Qualitative research: Part three – Methods

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Background: There are still many practitioners, academics and researchers who are bemused by the principles and practices of qualitative research. In the third and final article in this three part series, I look at sampling in qualitative studies, methods of data collection and analysis.

Content: Building on the previous two articles, I highlight the importance of rigour and explore some of the different criteria used by researchers to demonstrate that their research is trustworthy. I include a brief discussion of some of the more recent trends in mixed-method or post-positivist research.

Conclusions: Qualitative research is different in many ways to quantitative, and it cannot be approached with the same mind-set. It seeks to explore different aspects to quantitative research, focusing on the individual experience, rather than conclusions that can be drawn from large groups. Because of these differences, the two approaches to research should not be seen as alternatives, but complementary.

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In the previous two articles on the philosophies and methodologies of qualitative research, I began by exploring single and multiple realities. I argued that the notion of multiple realities lies at the heart of qualitative research, and that this principal distinguishes it philosophically from quantitative research. I then focused on interpretivist, radical/critical and postmodern/poststructural philosophies and gave a brief introduction to each. In the second article, I moved on to methodologies, first showing how methodologies differ from philosophies, before exploring four common methodological frameworks used in qualitative health research (phenomenology, grounded theory, ethnography and discourse analysis). In this final article in the series, I explore how qualitative research may be undertaken.

The article is divided into four main sections: in the first part, I explore the thorny issue of sampling, and attempt to answer the question that opened this series of articles: 'How is it possible that qualitative researchers can get away with only sampling five people into their studies?' The second section then outlines some of the methods of data collection and analysis that are commonly used by qualitative researchers. In the third, I consider how qualitative researchers ensure that their studies and reports are rigorous and, by extension, how we can determine the quality of a piece of qualitative research; and in the fourth, I briefly discuss some of the emerging possibilities for mixing qualitative and quantitative research. To begin with, however, I tackle a question that bemuses many people unfamiliar with qualitative research.

SAMPLING

Small sample generalizations

Having read the preceding two articles in this series, you should be comfortable with the idea that qualitative researchers view the world differently to quantitative researchers. And if you accept that each person is unique, then you might be comfortable with the idea that people, either individually, or socioculturally, construct meaning about the world in their own idiosyncratic fashion. If you are comfortable with this notion, then you will appreciate that there are myriad ways of organizing these individual ideas into workable groupings: systems of thinking that share similar characteristics. We know of these as (philosophical) paradigms. Among these many paradigms there are three main ways in which qualitative research can be subdivided:

- A concern for what it means to 'be' human
- An interest in the way people collectively give meaning to their existence
- A desire to interrogate the systems and structures (for instance, language, government, and history) that give meaning to things.

Clearly, given this heterogeneity of explanations for the nature of reality and our individual experiences of the world (and there are many, many more paradigms besides the ones I have crudely simplified here), it is reasonable to argue that the ways researchers obtain and generate data for analysis varies from one paradigm to the next. What most qualitative research methodologies share in common, however, is a rejection of the quantitative idea that we should seek to use a sample that represents the background population.

To recap, one of the fundamental tenets of quantitative research is that if our results are to be statistically generalizable to the rest of the population, they need to be based on a sample that adequately represents the people that are the focus of the inquiry. Thus, if our study looks at an intervention for women with multiple sclerosis (MS), we should draw from that population enough people to say not only that our intervention brought about real improvements (that could not be explained by a placebo effect or an artefact of the research process like the Hawthorne effect), but that the data represents what might be seen if the intervention were applicable to all women with MS. The basic assumption is that women with MS will react in the same way, or more accurately, that the body systems that were the target for our intervention will react in the same way, among a relevant proportion of women with MS.

Quantitative research therefore operates on the premise that at some basic biological level, all people are alike (which at a pathological level may certainly be true), and so quantitative research methods commonly concern themselves with data that is not experiential or socially constructed (Saks and Allsop, 2007). By contrast, qualitative research focuses on a different set of questions. Rarely does it concern itself with the function of biological systems, physiological variables or pathological precursors. Instead, it is concerned with the way people give meaning to the world, and it assumes that everyone is different in this regard. Qualitative researchers are, therefore, not looking to sample people who 'represent' the background population – in the quantitative sense of the word, at least. Instead, they are looking for a sample that will provide appropriate and adequate insight into people's experience of the world, using people who offer depth and richness to our explanations; people who can 'represent' a breadth of human expe-

rience. This should provide data that can reveal something about the human condition. Sampling in qualitative research is, therefore, an exercise in exploring diversity, difference, variation and heterogeneity (Morse, 1991).

