm of health care, strives toward the elimination of disease and the achievement of immortality (Schwartz, 1998). If one wants to understand the molecular genetics of hyperlipidemia or to develop a new drug, then this is the paradigm of choice. The postpositivist inquirer climbs a linear ladder to an ultimate objective truth. The current postpositivist paradigm used by most researchers differs from original

Figure 1.1 Diagram of Postpositivist Inquiry



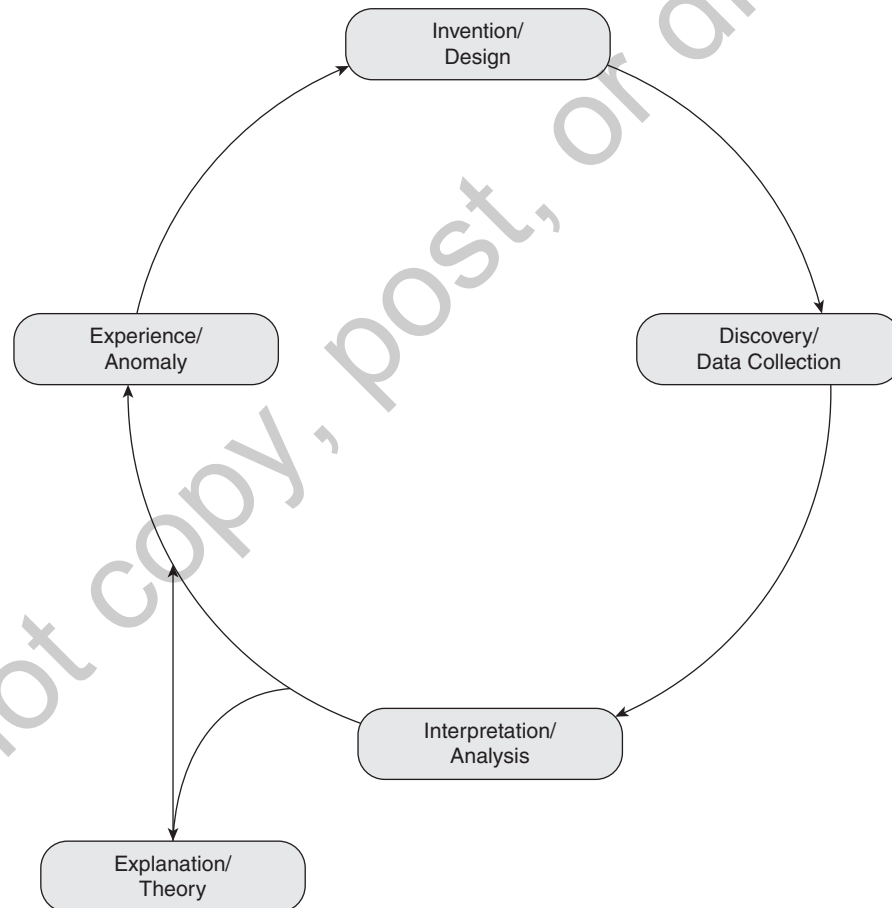
positivism in its acceptance of multiple constructed realities and the impact of the observer on that which is observed. The postpositivist perspective seeks successive approximations to reality but understands the unlikelihood of getting to ultimate reality.

The clinical research community in medicine and health care almost singularly adhere to postpositivist inquiry in the specific form of biomedicine which is both a paradigmatic set of assumptions and a powerful global institution (Valles, 2020). Qualitative and mixed-methods clinical researchers need to understand biomedicine since it informs and undergirds the expectations of most grant funders and journal reviewers, is synonymous with allopathic medicine, and pervades the National Institutes of Health (NIH) in the United States. Three fundamental tenets undergird biomedicine: (1) all health-related phenomena are explainable in terms of physical and biochemical substances and processes; (2) experimental techniques, especially the gold standard, double-blind randomized controlled trial, are most valued methods for acquiring new knowledge; and (3) human bodies are best understood through reductionism (Krieger, 2011). Biomedicine anchors its powerful and wealthy institutional roots through specialty medical organizations, the pharmaceutical industry, academic medical centers, and biotechnology firms with deep and long extensions into governments and economies. We have lived, struggled, and succeeded inside the biomedical research world throughout our careers. It is daunting, but with humor, perseverance, many good friends, creativity, and courage, it is also possible to innovate, expand imaginations, and preserve integrity (Miller & Crabtree, 2005). It begins with understanding the current reality and with knowing alternative approaches to inquiry.

A second social science paradigm is based on that knowledge which helps humans maintain cultural life, symbolic communication and meaning, and is referred to here as **constructivist inquiry**. This paradigm has also been called “naturalistic inquiry” (Kuzel, 1986) and “interpretivist thinking” or interpretive inquiry (Gadamer, 1976; Guba & Lincoln, 1989). We acknowledge that the choice of “constructivist” glosses over some intense debates. “Constructivists” claim that truth is the result of perspective; it is relative. There is no objective knowledge (Gergen, 1986; Goodman, 1984). “Interpretivists” trace their roots back to phenomenology (Giorgi & Giorgi, 2003) and hermeneutics (Heidegger, 1962). This tradition also recognizes the importance of the subjective human creation of meaning, but doesn’t reject, outright, some notion of objectivity. Pluralism, not relativism, is stressed with focus on the circular dynamic tension of subject and object (Denzin, 1989a; Geertz, 1983). Although we take the more pluralistic approach, “constructivist inquiry” is the term selected because it is human constructions being studied and because it is constructions that the researcher is cocreating with the texts. This paradigm overtly acknowledges and builds upon the premise of the social construction of reality (Brekhus, 2015). We also believe the use of the word, “interpretive,” will become confused since it also refers to the methods-related task of analysis in qualitative research. We believe it is important to keep paradigm choice and method choices separate. Qualitative methods

generally inform constructivist knowledge (Figure 1.2). A constructivist inquirer enters an interpretive circle and must be faithful to the performance or subject, must be both apart from and part of the dance, and must always be rooted to the context. There is no ultimate truth, there are context-bound constructions that are all part of the larger universe of stories. Constructivist inquiry is best for storytelling. If one wants to understand how patients and clinicians experience pain or being informed their cholesterol is high, then this is the paradigm of choice. The constructivist inquirer performs an ongoing iterative dance of discovery and interpretation.

Figure 1.2 Diagram of Constructivist Inquiry



A third knowledge, that which helps humans maintain social life, focuses on the reality of domination, distribution of power, and associated inequalities (Fay, 1987; Mertens, 2014). It is referred to here as **critical inquiry**. This is the critical eye that searchingly looks in at both postpositivists and constructivists and gazes at the systemic effects. The critical inquirer seeks to move from the false consciousness of present experience and ideology to a more empowered and emancipated consciousness which incorporates social justice issues and ecology by reducing the illusions through the processes of historical review and the juxtaposition of postpositivist and constructivist inquiry. Critical inquiry deconstructs the narrative realities created by the other paradigms and often takes a special gaze at issues of race, gender, and class. Critical inquiry is best for political engagement and the study of systems. Participatory strategies of inquiry, most often using qualitative methods, are seeded and nurtured by this paradigm. Present variations on this paradigm include feminist, ethnic, post-colonial and indigenous, neo-Marxist, queer, and cultural studies approaches (Denzin & Lincoln, 2017).