In the second article in this series, I briefly explored how this idea often leads to a common misunderstanding; that because qualitative research deals with individual difference, it cannot generate generalizable results. At one level this is true; qualitative researchers cannot generalize their findings in the same way as quantitative research, since their sampling strategies are fundamentally different. But what I showed in the second article was that qualitative research is designed to generate theories that explain phenomena in the world, and it is these theories that are generalizable (Silverman, 1997). Therefore, if, in a study of women with fibromyalgia, I come to realize that one of the real problems for these women is that they find it hard to be believed, and that this in turn affects their experience of their illness (because they find it hard to take time off work, or receive the same support from their family and friends that other people with more obvious illnesses do), then the theory that I construct around this idea should be applicable to other people who suffer similar 'invisible' illnesses. Thus in many qualitative studies it is the theory that is generalizable, not the specific data that is drawn on in the study.

Specific sampling rules

Each qualitative methodology has its own particular rules regarding sampling, but as a basic principal, the more individualistic the methodology, the smaller the numbers needed and the greater the depth required to achieve 'sampling sufficiency' (Patton, 1980). Phenomenological studies, for example, commonly use as few as five to eight participants. In a recent article by Barrecca and Wilkins (2008), for example, eight nurses from a Canadian stroke unit were interviewed about their experiences caring for survivors of strokes. Ethnographies, on the other hand, may sample many more people because they may be studying entire cultures (see: Hart et al, 2005). Given this, it is not uncommon in ethnographic studies for sampling practices to mimic quantitative studies. Equally, some methodologies focus more on written texts rather than people (historiography and discourse analysis, for example) (Willig, 2009). But here again, sampling sufficiency is the key. As Finlay and Ballinger argue, 'Deciding on the number of participants for a qualitative study is a thorny issue. More does not mean better' (Finlay and Ballinger, 2006: 42). Qualitative researchers are concerned, therefore, with sampling sufficient

numbers of participants/data/texts into the study, often using a range of sampling strategies. These can include purposive, deviant, typical case, homogeneous and convenience sampling (see Patton (1987) for a comprehensive review of these strategies), to enable them to achieve what is known as data 'saturation', where, in principle, no new findings are likely to emerge with further data collection (Sim and Wright, 2000).

Randomization is rarely used in qualitative research, because this works on the assumption that one can replicate the background population in the sample. Rather, qualitative researchers look to sample participants into the study that can offer meaningful insights into the phenomenon they are studying. Thus, they may approach a particular group of people thought to share a common experience, and sample from that group individuals who are willing and able to talk candidly about their experiences. This is known as purposive sampling, and is the most widely used method for identifying potential study participants (see Carpenter and Suto (2008): 79–81 for a more detailed analysis of these issues).

Having outlined some of the main issues in qualitative research sampling, I will now move on to some of the more common methods of text generation and analysis deployed by qualitative researchers. The approach I have taken is to introduce some of the issues that pertain to interviews, observations, focus groups and document analysis, rather than providing a prescription for how the particular method should be undertaken. This is the low-risk option, as giving qualitative researchers a prescription for how to do something can be highly problematic. Qualitative researchers tend to be free-thinkers who dislike formulae and restrictions on what can be said or done. Having said that, there are many excellent texts explaining how each of these methods should be undertaken (French et al, 2001; Silverman, 2001; Denzin and Lincoln, 2005a; 2005b; Carpenter and Suto, 2008), and I would encourage you to explore these more closely. In unpacking some of the issues that reside around these qualitative research methods, therefore, my intention is to open up possibilities for you to think about your practice. I will start with the most common qualitative method.