These three paradigms often seem mutually exclusive and rigid in their assumptions and presentation. With the rise of new transdisciplinary fields like complexity science, more nuanced research questions, and the increasing use of mixed-methods, new paradigm variations emerge from the spaces among these three. We name two, critical realist inquiry and new materialist social inquiry, which hold a “family resemblance” to postpositivism and constructivism respectively (Wittgenstein, 1953). They are currently active in much qualitative research in the mixed-methods world. Critical realism arose to address critiques of postpositivism. Like postpositivists, critical realists believe that reality exists independent of thoughts, but posit that observation is insufficient and fallible. Critical realists also acknowledge the complexity and layering of the social world, including many of the social justice concerns of critical inquirers, which has made this paradigm a comfortable fit for those using complexity theory. Primary care researchers have especially adopted this paradigm because of its proximity to postpositivism and its embrace of the psychosocial (Haigh, Kemp, Bazeley, & Haigh, 2019; Sturgis & Clark, 2020).

New materialist social inquiry arose to address critiques of constructivism, specifically the dominance of meaning as the purpose of qualitative research and the absence of the material and non-human world. New materialists shift from viewing entities as being (essentialism) to understanding them as always becoming. Matter and meaning are symbiotic which collapses the dualisms of mind/matter, human/non-human, human/environment, reason/emotion (Feely, 2016; Fox & Alldred, 2015). The focus of analysis for new materialists are “assemblages,” a term translated from the work of DeLeuze and Guattari (De Landa, 2006). Assemblages are “multiplicities or networks of mobile connections that produce something” (Smith & Monforte, 2020). Proponents of new materialist inquiry are open to the use of mixed-methods although qualitative methods predominate in the current literature. The work of Annemarie Mol exemplifies the use of this inquiry style in clinical research (Mol, 2002, 2008). Concerns with power and social justice also fit

comfortably within new materialist inquiry. New materialists especially note developments in the area of environmental studies and the philosophy of deep ecology that suggest the need to purge constructivism and the old materialism of its modernist roots (i.e., individualism, anthropocentrism or humanism, belief in progress, dualism) and expand to include the larger animate and inanimate world upon which human life and health depends (Miller, 2019; Sessions, 1995).

A fourth mode of engagement has also emerged, what we refer to as **pragmatic inquiry**. Pragmatic inquiry turns the idea of paradigm on its head and argues that methods have their own inherent assumptions and methodology replaces paradigm choice (Candea, 2018). “What works best for answering the particular questions,” serves as the guiding principle of pragmatic inquiry. Reality, from the viewpoint of pragmatic inquirers, is based on the experiences that emerge through the method(s) used (Biesta, 2010; Kivunja & Kuyini, 2017). One could say they are agnostic of paradigm and believe that being locked into a single paradigm is confining and limiting. This doesn’t mean that anything goes. The discipline of practicing reflexivity and naming your assumptions remains essential to good qualitative research. We consider ourselves as pragmatic inquirers, somewhat agnostic to paradigms. Nonetheless, we actively use knowledge of paradigms and theories to inform our research. In the rest of this book, we will cite multiple examples of our use of different paradigms and theories in different studies that we have conducted. We use them to help frame methods’ selection, design decisions, reflexivity, and as a source of alternative explanations for seeking disconfirming evidence. Active application of paradigm and theory awareness enhances the rigor of qualitative research.

We aren’t out of the woods yet on our trail of adventure. A frequent question from fellow travelers at this point concerns the differences between paradigms, theories, models, and frameworks. Paradigms serve as reference points for theories which are linked concepts and propositions that describe and explain a particular domain of phenomena such as human motivation or organizational change. Any particular theory lives inside the assumptions of a paradigm. This is especially true for the social science paradigms. Theories and developing and enriching theory are often at the heart of what qualitative researchers seek to do. As noted above, theories both describe and explain. Models, on the other hand, are a simplified description of some process; they don’t explain. The explanatory power of a model derives from the theory to which it is linked. Frameworks also only describe but focus on structure and do so using a set of categories or factors believed to influence some outcome. Some examples may help.

Germ theory (Scott, Bruning, Nims, Rubino, & Ijaz, 2020) and gene theory (Portin & Wilkins, 2017), deeply rooted in the postpositivist paradigm, are fundamental tenets of biomedicine and advance using experimental and observational epidemiology methods. Gene theory proposes that genes, composed of DNA (deoxyribonucleic acid), are the basic unit of heredity. Several models describing the process of that inheritance exist (Gericke & Hagberg, 2007) along

with different frameworks for organizing the multiple mechanisms of gene regulation (Ahsendorf, Wong, Eils, & Gunawardena, 2014).

In the world of primary health care, investigating how primary care practices change and improve represents an important area of research over the past 30 years. Critical realist inquiry underlies several different theories for describing and explaining practice and other organizational change including complex adaptive system theory (Dooley, 1997; McDaniel Jr, Lanham, & Anderson, 2009), complex responsive process theory (Stacey, 2001; Suchman, 2006), and normalization process theory (Holtrop, Potworowski, Fitzpatrick, Kowalk, & Green, 2016; May & Finch, 2009). Linked to complex adaptive system theory and derived from a series of mixed-methods studies, the relationship-centered practice development model, originally known as the practice change model (Cohen et al., 2004), describes the key features and processes critical to practice change efforts (Miller, Crabtree, Nutting, Stange, & Jaén, 2010). CFIR, the consolidated framework for implementation research, identifies, from a synthesis of multiple implementation theories, critical categories and factors potentially influencing the success of practice change activities (Damschroder et al., 2009).

Choosing a Research Style and Methods

The determination and articulation of the research aim, analysis objective, specific research question, appropriate mode of engagement or paradigm, and theory all shape the choice of research style (also see Chapter 4). When addressing a research question from the viewpoint of postpositivism, randomized controlled trials and other experimental methods along with the observational epidemiology quasi-experimental, correlational, and survey methods and designs match up well. Methods more compatible with constructivist inquiry include narrative, case study, ethnography, hermeneutic, phenomenology, and heuristic research approaches. Participatory, action research, post-colonial, and feminist strategies, among others, fit well with a critical mode of engagement. A judicious use of mixed-methods are compatible with pragmatic inquiry as well as that of critical realism and new materialism.

Additional factors may also influence this decision on style and methods and include time frame, degree of desired researcher control, and esthetics. For example, historical and retrospective designs are better for investigating past events. The experimental style of research is suitable if the researcher desires a high degree of control over the variables of interest. Esthetics plays a role in the sense that each researcher possesses a unique set of skills, gifts, and sensibilities which resonate better with certain styles of inquiry. Research is a way to celebrate these differences, which is illustrated with examples in Chapter 4; however, first, let's pause for a rest before we present an overview map for using qualitative methods within a mixed-methods world.