Interviews

Interviews are ubiquitous in qualitative research, particularly among research studies that emphasize the need to understand the lived experience of health and illness (i.e. interpretivist/phenomenological studies). Many health researchers find interviews a comfortable and familiar way of generating texts, having already learnt to interview patients during their professional training. Indeed, health professionals often make excellent interviewers because they have developed the skills of non-verbal communication, active listening, engagement and note taking necessary to undertake field interviews. Research interviews are somewhat different, however, and demand a subtly different set of skills if they are to be undertaken successfully.

Research interviews usually take one of three forms: structured, semi-structured and unstructured. Structured interviews are based on a predetermined set of issues that are prepared in advance, and the interview follows a pre-prescribed format. The interview parameters (the questions, possible answers, location, arrangement of the room, etc.) are pre-defined by the researcher. Consequently, structured interviews tend to be quite didactic, one-sided and positivistic (rather like an oral questionnaire). The interviewee is essentially viewed as a vessel of information to be tapped. They are detached from decisions about the conduct of the interview, and are seen more as the docile subject of an interview rather than an active participant in the process. At one time, structured interviews were the preferred method of 'qualitative' data collection – particularly in the early social sciences (Gubrium and Holstein, 2002) – but they are much less common these days, as our sensibilities towards the power imbalance they create have been heightened by the writings of people like Anne Oakley (1981).

Semi-structured interviews, on the other hand, are exceedingly common in qualitative research studies. Based on a pre-defined set of broad questions and themes, the interviewer conducts the interview in a similar way to that in which a skilled practitioner interviews a client in clinical practice; sticking loosely to a recognizable plan, but allowing for deviations where the interviewee decides that new information is needed. Semi-structured interviews do not assume that the researcher anticipates enough of the answers to be able to pre-format the questions (since this would be positivistic), nor does it allow the interview to proceed aimlessly; meandering through whatever topic the interviewee cares to bring up. This would be more in keeping with unstructured interviews which often begin with a prompt – a prop, an object, an idea or thought – and proceed from there in whichever direction the interviewer and interviewee wish to go.

The question of power is an important consideration when undertaking interviews, and the way the interview is performed affects the power relations between the interviewer and interviewee (Streubert and Carpenter, 1999). Traditional, structured interviews placed the interviewee/patient in

a passive relationship to the interviewer. The interviewer defined the questions to be asked and also the range of acceptable answers. If the 'subject' deviated from the pre-defined script, the interviewer was trained to steer them back on track with bland answers and non-committal gestures. The interview was often conducted in an atmosphere of ritualistic sterility.

It was feminist researchers that first argued that these forms of interview were an expression of androcentric bias; that they represented an attempt to impose experimental conditions on what was otherwise merely a recorded conversation (see an extended discussion of this in Evans and Kelly (1992)). In their attempt to give some objectivity to interviews, scholars like Anne Oakley, Carol Gilligan and Nancy Chodorow argued that science had stripped conversations of their humanity, and applied the principles of quantitative research to an encounter that rightfully demanded a qualitative approach (Oakley, 1981; Gilligan C, 1982; Chodorow N, 1989). What they called for, instead, was a rejection of positivism, and a re-evaluation of the importance and analytical value of open conversation between parties; a mutual sharing of ideas, thoughts, experiences and emotions; a non-hierarchical co-construction of meaning. To achieve this, they argued, the researcher needed to dispense with the notion that he/she was the knowing one, or the one that necessarily needed to dictate the terms of the interview. Instead, the task of defining the boundaries, operations, focus and outcome of the dialogue would be a shared process built around a mutual appreciation for whatever it was that each party wished to explore.

The proliferation of the in-depth interview as a tool for understanding the meaning people give to health and illness mirrors a trend in society at large, which has moved, inexorably, towards the interview as a means of individual expression (Gubrium and Holstein, 2002). This is something of a cultural phenomenon, given that only a generation or two ago we would never have anticipated the confessional television of the Jerry Springer show, the rapidly expanding blogosphere, or the rise of the celebrity interview. We now live in a time where one is encouraged to expose our inner thoughts; 'confess' our inner feelings. Indeed, we are encouraged to share our views with others all the time (in opinion polls, magazine quizzes, and online surveys, for example). As Michel Foucault suggested:

'We have become a singularly confessing society... The confession has spread its effects far and wide. It plays a part in justice, medicine, education, family relationships, and love relations. In the most ordinary affairs of everyday life, and in the most solemn rites; one confesses one's crimes, one's sins, one's thoughts and desires, one's illnesses and troubles; one goes about telling, with the greatest precision, whatever is most difficult to tell. One confesses in public and in private, to one's parents, one's educators, one's doctor, to those one loves; one admits to oneself, in pleasure and in pain, things it would be impossible to tell anyone else'. (Foucault, 1979: 59)

As a result, the use of interviews is no longer as strange to us as it would have been for previous generations of researchers.