Reflective Pause

Whew! Sit down and take a deep breath. We just covered a lot of dense, left brain stuff, and you're probably wondering when we finally get to the fun of doing qualitative research. Next! But to help you awaken your right brains and better appreciate the material just covered, we suggest a reflective pause and some entertainment. If you can find it, in episode 19 from season 3 (episode 34 overall) of the 1990–1995 television series “Northern Exposure,” a young allopathic physician and an Alaskan indigenous shaman separately treat the same young woman for a severe skin rash with very different results. What are their worldviews? What is yours relative to this area? From what paradigms do the two healers operate? What are their underlying theories of health and healing? What questions arise? How might you research these different questions? Through what mode of engagement, with what style, and with what methods? Now we're ready to begin exploring doing qualitative research.

Qualitative Methods: A Map, Sampling, and Design Overview

The quest for a useful organizational map of qualitative methods is not unlike the quest for the Holy Grail. The methods derive from multiple disciplines and from at least 30 or more diverse traditions, each with its own particular language. Despite this tangled web, at least two paths to organizing qualitative methods are discernible. One approach, presented at the end of this chapter, organizes qualitative methods on the basis of disciplinary traditions. The resulting classification enables the investigator to know “who to call” at their nearby university for methods advice. The approach in the remainder of this chapter focuses on specific methods of data collection for the gathering process and on approaches to the interpretive process and offers a pragmatic perspective on how to design a qualitative research project.

Anthropologists use qualitative research to seek truth from “the natives in their habitat” by looking and listening and by engaging (Peacock, 2001). This simple statement captures the essence for a pragmatic approach to qualitative methods. Qualitative data are primarily collected by observation or interview. These observations and/or interviews usually involve the researcher being engaged with the field in some active manner. The interpretation of the resulting textual data is a subjective/objective iterative dance toward contextual truth with three prototypical organizing styles from which to develop an analysis strategy. These organizing styles are referred to here as template (Chapter 12), editing (Chapter 11), and immersion/crystallization (Chapter 13).

A qualitative research design begins, continues, and ends with the reflexivity process (see Chapter 3). Reflexivity refers to self-reflection, self-critique and is based on the premise that the engaged qualitative fieldworker is an active part of the setting, relationships, data gathering, and interpretations (Barrett, Kajamaa, & Johnston, 2020). Knowing yourself and how you impact and are changed by the research enterprise are central to qualitative research and, ideally, occur throughout the research process. Reflexivity is the first step in describing the research enterprise. This includes explicitly reflecting on the research question and its aims and analysis objectives, acknowledging worldview, paradigmatic, and theoretical assumptions, and then sharing and expanding on them in the context of a collaborative research ensemble (see Chapter 2). All of these get reexamined throughout the dance of interpretation (Chapter 10).

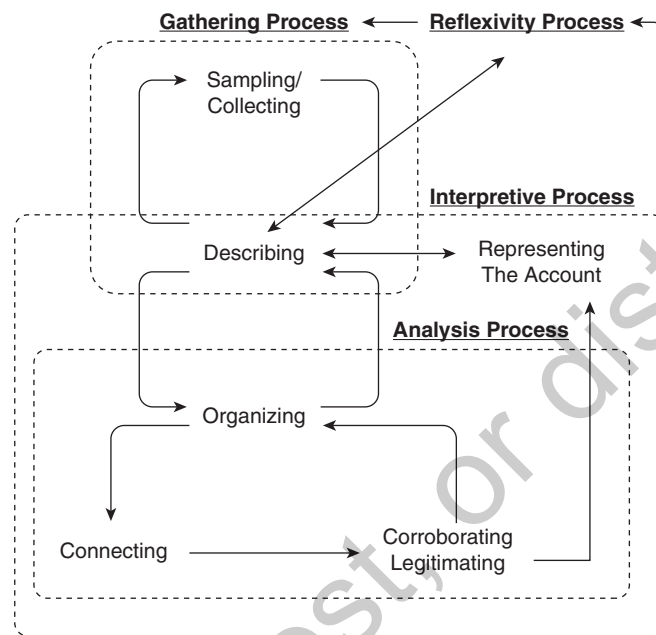
Additional parts of the first step in the research journey are putting together the research team and doing any necessary training (Chapter 2), defining possible audiences for the final report, choosing and bounding the field, and selecting initial specific sampling strategies, data collection techniques, and analytic organizing styles. These latter three are chosen to optimize initial understanding of the research question and its aims and goals. Data collection and sampling are a blended activity and informed by on-going analysis. This is so not only because sampling determines what data are collected, but because sampling decisions frequently occur in the field as opportunities arise and as initial understandings are revealed in early analysis.

Once initial describing is done, sampling/collecting and analyzing begin almost concurrently. Analysis is a process involving the three core phases of organizing, connecting, and corroborating/legitimizing. The analysis of this first phase of the research guides future decisions concerning sampling/collecting, and analyzing. Analysis is actually just part of the larger five phase iterative interpretive process which begins its spiral with describing, includes the three phases of analysis, and ends with representing the account before resuming the iterative spiral again. Thus, interpretation actually begins in the beginning; when you leap into the circles of interpretation, there is no beginning. This evolving iterative process of describing-sampling/collecting-analysis-representing the account-describing-sampling/collecting is central to the qualitative research process (see [Figure 1.3](#)). Connecting all of these phases are data management strategies, which is where the computer becomes helpful (see Chapter 14). A basic understanding of information-rich sampling, the data collection techniques, the interpretive process and organizing styles for analysis, and iterative procedures enables one to design and implement a qualitative study or the qualitative portion of a mixed-methods study around a clinical research question.

Sampling

All data collection derives from sampling decisions. Some of these are made with careful deliberation by the research team, but many others occur spur of the moment in the field. Conventional quantitative research traditions, especially observational epidemiology, emphasize the importance of a representative sample.

Figure 1.3 Qualitative Research Process



Qualitative research samples focus on answering two very different questions. Is the sample appropriate to purpose and information rich? Is the sample adequate in terms of sufficiency and quality? The intent is to optimize what can be learned about the research question and then “generalize” to existing or new theory, not to a population. A key criterion in deciding about a sampling strategy concerns its potential information richness as it relates to the research question. Information rich samples assure that the data collected will richly inform the topic being investigated. Patton (2015) reviews the many information rich sampling strategies available and how to think about their use. Patton suggests that qualitative researchers “typically focus in depth on relatively small samples, even single cases ($n = 1$), selected purposefully.” He contrasts this with quantitative research designs, which “typically depend on larger samples selected randomly” (p. 264). These tendencies result from the underlying purpose of sampling in traditions of inquiry that rely primarily on quantitative methods. In these research traditions, which typically employ experimental or observational epidemiological styles of inquiry, one’s sample should be representative of some larger population to which one hopes to generalize the research findings. In qualitative research, which typically uses qualitative or documentary/historical research styles, sampling is

driven, not by a need to generalize or predict, but rather by a need to create and test new interpretations. Typically, the investigator wants to increase the scope or range of data exposed to uncover multiple realities, and/or to create a deeper understanding—what McWhinney calls “an acquaintance with particulars” (McWhinney, 1989). It allows for development of theory that takes into account local conditions (Glaser & Strauss, 1967; Guba & Lincoln, 1989; Lincoln & Guba, 1985; Patton, 2015). In experimental and observational epidemiology research, sampling strategies focus on representativeness. In qualitative or documentary/historical research, sampling strategies strive for information richness (Patton, 2015). We repeat this because the distinction is fundamental!

The basic assumptions behind most qualitative research, and the usual purposes of this kind of work, make random sampling inappropriate in most cases. First, the sample size in a qualitative study is typically small—often between 5 and 20 units of analysis. This small size would introduce a large sampling error if one’s purpose were to select a group that was representative of a larger population. Second, true random sampling assumes knowledge sufficient to define the larger population from which the random sample is drawn, and qualitative studies usually make no such claim. Third, true random sampling assumes that the characteristics of interest are normally distributed in the population. This is also not assumed or not known by investigators doing qualitative research. Fourth, some data sources are “richer” than others, and a random sampling strategy could cause the investigator to miss the best opportunities for gaining information (Marshall & Rossman, 2016).

Theory development and verification in the different research paradigms also shape the process of sampling. In postpositivist inquiry, one begins with *a priori* theory which is relatively fixed, i.e., one has an explanation for something which is to be tested. This explanation is purported to hold in some universe which must be clearly defined. Theory is tested quantitatively in the context of a random sample (to avoid investigator bias), using large enough numbers of subjects to demonstrate statistical significance and power (Guba & Lincoln, 1989). Constructivist inquiry, on the other hand, starts with *a priori* theory or understanding which is flexible (Creswell & Poth, 2016; Glaser & Strauss, 1967; Lincoln & Guba, 1985). The initial question or problem allows for preliminary decisions about the boundary of the investigation. The investigator concerns herself with questions like: Which data sources are information rich? Who should I talk to or what should I look at first? As interpretation develops, additional questions arise: Which data sources may confirm my understanding? Challenge my understanding? Enrich my understanding? (Glaser & Strauss, 1967; Guba & Lincoln, 1989; Lincoln & Guba, 1985; Marshall & Rossman, 2016; Patton, 2015). All forms of inquiry begin with some personal experience, some sort of prior understanding or theory about the subject of study—no investigator is a blank slate (Kuzel, 1986). They differ in that post-positivist inquiry usually starts with theory which is closed and either proven or disproven. Constructivist inquiry generally begins with theory or understanding which is expanded, modified, and confirmed in the context of the study.

While contemplating all the options of what to sample such as individuals, groups, places, times, and/or events, the qualitative researcher must also decide how to sample. This includes considering whether to observe (settings, events, or activities), examine (artifacts), or interview (individuals or groups). The researcher must consider how to record what she sees, hears, and thinks (i.e., videotaping or audio-taping vs. notes, memos, or diaries). She must choose which of many information rich qualitative sampling strategies to employ. This is yet another way of asking the appropriateness question: “Is the sampling strategy consistent with the purpose of the inquiry?” Patton suggests forty kinds of purposeful qualitative sampling strategies that are organized into eight categories (Patton, 2015); however, the 12 most commonly used strategies are shown in [Table 1.3](#).

Type of Sampling	Purpose
Maximum variation	Document diverse variation and identify important common patterns
Homogeneous	Focuses, reduces, simplifies; facilitates group interviewing
Critical case	Permits spotlighted understanding and maximum application of information to other cases
Theoretical	Finding examples of a theoretical construct and thereby examining and elaborating or changing it
Confirming/Disconfirming	Elaborating initial analysis, seeking exceptions, looking for variation
Snowball or Chain	Identify cases of interest from people who know people who know what cases are information rich
Extreme or Deviant case	Learning from highly unusual manifestations of phenomenon of interest
Typical case	Highlights what is considered normal or ordinary
Politically important case	Attracts desired attention or avoids attracting undesired attention
Purposeful random	Adds credibility to sample when potential purposeful is too large; rarely used
Purposeful stratified	Illustrates subgroups; facilitates comparisons
Criterion	All cases meet some criterion; useful for quality assurance

Maximum variation sampling occurs when one seeks to obtain the broadest range of information and perspectives on the subject of study. By looking for this wide-ranging perspective, the investigator is purposefully challenging his/her own preconceived (and developing) understandings of the phenomenon under study. Maximum variation sampling appeals particularly to the investigator who values critical inquiry (Fay, 1987), for the views of the powerful as well as the disenfranchised are represented. **Typical case** sampling focuses directly on the ordinary and usual. It is sometimes paired with **deviant case** sampling that focuses on examples at the ends of the spectrum of a phenomenon. These extremes often help surface and challenge the “taken for granted” assumptions that guide normal behavior in typical cases. **Critical case** sampling is where one looks for sources of data that are particularly information rich or enlightening, while **theory based** sampling occurs when one samples for information in a focused manner, based on an *a priori* theory that is being evaluated and/or modeled or challenged. **Confirming and disconfirming cases** are sampling strategies in which one looks for data that will support or challenge the investigator’s understanding of the topic of study.

Sampling strategies not only need to be appropriate to purpose and information rich but also adequate. An important concept related to adequacy of sampling is that of “theoretical saturation” (Cohen & Crabtree, 2008), or sampling to the point of redundancy. Not only does this provide more convincing evidence of the credibility of developed theory but it also allows one to answer the question, “When can I stop sampling?” The strategies of sampling to the point of redundancy or theoretical saturation, of searching for disconfirming evidence, and of maximum variation sampling have implications for sample size. Although there are no hard and fast rules, experience has shown that five to eight data sources or sampling units will often suffice for a homogenous sample, while 12–20 or more are commonly needed when looking for disconfirming evidence or trying to achieve maximum variation (Guest, Namey, & Chen, 2020; Marshall & Rossman, 2016; Weller et al., 2018). When there are subgroups, as in criterion sampling, the “five to eight” rule applies to each group.

All investigators work within the limitations of time and funding available for their efforts. In quantitative research, the investigator endeavors to make “*n*” only as big as it has to be for statistical significance and power. Similarly, the qualitative researcher generally samples new sources up to, but not beyond, the point of saturation. Furthermore, by using pragmatic strategies such as maximum variation or critical case sampling, the investigator focuses the majority of effort on information rich cases and derives more return on effort. She may find that after the first three interviews, she is getting the same kind of information on a given topic, and she will choose, therefore, to devote relatively less time to that area in the fourth and fifth interviews in favor of exploring new, related topics or looking for information that will challenge her understanding.

Collecting Data

Table 1.4 lists qualitative data collection techniques. Observation is the most available, but probably the most time intensive and demanding of the collection techniques (Chapter 7). Observation is best for studying behavior, tacit knowledge, and context. There are two continua for understanding types of observation.