Observations

Observations are another significant method of text generation used by qualitative researchers (Marshall and Rossman, 2006). Observational research commonly takes one of two forms, depending on how the observing researcher is situated (for an overview of observational methods, see Flick (2009), Chapter 17). The first, and most common method, is non-participant observation. Here the researcher remains either entirely detached, or at least marginal to, the participants he/she is observing. This is most commonly used in healthcare research, not because it is innately better than participant observation (the other form), but because we tend to view it as a more objective way of gathering data. This notion is problematic, however, because observations depend on one's own perspective (literally and metaphorically), and the act of observing someone can have a profound effect on the people being observed.

Consequently, there is no way that anyone can ever undertake observations with quantitative objectivity. Attempts to formalize observations with pre-formatted charts and tick-boxes present the same contradictions that structured interviews produce, and so nowadays, it is more common to see researchers openly accepting the subjectivity of their observational research, and make a virtue of their biases, rather than attempt to conceal them (Gomm et al, 2000).

Some researchers argue that participant observation provides a richer experience of the complexities and nuances of a phenomenon, and that participant observation is infinitely preferable to the false objectivity of the non-participant observation. In participant observation, the researcher plays an active role in the experiences they are studying: working as an intensive care unit physiotherapist, for instance, if they are studying the way health professionals communicate difficult information to relatives; or training as a machine operator if one

is observing moving and handling practices on the factory floor. Whether one gets a richer experience or not is open to question, but what is certain is that observational research of any form can be very hard work. Not only are you observing; trying to take in every crisp detail, every verbal interaction and non-verbal cue; you are also trying to capture the essence of the experience in hastily written field notes. And at the end of the day, when everyone else finishes work and goes home, you will be pouring over your notes, supplementing them with thoughts, transcribing conversations, memorizing details and translating sketches and scribbled reminders, only to return again the next day to do the same thing all over again.

Observational research is often done over an extended period of time, with researchers spending weeks, or sometimes months, observing particular phenomena. A 'prolonged engagement in the field' is one of the ways in which researchers assure us that their results can be believed; that they weren't just made up. A prolonged period of observation can also reassure you, as the researcher, that your data is robust: you have given yourself time to explore negative cases (situations and incidents that appear to contradict your developing ideas about what is going on), and you have built up layers of meaning, examples and scenarios that point to particular explanations.

Focus groups

Focus groups have become increasingly popular in recent years as a way of testing out ideas (Kitzinger and Barbour, 1999). Producers routinely pitch different film endings to focus groups to help them decide which version will have the greatest impact. Likewise, political lobbyists use focus groups to 'take the temperature' of the electorate on particular policy ideas. But these focus groups are a little different to the focus groups used by qualitative researchers, because these tend to work on the assumption that the members of the focus group represent a microcosm of society, and as we have seen in the previous two articles, this is very much a positivistic idea and against the spirit of qualitative research (Flick, 2009). I can no more represent the 'European, white male' opinion on a subject, as, for example, you might be able to represent the opinion of (if appropriate) all 'indigenous, single mothers' *per se*. Qualitative focus groups, therefore, look to bring different opinions together – to explore, not to represent, a plethora of viewpoints. Like interviews and observations, they look for richness, diversity and breadth (see: Green and Thorogood, 2004).

Focus groups are based on the notions embodied in symbolic interactionism, a methodology

I explored a little in the second article. Here, a collective process of negotiation and signification generates meaning. It is a dynamic, interpersonal process, entirely dependent on the particular social and cultural assumptions offered by the group's participants. Not unsurprisingly then, focus groups are much used by ethnographers who are looking to understand how particular cultures give meaning to phenomena. If we wanted to understand something of the shared problems experienced by men who had survived myocardial infarction, for instance, we might bring a small group of them together (commonly between six and eight) and facilitate a discussion on the subject. We might do the same for any collective experience of health and illness.