Table 1.4 Qualitative Data Gathering Approaches	
Observation	<ul style="list-style-type: none"> Unstructured Structured (direct) <ul style="list-style-type: none"> Mapping Category systems Checklists Rating scales Participant (Chapter 7) Recordings <ul style="list-style-type: none"> Audio Visual/Audiovisual Self <ul style="list-style-type: none"> Diaries Journals
Interviewing	<ul style="list-style-type: none"> Unstructured <ul style="list-style-type: none"> Everyday conversations Key informant (Chapter 8) Semi-structured (Interview guide) <ul style="list-style-type: none"> Depth/focused <ul style="list-style-type: none"> Individual (Chapter 5) Group (Chapter 6) Life history (biography) Oral history Critical incident techniques Free listing Ethnoscience interview Projective techniques Diagram-directed techniques <ul style="list-style-type: none"> Genogram Ecomap Life space Structured (interview schedule) <ul style="list-style-type: none"> Pile sorts/triad comparisons (Q-sorts) Rank-order methods <ul style="list-style-type: none"> Paired comparisons Balanced incomplete block design Surveys/questionnaires

Table 1.4 Qualitative Data Gathering Approaches (Continued)

Material Culture (Chapter 9)	Archives/documents Cultural products Physical artifacts Music/art/dance Film/fiction/folktales/games/jokes
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One refers to the degree of researcher participation in the scene being observed. The other refers to the degree of structure in the observations themselves (Patton, 2015). The observer is always a participant in the observation, but there is a great difference between being a quiet note-taker staying in the background as much as possible (e.g., in the corner of a pharmacy) and keeping notes as a fully participant primary care practitioner during the course of one's duties.

The other continuum for understanding observation types refers to the degree of structure in the observations themselves. Any scientific observer must have a familiarity with the setting, participants, and activities along with a set of questions concerning these prior to initiating observation. Contrast the situations of: (1) the researcher who observes a family's first two days at home with a newborn in order to examine how the family members interact and adapt; with (2) the researcher who visits the home with a checklist of mother–infant bonding behaviors. In either case, observation data are usually collected in the form of fieldnotes but can also consist of maps and scales.

Ideally, the research question and goal determine which type of observation is most appropriate; however, this is often influenced by available funds, time, and ability and predilection of the researcher. If the goal is to understand the experience of becoming a physician, unstructured participant observation is highly desirable. If, on the other hand, the goal is to evaluate the hypothetical rules for being a “good intern,” then structured participant observation facilitates the investigator's acting on the rules and observing what happens. The investigator may, however, only wish to see if residents do physical exams the way attending physicians think they should. Structured background observation, using a rating scale, is suitable for this question. If the goal is to understand how nurses and resident physicians communicate with each other about patients in pain, unstructured background observation is an acceptable initial approach since there is less known about this question and there is no preexisting “expert” consensus.

There are two other variations on observation. One is the use of recordings of conversations and events. These are becoming technically easier and more common with the advance of recording technology. The decision on whether to use an audio recorder or a video recorder depends on the question of interest and the unit of analysis. A second observation consists of those formally done by research participants through the use of diaries, journals, and autobiographies. These, too,

can range from structured food intake diaries to highly unstructured journals of dreams.

Interviewing provides data about perceptions and stories. Types of interviewing are distinguished by exploring four dimensions which answer the questions “who,” “how,” “what,” and “when.” “Who” refers both to whether one interviews an individual or a group and to the role context of the interviewer. The difference between interviewing an individual and a group appears obvious, but it is often ignored in ways similar to the ecological fallacy in statistics. When a group of family medicine residents is informally interviewed, as a group, in an on-call room or when a group of caregivers is sampled for a focus group interview, the unit of analysis is the group (see Chapter 6). These data are not equivalent to individual interviews with the same residents or the same caregivers. Who one decides to interview, an individual or a group, is a complex question. It partially depends on the answer to the question, “Who do I want to make inferences about, individuals or groups?” In addition, individual interviews often provide more depth about a topic, whereas group interviews frequently generate greater breadth of information (Crabtree, Yanoshik, Miller, & O’Connor, 1993).

The second dimension, “how,” refers to the degree of structure in the interview process (see Table 1.4). As with observation, no interview is completely unstructured, but three levels of structure can be usefully delineated. Unstructured interviewing is equivalent to guided everyday conversation and is often part of participant observation, particularly in the form of key informant interviews (see Chapter 8). Key informants provide expert, inside information. The researcher has one or more topic areas which are probed whenever the opportunity arises during a given period of observation. Semi-structured interviews are guided, concentrated, focused, and open-ended communication events that are cocreated by the investigator and interviewee(s) and occur outside the stream of everyday life (see Chapter 5). The questions, probes, and prompts are written in the form of a flexible interview guide. Structured interviews, on the other hand, are more like spoken questionnaires with a rigidly structured interview schedule directing the interview and may often be conducted over a telephone. Structured interviews are best when sufficient trustworthy information already exists upon which to develop the interview schedule.

Which type of structured or semi-structured interview is selected for a particular project depends on “what” information is sought. Depth interviews intensively plumb a particular topic (Dicicco-Bloom & Crabtree, 2006; McCracken, 1988). Life histories reveal personal biography (Goldman et al., 2003; Watson & Watson-Franke, 1985), oral histories get in touch with personal experience of some event, and projective techniques expose the shadows of personality (Pelto & Pelto, 1978). Critical incidents techniques focus on semi-structured explorations of defining moments. The terms and meanings of words and actions and the rules governing them are elicited through free listings and an “ethnoscience interview” (Spradley, 1979). Pile sorts and rank order methods are structured techniques for further clarifying cognitive and

decision-making activity underlying human choices (Weller & Romney, 1988). The semi-structured diagram-directed techniques are goal specific and include some primary care examples such as the genogram (McGoldrick, Gerson, & Petry, 2020; McIlvain, Crabtree, Medder, Stange, & Miller, 1998; Rodie, Pol, Crabtree, & McIlvain, 1999), life space drawings (Blake & Bertuso, 1988), timelines, and family circles (Thrower, Bruce, & Walton, 1982).

“When” refers to the time factor in the interview relationship. Some interview relationships, such as key informant interviews (Chapter 8), involve a longitudinal relationship; whereas, others, such as most focus groups (Chapter 6) and most depth interviews (Chapter 5) consist of a one-time meeting. All of the interview methods could potentially be used in long-term, repeated, or single time relationships.

The decision to observe, record, and/or interview is often more complex than usually recognized. Behavior and conversations are best recorded; activities of daily living are better observed; and stories and cognitive maps are best obtained through interview. A useful maxim is: *look at behavior; listen for perceptions*. A corollary of this is that if you only interview and don't do observations, you are faced with knowing only beliefs and not behavior. Thus, you are at risk for the self-report fallacy. After these basic generalizations, the decision-making process becomes less obvious. A critical question guiding one to the most appropriate selection is: How is the topic-in-question usually shared in the culture or group of interest? (Briggs, 1986). For example, what if our topic of research interest concerns how particular health care practitioners learn the identity characteristics and style of their particular specialty. Surgeons often share this information in the operating room or in the trauma room in an apprentice-type interaction; therefore, participant observation as an apprentice is a preferred data collection technique. Obstetricians frequently share information in the form of “near disaster” and “dramatic save” stories while sitting and waiting in the delivery room lounge. Recordings of these stories, if possible, is optimal. Many nurses and family physicians eagerly share information in the form of explanatory talk. Whenever two or more gather, they usually seize the opportunity to share experiences, puzzlements, insights, and frustrations. Interviewing works well with family doctors and nurses.

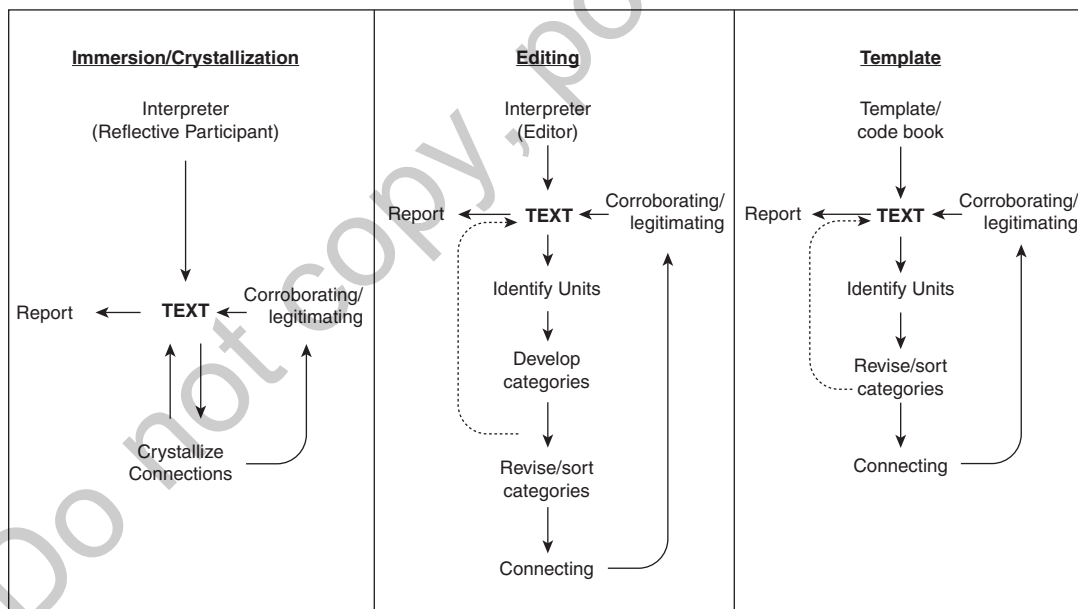
The Interpretive Process

Although there are nearly as many approaches to interpretation as there are qualitative researchers, these strategies all encompass five core phases of activities (see Figure 1.3). The interpretive process starts with describing, which is a time for reflecting on what is happening to the research team and within the research process and how all of it is influencing and shaping the interpretive process (reflexivity) and what the next steps should be (also see Chapter 3). The next three phases encompass the actual analysis process and include organizing, connecting,

and corroborating/legitimizing. Organizing refers to how one enters the data and reorganizes it in a way that helps answer the research question. Connecting is the operation whereby one connects various segments and emerging interpretations within the data to identify and/or discover connections, patterns, themes, and new meanings. This is the heart of the analysis and interpretive process. Corroborating/legitimizing concerns the issues of standards, credibility, trustworthiness, and interpretive validity (see Chapter 18). These three analysis phases have their own iterative cycle which connects and reconnects over time with describing and the sampling/collecting cycle. The analysis cycle also connects with the fifth phase of interpretation, representing the account. This is the process of telling the story, of writing it up, of creating some means for presenting the results of the research. Representing the account often begins early in the research process.

An important and recurrent decision point in the interpretive process comes at the organizing phase, whenever the investigative team or interpreter reenter the data. We have identified three idealized organizing styles for helping to conceptualize this phase and the necessary decision-making. These three organizing styles are template, editing, and immersion/crystallization. All three styles are illustrated in Figure 1.4.

Figure 1.4 Diagrammatic Representation of Different Organizing Styles of Analysis



The organizing styles inherent in most of the traditional strategies of qualitative inquiry can be lumped into one of our three prototypical styles. Table 1.5 identifies the major research traditions as they relate to the three organizing styles. Also included in this table are specific techniques such as basic content analysis (Weber, 1990), a very structured template style technique shared by many traditions, and ethnographic content analysis (Altheide, 1987, 2004), derived from the qualitative tradition in sociology. No tradition is named under *a priori* codebook analysis techniques, but many examples are elaborately presented by educational researchers Miles, Huberman, and Saldaña (2018).

The template organizing style makes use of a template or organizing codebook which is applied to the text being analyzed (see Chapter 12). The template can be detailed or more open-ended and usually undergoes revision after encountering the text. The template derives from theory, research tradition, preexisting knowledge, and/or a summary reading of the text. Templates can be codebooks developed prior to data collection, such as in some of the approaches of Miles et al. (2018), or created after data collection has begun as in ethnographic content analysis (Altheide, 1987). Templates can also be a theoretical, behavioral, or linguistic structure. The structure-based approaches apply either interactional

Table 1.5 Qualitative Organizing Styles With Associated Research Traditions

Template Organizing Style (Chapter 12)	Codebook-based A priori A posteriori Ethnographic content analysis Structure-based Basic content analysis Ethology Kinesics/proxemics Discourse analysis Ethnography of communication Ethnoscience
Editing Organizing Style (Chapter 11)	Phenomenology Hermeneutics Ethnomethodology Symbolic interactionism Grounded theory Ecological psychology Concept book approach
Immersion/Crystallization Organizing Style (Chapter 13)	Heuristic research Ethnography

structures (e.g., sociolinguistics) (Holmes, 2013) or logical, semantic or sequential structures (e.g., ethnohistory, ethology) to the identified units. For example, Spradley (1979), an ethnohistorian, would read text looking for how “term X is like term Y.” “Is like” is the semantic structure applied to the identified terms. Whatever the template, it is applied to the text with the intent of identifying the meaningful units or parts. The units are behavioral, as in ethology and ecological psychology studies, or language units such as words, phrases, utterances, objects, and folk terms, or even artifacts as in archeological analysis of pottery styles. If the text reveals inadequacies in the template, modifications and revisions are made and the text is reexamined. The interaction of text and template may involve several iterations and include the collection of more data until no new revisions are identified. The analysis then proceeds to the connecting phase where the units are connected into an explanatory framework consistent with the text.

The editing organizing style is termed “editing” because the interpreter enters the text much like an editor searching for meaningful segments, cutting, pasting, and rearranging until the reduced summary reveals a helpful interpretation (see Chapter 11). The interpreter engages the text naively, without a template. The researcher attempts to identify and separate from preconceptions prior to reading the data. The interpreter searches for meaningful units or segments of text which both stand on their own and relate to the purpose of the study. Once identified, these units are sorted and organized into categories or codes. It is these categories that are explored for patterns and themes in the connecting phase of analysis. The grounded theory approach of Glaser and Strauss (1967) and McCracken’s long interview analysis (1988) use variations on the editing organizing style.