Generating transcripts from focus groups is often difficult because of the complexities inherent in separating out the cross-talk between participants. Tape recorders have traditionally been used to capture conversation, but without the ability to confirm the speaker's identity visually, individual voices may be hard to identify in the mêlée of relaxed conversation that the researcher has worked hard to generate. To overcome this, video cameras have been used by many, but these are not unproblematic, particularly if they intrude in the environment around the speakers or are in the speaker's eye-line, in which case the feeling of being watched hampers free discussion. Ideally, a combination of discrete audio and video recording, in purpose-built but homely recording rooms, can be used to capture every nuance of a person's expression, while being careful not to recreate the sterile atmosphere of early social psychology testing laboratories. But these may be expensive to establish and situated a long way from the people you want to study. These problems notwithstanding, focus groups are used extensively in rehabilitation research and are a convenient and robust way to gather group experience (Webb and Kevern, 2008).

Document analysis

Many societies, particularly indigenous and non-Western cultures, are underpinned by a tradition of oral history and story-telling (Greenhalgh, 2006). Generations of family histories, myths and legends are passed down from one generation to the next through stories that define a group's culture and identity. Western cultures, on the other hand, predominantly express their histories and identities through the written word (Robb et al, 2004). Thus, our libraries have become places where we can identify important aspects of our culture. From philosophical treatise, to consumer magazines, to blogs and mobile phone texts, we

are, in many ways, a documentary culture. And if interviews celebrate the fact that we each have our own voice, then documents are one of its most potent forms of expression. Not surprisingly then, qualitative researchers are very interested in the role played by documents in defining who we are and what we do as a people.

A document, in this context, is any form of text that conveys meaning. It need not be only in written form, but could, in principle, be an image, a poster, or even a bus ticket; anything, in fact, that carries cultural significance. It may be a written policy produced by a government department, or the lyrics to a song. It may be a piece of graffiti, or a book of poetry.

Documents are of particular interest to three types of qualitative researcher (although many others use them too). The first is the historian. Historiographic research – which, because of its methodological leanings towards positivism, sits a little uncomfortably within the domain of qualitative research – depends heavily on documents to accurately record events and provide evidence of incidence. Historians look for documentary evidence in the way that archaeologists look for fragments of pottery and ancient work tools (Maggs, 2004). The second group interested in documents are linguists. Linguists look to documents to understand what is being said; literally interpreting the etymology of individual words and the grammatical construction of sentences, drawing from this analysis the comparative shifts in patterns of speech and language behaviour (Cobbley, 2001). The third group are postmodernists who, like linguists, are interested in language, but ask instead what the text makes possible and what it denies. They might look, for instance, at a government policy document and ask how it changes the way that a particular group now operates; how it shifts power and what kinds of new knowledge are made possible (Cheek, 2000). All three groups respond differently to the same text since, as with all qualitative research, the key is that each person's view is unique.

I made the point in the second article that the methods of data collection used by qualitative research were relatively straightforward. I hope I have shown here how the four main methods – interviews, observations, focus groups, and documents – are quite logical and intuitive in their design and application. And although different researchers use them in different ways, and apply their particular lens to their design, they are often much more familiar to healthcare practitioners (who use certain forms of these methods in their everyday practice) than, say, the randomized controlled trial. Qualitative research is, in this regard,

a bit like football; a simple game with few rules, from which a number of different flavours, or paradigms, have evolved – South American football, for example, is different to Scandinavian, as phenomenology is different to discourse analysis.

The football analogy also works well to explain another difference between qualitative research and quantitative. In quantitative research, the ability to generalize the results to the rest of the population depends, in part, on how reproducible the study was. A trustworthy study is one that is clearly documented, such that anyone with a modicum of experience and the right equipment could reproduce it in their own laboratory and test the reliability and validity of the study's findings. Thus, experience and familiarity with the phenomenon under investigation are seen, in some regards, as a potential bias and, as such, may act as a barrier to the rigour of quantitative research. By contrast, qualitative research is more like football: a game that is easy to play at one level, but is greatly enhanced by the skill and experience of the players. Thus, maturity, experience and familiarity are a definite advantage to the researcher looking to understand meaning and generate theory. This is no more so than in the process of data analysis, to which I will now turn.