Immersion/crystallization consists of the analyst’s prolonged immersion into and experience of the text and then emerging, after concerned reflection, with an intuitive crystallization of the data (see Chapter 13). This cycle of immersion and crystallization is repeated until the reported interpretation is reached. Note that the organizing and connecting phases are collapsed into one. Heuristic research also illustrates this approach (Moustakas, 1990; Sela-Smith, 2002). The stories and case report insights of patients, nurses, and practicing primary care physicians are a variation of using this organizing style and often serve as starting points for new directions in research or further enlightening of previous studies.

The initial and later choices of an organizing style depend on at least four situations within the research process. These include self-analysis, the research question and aims, prior or emerging knowledge about the topic of interest, and the potential audiences for the research. Template style is especially helpful when there is good prior knowledge of the topic, a clinical audience is anticipated, a research aim is theory testing, or it is one’s esthetic preference. Editing and immersion/crystallization styles are useful when the research aim is one of exploration and/or discovery, when scant knowledge already exists, the research is participatory, or these styles have more personal esthetic appeal to the research team. It is important to remember that multiple styles can be used during the

course of the research. These choices and the interpretive process as a whole are examined in more detail in Chapter 10.

It is essential in concluding this section on interpretation to reiterate the iterative process of qualitative research design (refer back to Figure I.3 and see Figure 1.3). Interpretation begins when the research is first conceptualized and reflexivity is initiated, and analysis begins shortly after or when the first data are collected. This analysis and interpretation creates new understandings, generates changes in the research question, and uncovers new anomalies. The result is often a change in the sampling strategy, new collection tools, and thus changes in the analysis process including use of a different organizing style. This recursive cycle continues until understanding is complete enough and/or no disconfirming data are discovered. It's time to celebrate!

From Whence It Came: Qualitative Research Traditions

Each of the human science disciplines has several qualitative research traditions which have developed over the past century. For example, anthropology has ethnoscience and ethnography, sociology has symbolic interactionism, grounded theory, and ethnomethodology, and psychology has hermeneutics and ecological psychology. Other disciplines, particularly education, nursing, management, and marketing, have borrowed liberally from these traditions and developed their own. One unfortunate consequence has been a proliferation of conceptual jargon and difficult reading for those outside the particular tradition. Here we provide a brief summary reference for many of these qualitative traditions. The goal is to help the reader identify which tradition(s) and possible consultant(s) are pertinent to their research.

The strategies described in this book emerged from within the traditions of qualitative research that are widely recognized. Some researchers maintain methodological purity and stay within the precepts of their particular disciplinary training, while others prefer to borrow from the different disciplines. John Creswell and Cheryl Poth provide an overview of qualitative traditions that have been used by different authors from different disciplines and fields (Creswell & Poth, 2016). They selected five of these traditions for detailed elucidation: narrative; phenomenology, grounded theory, ethnography, and case study. We feel this is a good list and provide a brief overview of each, but add a sixth, clinical research (Miller & Crabtree, 2005), that is particularly focused on clinical settings. Other traditions include hermeneutics, human ethology, ecological psychology, heuristic research, ethnomethodology, symbolic interactionism, ethnoscience, and sociolinguistics, to name a few.

Once an investigator decides qualitative research and methods are best suited for the question of interest, the next step is to decide what aspect of human life is

of primary concern. The focus can be the individual as a person with a biography created over time, or behavior and events, or social life, or culture, or communication, or intentionally lived experience, or it can be specific processes and practices such as caring, consuming, managing, teaching, and evaluating. Table 1.6 outlines how these units or domains of human life relate to the different traditions of qualitative research. The boundaries between these traditions are often quite blurred. For example, symbolic anthropology borrows heavily from phenomenology, hermeneutics, and symbolic interactionism. A brief overview of each of the qualitative research traditions is now possible.

Phenomenology seeks to understand the lived experience of individuals and their intentions within their “lifeworld.” It is the search for essences. It answers the question, “What is it like to have a certain experience?” “What is the essence of this particular experience?” To accomplish this, investigators must “bracket” their own preconceptions and enter into the individual’s lifeworld and use the self as an experiencing interpreter. Paradigm cases and theories are frequently identified, and the experience is presented as descriptive narrative. Early exemplars of this approach, begun by Edmund Husserl (1931), include Giorgi (1970), Giorgi and Giorgi (2003), and Van Kaam (1966).

Hermeneutics is a movement beyond phenomenology in that the goal of hermeneutic research is to use the interpretation of lived experience to better understand the political, historical, and sociocultural context in which it occurs. Hermeneutics also requires the investigator to enter an interpretive circle of intentional action (Palmer, 1969). Originating in the interpretation of Biblical text, and developed for social science by philosophers such as Heidegger (1962), Gadamer (1976), and Ricoeur (1981), hermeneutics as a methodology is well described by Packer and Addison (1989) and also by Denzin who refers to it as interpretive interactionism (1989b, 2001).

The life history tradition borrows from both of the above and from ethnography with its use of key informant interviewing. Life histories provide rich narratives and portraits of an individual’s life story including its turning points and core-themes. Watson and Watson-Franke explicate the process of doing a life history (1985), also called interpretive biography (Denzin, 1989a).

Human ethology purports to be the biology of human behavior. Methodologically, ethology is the direct observational study of human or animal behavior over time in its natural context. Building from the work of animal ethologists (Lorenz, 1966; Tinbergen, 1951), human ethologists now attempt to discover the universal grammar structuring human behavior and interactions. They use video recordings to categorize form-constant behavioral sequences called fixed action patterns and to decipher learned behavior patterns. The goal is a theory of human behavior constructed from the rules governing the organization of the behavior patterns, often conceptually mapped as an ethogram. Eibl-Eibesfeldt describes the methodology, theory, and findings of human ethology research (Eibl-Eibesfeldt, 1989, 2007). Proxemics, the study of the symbolic use of space, including the concept of personal space (Hall & Society for the Anthropology of

Table 1.6 Domains of Study and Qualitative Research Traditions

Domain	Research Tradition
Lived Experience (lifeworld) Intention of actor as individual Actors as access to social context	Psychology Phenomenology Hermeneutics
Individual As person with biography Behavior/events Over time and in context Related to environment	Psychology and Anthropology Life history Psychology Ethology Ecological psychology
Social World How individuals achieve shared agreement How humans create and interact in a symbolic environment General relations among social categories and properties	Sociology Ethnomethodology Symbolic interactions (Semiotics) Grounded theory
Culture As holistic whole As symbolic world As cognitive map of social organizations	Anthropology Ethnography Symbolic anthropology Ethnoscience
Communication/Talk Forms and mechanisms of conversations Forms and mechanisms of nonverbal Patterns and rules of communication	Sociolinguistics Conversation/Discourse analysis Kinesics/Proxemics Ethnography of communication
Practice and Process Caring Teaching and learning Managing/consuming Evaluation	Applied Professions Nursing research Educational research Organizational/Market research Evaluation research

Visual Communication, 1974), and kinesics, the study of body movement (Birdwhistell, 1970), are branches of ethology that overlap with sociolinguistics and anthropology.

Ecological psychology also focuses on behavior, but, here, the purpose is to discover the influence of environment on behavior. Whereas ethologists focus on the behavior itself, ecological psychologists, following the work of Barker, focus and record both the “behavioral episode” and the surroundings in which the stream of behavior occurs (Barker & Kansas University Midwest Psychological Field Station, 1968). The goal is to develop principles and laws which explain the interdependence of the two. Descriptive statistics are frequently used along with text (fieldnotes and/or videotapes) analysis.

Heuristic research, as defined by Clark Moustakas (1990), derives from the phenomenological tradition in psychology and places a special emphasis on self-reflection in the research experience. The heuristic inquirer uses intensive inner searching and empathic immersion in others’ experiences to reach a narrative portrayal of the phenomena in question.

Garfinkel presented ethnomethodology in 1967. He and subsequent ethnomethodologists, such as Mehan and Wood (1975, 1983), seek to understand how people make sense of the most common everyday occurrences. They wonder, “How is it that people all know and come to agree that the act of holding a hand means one thing in the doctor’s office and something else in the park.” A common methodologic technique, the “incongruity procedure,” consists of “breaking the rules” and then observing how people attempt to correct the damage done. The ethics of such research remains controversial.

Symbolic interactionists owe their ancestry to Max Weber (1968) and George Herbert Mead (1934) and their contemporary tradition to the “Chicago School” of sociology (Bulmer, 1986). This tradition is also concerned with how people make sense of social interactions, but the emphasis is on how the interactions are interpreted as symbols by the participants. The goal is to explicate the meaning of a word, action, or sign and develop principles of symbolic interaction. Semiotics, the study of signs and their significations, and conversation analysis are commonly used tools by symbolic interactionists (Goodwin, 1981; Manning, 1987). The study by Becker of medical students is an early example of the symbolic interactionist approach (Becker, 1961). Blumer provides an excellent source on symbolic interaction theory (1969).

Grounded theory, a research tradition worked out by Glaser and Strauss (1967), has made major contributions to both the medical sociology and the nursing literature. One key to its popularity is the detailed descriptions of the methodology provided by Glaser and Strauss and their students. With philosophical roots in phenomenology, grounded theory searches to identify the core social psychological and/or social structural process within a given social scene. The goal is to develop classifications and theory grounded in the particular social scene investigated. “Grounded” means based on and connected to the context-dependent observations and perceptions of the social scene. The

researcher constantly and recursively compares research interpretations in the form of “memos” against the data, a process termed the “constant comparative method.”

Ethnography is one of the oldest field research traditions and the cornerstone of anthropology. The goal is to tell the whole story of a defined group’s daily life, to identify the meanings, patterns, and passions of a bounded cultural group. Given such a holistic task, ethnographers use multiple methods over an extended period of time while immersed in the everyday life of the culture being studied. Murdock’s “Outline of Cultural Materials” is a commonly used guide and code-book for this research (Human Relations Area Files Inc., Murdock, & Yale University Institute of Human Relations, 1950). Helpful general references on ethnography include Peto and Peto (1978), Agar (1986), Hammersley and Atkinson (2019), and Fetterman (2020). All ethnographers work from the same tool kit, but their interpretive foci often differ substantially. Some ethnographers see the culture through materialistic eyes (postpositivist) wearing the glasses of neoevolutionism (White, 1959) or cultural ecology (Harris, 1992). Others see through glasses of neofunctionalism (Gluckman & Forde, 1963) or neoMarxism (Singer, 1989) and perceive culture as a source of conflict and power struggles. A third group of ethnographers emphasize the ideological aspects of culture rather than the materialistic and conflict-based perspectives. This group includes structuralism (Lévi-Strauss, 1963), ethnoscience (see below), and symbolic anthropology (see below) and views culture as a system of shared symbols and meanings (much like the symbolic interactionists in sociology).

Ethnoscience, also called cognitive anthropology, represents a blending of the ethnographic and linguistic traditions within the discipline of anthropology. The original goal was to learn a culture’s “emic” constructs or the meaning of things and events as understood by the members of the culture. This goal has translated into methods and studies which seek to map the cognitive world of a culture, the semantic rules and shared meanings governing conduct. The results are classifications and rules, often presented in the form of taxonomic trees or semantic network diagrams. The methods of ethnoscience, such as componential analysis, pile sorts, and multidimensional scaling are especially suited for term identification and for decision-modeling. Detailed descriptions of these techniques are found in Spradley (1979), Werner, Schoepfle, and Ahern (1987), Weller and Romney (1988), and Gladwin (1989).

Whereas ethnoscience relies primarily on participants’ statements about symbolic meaning, symbolic anthropologists go beyond the statements to examine how myths, rituals, and other cultural events are actually used in the everyday context of social and cultural life. The goal is to reveal the shared cultural categories and plans which enable people to communicate and meet their needs. The outcomes are “thick descriptions” of cultural events (Geertz, 1973) and paradigm cases and/or the important cultural themes underlying and revealed by the event or ritual (Turner, 1977). These themes are often depicted in taxonomic grids (Douglas, 1996).

Sociolinguistics is home for both discourse analysis and the ethnography of communication. Both seek to understand the rules or structure of communication. Discourse analysts focus directly on conversation itself, using transcripts of naturally occurring conversations, such as those between doctor and patient (Cassell, 1985; Mishler, 1984), to uncover a portrait of the forms, mechanisms, and rules guiding the conversation (Johnstone, 2018).

Ethnographers of communication, led by Hymes (Gumperz & Hymes, 1986), focus as much on the context of the conversation as on the conversation itself. They want to know, not only the rules of communication, but the larger cultural patterns of communication which are often depicted graphically.

SUMMARY

This chapter's journey toward puzzle-solving began by constructing a trail map or typology of research styles based on aims, objectives, questions, and paradigms. At this first fork in the road, qualitative research, often as part of a mixed-method strategy, is often selected as the preferred strategy for investigating these clinical research puzzles. Then we explored the maze of qualitative methods used by qualitative researchers by viewing them through our eyes as doers of clinical qualitative research. The design options for data collection, sampling, and interpretation were identified. The remainder of this book describes these options in more detail and uses examples to explain design decisions.

The trail traveled in this chapter has prepared the reader for the research adventures ahead. For pedagogical purposes, this chapter's discussion has separated the different research methods, including dividing qualitative from quantitative. In practice, we believe the various methods complement each other, and their integration is encouraged. Expand your research perspectives and join the search. Welcome to the exhilarating adventure of doing qualitative clinical research in a mixed-methods world. This will require you to identify collaborators and think of your research ensemble as described in the next chapter.

QUESTIONS AT THE EDGE

- What is your worldview?
- How is your worldview influencing the way you articulate your research aims and research questions?
- How can you respect the ancestors while also being innovative?
- What is your theory of health?
- What is the paradigm of a generalist?
- How many iterations does it take to reach saturation and why?
- Is doing qualitative research doing science and why?

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