METHODS OF DATA ANALYSIS

Every different methodology has its own prescriptions for how qualitative data analysis should be undertaken, and some (not wanting to be constrained by narrow methodological principles) resist the temptation to define a set of practices altogether, and leave it to the researcher to work out their own approach – one that works best for their data and remains true to the underlying philosophy (Denzin and Lincoln, 2005b). It seems that new methods are being identified almost daily, as qualitative researchers around the world spread their wings and discover that no method of data analysis currently exists for their particular post-colonial, black, feminist, critical social theory stance, or their autoethnographic performance study.

Most methods of analysis share some basic principles in common however, and these may be summarized as follows:

■ The generation of a text from a body of 'raw' data – data drawn from the field either as field notes, audio and video material, or documents – that are commonly converted into a written form, that can be read and analysed (sometimes this is formatted to be read as a written text, for others it is a computer file)

■ An initial reading (Collaizzi, 1978) – where the raw text is read, listened to, or viewed a number

of times. A form of 'naïve' coding is applied. This coding represents the first, un-reflexive ideas of the reader (hence the word 'naïve' – which is not meant to imply ignorance). Hardened positivists find it difficult to grasp that this is the particular reader's interpretation of the text – not some absolute truth that everyone would agree on

■ From here the text is scrutinized more closely, and the early ideas of the researcher may be shared with colleagues and/or with the research participants, to ensure that the researcher's ideas are reasonably based on the data. From here it is revised, and more detailed coding is used to supplement the naïve

■ Some researchers will now turn to pre-existing theory to help understand their own text better (this is known as 'theoretical sensitivity' in grounded theory) (Price, 2002). If one is reading an account of a person's experience of intensive care, for instance, it is at this point that some researchers would return to other written accounts of the experience, or textbooks on intensive care practices, to gain a better insight into the participant's experience. All this additional information is then folded back into the text and becomes additional material for analysis

■ Further data collection takes place and the researcher looks for patterns emerging in the texts. Initially, these come from basic categorizations (and there may be tens or hundreds of these in the early stages), but slowly as categories coalesce and become better organized, explanatory frameworks begin to emerge. These are proto-theories – early stage explanations for the way the system of categories, codes and text occur (Carpenter and Suto, 2008)

■ Negative cases (Finch and Mason, 1990) are a vital part of the process and must be taken seriously at this stage; cases that defy early theorizing can refine or refute naïve ideas that might be being formed. As negative cases are incorporated, theories become more sophisticated and nuanced.

Since the generation of theory is the driving force behind all qualitative research (without it qualitative research is little more than descriptive wordplay), the process that is followed defines the quality of the output. As Carpenter and Suto (2008: 26) argue:

'…inductive approaches are a hallmark of qualitative research and are grounded in the social processes that people engage in and the meanings that they create from their experiences. Knowledge development using inductive approaches begins with the specific, observing particular people in context, and ends with descriptions and

concepts that generate new social theories or contribute to and refine existing ones.'

All too often, a well executed study is let down because of the shortcuts taken in generating theory. There are guiding principles that researchers should follow in undertaking their studies that can help ensure a quality outcome. Equally, there are principles that we can use, as readers, to determine whether the researcher did their job properly and produced a result we can believe in. These ideas are collectively defined as the study's 'rigour'.

RIGOUR IN QUALITATIVE RESEARCH

In quantitative research, the terms bias, reliability, sensitivity and validity are synonymous with rigour (Koch, 1998). They are the measures of quality that can be applied during, and after, the study to determine whether we can trust the researcher's assertions (Morse at al, 2002). In qualitative research there is still debate about the use of these terms (see Denzin and Lincoln, 2005a), but as I highlight here, qualitative researchers have developed a rich and intriguing set of tools with which to examine the quality of their research.

To be of any value to us, qualitative research, or more specifically, the theories that qualitative research generates, must be credible (i.e. not outlandish, or if they are outlandish, they must have some basis in evidence and reasoned argument). The process must be trustworthy (to convince us that the results were not made up – a problem in all forms of research). The theories which emerge must be generalizable, or transferable, if they are to have value for researchers, educators, practitioners patients and clients.

At the same time, the theories must reflect the fact that qualitative research works by a different set of rules and principles to quantitative research. These rules must reflect the underlying belief in multiple realities, and so must reflect a polyphonic approach to what is necessarily the 'right' way to do things. What is more, qualitative research is often undertaken in common, domestic or everyday situations, rather than in the abstract purity of the clinical trials laboratory, and the findings are not so easily reduced to numbers whose value can be compared across variables. In this way then, qualitative research must meet our expectations for rigorously conducted research and reliable information, but must be true to its underlying philosophies and methodologies.

A number of phrases embody the approach taken by qualitative researchers in exercising and demonstrating a rigorous approach to their research, and these can be used to test the quality of the theories that are produced (*Table 1*).

TABLE 1.
Rigour in qualitative research

Strategies employed during research study

Category	How it presents itself
Researcher responsiveness	Evidence of the active management of the project Researcher uses knowledge and experience to guide project, but allows direction of study to be driven by participant(s) – sensitivity
Verification strategies	Evidence that researcher is continually checking, confirming, making sure and being certain about their findings Continual movement between data collection and analysis, literature, recruitment and theory
Methodological coherence	Clear link between question, philosophy, methodology and method
Sampling sufficiency	Does not mean large numbers, but instead, ensuring efficient and effective saturation of data: '…optimal quality data and minimal dross' (Morse et al, 2002: 12) Sufficient to cover all aspects of phenomenon Evidence that negative cases have been used
Concurrent text generation and analysis	Evidence that the researcher is moving from what is known to what is unknown Text generation and analysis begin from outset
Thinking theoretically	Evidence of gradual movement towards theoretical understanding of data, not raw data superficially analysed New theories confirmed or refuted by new data New data/theories guiding development of next steps Building inductively

Strategies used to test the rigour of qualitative research (*post-hoc* strategies)

Credibility	Activities that increase the likelihood of credible findings Findings compatible with participants' perceptions Achieved with: • Prolonged engagement in the field • Persistent observation • Triangulation of data and methods • Member checking – where participants review developing coding, categorizing and theorizing • Peer debriefing – sharing developing analysis with peers
Transferability	Evidence that it is possible to relate developed theories from one context or group to another Evidence of detailed, or thick description and purposive sampling where participants are chosen for their ability to inform the study's purpose
Dependability	Evidence of consistency and accuracy in data collection, text generation and analysis An audit trail of decision making and evidence of peer inquiry audit
Confirmability	Clear evidence that the outcomes derive from texts, not a selective reading by the author To this end, there should be a transparent decision trail and evidence of reflexivity
Authenticity	Appropriate strategies for true reporting of participant's ideas

Naturally, any attempt to define a single set of criteria that function for all qualitative researchers is futile. In the past, authors who have attempted to provide guiding instructions have found themselves criticized by those who argue that defined criteria are antithetical to the spirit of openness, creativity and inclusiveness that are the hallmarks of qualitative research (Morse et al, 2002). My task in outlining some of the principles here is not to define the only way to establish the quality of qualitative research, but more modestly, to give people a start; to familiarize them with some of the language that so often bemuses people. I make no apology here then, for oversimplifying what is sometimes a bewilderingly complex and shifting subject.

To close this article (and this series of articles), I will turn to one of the emerging developments in qualitative research, and briefly consider what it tells us about the way in which qualitative research has found a place at the health research table, alongside the heavy-hitters like randomized controlled trials and clinical trials.

QUALITATIVE RESEARCH AND EVIDENCE-BASED PRACTICE

Evidence-based practice has been one of the most powerful driving forces in healthcare research in recent years, and certainly one of the most contentious (Miles et al, 2008). The idea that best clinical evidence, clinician experience, and the wishes of the patient should inform treatment decisions is not a new one, but it found its most robust support in the healthcare community in the mid-1990s through the establishment of evidence-based practice. Evidence-based practice has done much to stimulate interest in research, particularly qualitative research (which is ironic, since many qualitative researchers find the idea of evidence-based practice highly problematic) (Murray et al, 2008). What it has done is to suggest to those of a more positivistic persuasion (i.e. those who previously only concerned themselves with the results of clinical trials), that they should take well-conducted accounts of patient's experiences of health care seriously (even if they do secretly think that they are subjective, emotive and innately unreliable).

What the evidence-based practice movement has attempted to do, therefore, is to elevate patient opinion to the level of scientific studies, and a plethora of tools and techniques have been used to achieve this. The most significant move is probably towards a paradigm known as 'post-positivism', which seeks to bring qualitative and quantitative findings and approaches closer together (Pope et al, 2007). As may be expected, this move, led mainly by quantitative researchers, has proven to be far from popular within some sectors of the healthcare research community (Grant and Giddings, 2002).

At present, quantitative research ranks far higher on the various published hierarchies of evidence, but the subjective aspects of people's personal views can no longer be ignored. Thus, throughout the world, journals are publishing qualitative research reports that explore patient's experiences of illness, critical commentaries on policies and practices of health professionals, and studies of health care culture (see, for instance, journals such as *Aporia*; *Body and Society*; *Health*; *International Journal of Qualitative Methods*; *Qualitative Health Research*; *Qualitative Inquiry*). And gradually, over the last decade, a critical mass of qualitative scholarship has emerged.

In some people's eyes the growth of a distinct body of qualitative research has been something to be applauded, but also something to be cautious of, since, as with positivistic research, it only concerns itself with one dimension of the entire experience of health care (the qualitative dimension, as opposed to the quantitative). As a consequence, a new move in research has begun to take hold. Known as mixed-method, or post-positivistic research, this approach attempts to marry the best of the quantitative tradition of rigorous science, with the qualitative research's emic perspective (the notion that research derives from the participant's perspective, not the researcher's).

At best, mixed-method research triangulates multiple phenomena and produces rich, detailed, nuanced results. At worst, post-positivism produces a badly cobbled together mish-mash of competing ideologies and methodological slurring. Time will tell whether mixing the ideological differences inherent in qualitative and quantitative research can be made to work. There are many examples emerging of researchers attempting to bridge the divide (i.e. interdisciplinary practice, embodiment theory, brain and behaviour research), but the jury is still out on its use to practitioners and theoreticians alike.

CONCLUSIONS

Over the course of these three articles, I have shown how qualitative research might be understood from the top down: from philosophy, to methodology, and then, finally, to method. The articles were written with the express purpose of demystifying qualitative research for those who are bemused by it, or simply unfamiliar with its principles.

Qualitative research is different in many ways to quantitative. One cannot approach it with the same mind-set. From the outset, it works on the assumption that there are multiple realities and that, in principle, there are as many perspectives as there are researchers amenable to studying it. Having said that, there are clearly some similarities between those approaches that favour individualistic interpretations of phenomena (interpretivist), as opposed to cultural (ethnographic) or revolutionary (radical/critical).

In these three articles, I have mapped out some of the processes common to qualitative research. Naturally, any such endeavour is fraught with difficulties; not least because I have omitted many important perspectives, arguments and process from my deliberations. One only has to glance through the 1200 pages of Denzin and Lincoln's 'Handbook' of qualitative methods (Denzin and Lincoln, 2005b) to appreciate that the best I could have done here was to scratch the surface. Having said that, my purpose in writing these articles was to communicate some ideas about qualitative research to the reader in an engaging, lively fashion in the hope that he/she might

feel more familiar with concepts that are becoming increasingly common in health care research. Qualitative research is not something we should be bemused by. It is no longer fringe science. It is mainstream, within our grasp, and, more significantly, it is important for the future care of our patients and the development of professional practice. And for those reasons alone, I hope you feel more inclined to explore qualitative research having read these articles. **IJTR**

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KEY POINTS

- Qualitative researchers use a wide variety of sampling strategies designed to recruit participants who can add depth and richness to our understanding of a phenomenon.

- Interviews, observations, focus groups and document analysis are commonly used methods of text generation in qualitative research.

- Methods of qualitative data analysis often follow an inductive process to produce meaningful, transferable theory.

- Rigour is vitally important if the findings of qualitative studies are to be believed.

- New approaches that blend quantitative and qualitative ideologies should not be uncontested, and a clear understanding of the differences between the two schools of thought will help us to evaluate the utility of post-positivist and mixed-method for future health research.