

Qualitative Methods

1. Learning Objectives

After reviewing this chapter readers should be able to:

- Understand the topics that qualitative health research can successfully address;
- Recognize the main data-collection methods used in qualitative research and their advantages and limitations;
- See the ways in which qualitative health research can be credible and rigorous; and
- Recognize the nature of the complementarity between quantitative and qualitative methods.



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2. Introduction

The main strength of qualitative research is its ability to study phenomena which are simply unavailable elsewhere.

Imagine you want to study ambulance crews' responses to emergency calls. One way to do this would be to examine statistics giving the time which such crews take to get to an emergency. However, such statistics may not tell the whole story. For instance, when does the timing of the emergency services' response begin (when the caller picks up the phone or when the ambulance crew receives the information from the operator)? And isn't it also important to examine how operators and ambulance services grade the seriousness of calls? If so, qualitative research may be needed to investigate how statistics are collected, e.g. when timing starts and what locally counts as a 'serious' incident. Note that this is not just an issue of the statistics being biased (which quantitative researchers recognize) but of the inevitable (and necessary) intrusion of commonsense judgments into practical decision-making (Garfinkel, 1967).

Many of these points are represented in Table 1.



Table 1: Some Criticism of Quantitative Research

Criticism	
1	Quantitative research can amount to a quick fix, involving little or no contact with people or the field.
2	Statistical correlations may be based upon 'variables' that, in the context of naturally-occurring interaction, are arbitrarily defined.
3	After the fact speculation about the meaning of correlations can involve the very commonsense processes of reasoning that science tries to avoid (see Cicourel, 1964:14, 21).
4	The pursuit of 'measurable' phenomena can mean that unperceived values creep into research by simply taking on board highly problematic and unreliable concepts such as 'discrimination' or 'empathy.'
5	While it is important to test hypotheses, a purely statistical logic can make the development of hypotheses a trivial matter and fail to help in generating hypotheses from data as attempted in grounded theory.

Five main forms of data collection have characterized qualitative health research:

1. Observation
2. Interviews and focus groups
3. Analysis of documents
4. Videos of health-related behaviour
5. Audio-recorded communication

The aims of each method are discussed subsequently with the exception of audio-recorded communication.

3. Observation

Surveys and demographic studies achieve precise measurement at the potential cost of full understanding of how their variables relate to what actually happens in the field. Observational studies seek to gather in-depth understanding in situ of behaviour in medical settings, as shown in Table 2.



Table 2: Aims of Observational Research

Approach	Aim
Seeing through the eyes of...	Viewing events, actions, norms, values, etc. from the perspective of the people being studied.
Description	Attending to mundane detail ...to help us to understand what is going on in a particular context and to provide clues and pointers to other layers of reality.
Contextualism	The basic message that qualitative researchers convey is that whatever the sphere in which the data are being collected, we can understand events only when they are situated in the wider social and historical context.
Process	Viewing social life as involving interlocking series of events.
Flexible research designs	Qualitative researchers' adherence to viewing social phenomena through the eyes of their subjects has led to a wariness regarding the imposition of prior and possibly inappropriate frames of reference on the people they study. This leads to a preference for an open and unstructured research design which increases the possibility of coming across unexpected issues.
Avoiding early use of theories and concepts:	Rejecting premature attempts to impose theories and concepts which may exhibit a poor fit with participants' perspectives.

Source: Adapted from Bryman (1998: 61-66)

3. Observation

The following is a detailed illustration of observational research in a medical setting. It illustrates the relevance of comparative analysis and mixed modes of data collection.

Illustration: Communication in Oncology

Context: Observational study of British cancer clinics (Silverman, 1984).

Impression: Differences between doctor-patient relations when the treatment was 'private' (i.e. fee for service) as opposed to 'public' (i.e. provided through the British National Health Service).

Aim of study: Compare, following Strong (1979), the 'ceremonial order' observed in the two NHS clinics with a clinic in the private sector.

Method of analysis: Largely qualitative and (like Strong) used extracts of what patients and doctors had said as well as offering a brief ethnography of the setting and of certain behavioural data. In addition, however, this study included construction of a coding form which allowed for collating a number of crude measures of doctor and patient interactions.

This coding form allowed the generation of some simple quantitative measures. The aim was to demonstrate that the qualitative analysis was reasonably representative of the data as a whole. Occasionally, however, the figures revealed that the reality was not in line with the researcher's overall impressions. Consequently, the analysis was tightened and the characterizations of clinic behavior were specified more carefully.

The researcher's impression was that the private clinic encouraged a more 'personalized' service and allowed patients to orchestrate their care, control the agenda, and obtain some 'territorial' control of the setting. In the discussion of the data, extracts from consultations are cited, like Strong does, to support these points, while referring to deviant cases and to the continuum of forms found in the NHS clinics.

The crude quantitative data that were recorded did not allow any real test of the major thrust of this argument. Nonetheless, it did offer a summary measure of the characteristics of the total sample which allowed closer specification of features of private and NHS clinics. This is illustrated by the following brief look at the data on consultation length, patient participation, and widening of the scope of the consultation.

The researcher's overall impression was that private consultations lasted considerably longer than those held in the NHS clinics. When examined, the data indeed did show that the former were almost twice as long as the latter (20 minutes as against 11 minutes) and that the difference was statistically highly significant. A closer look also revealed that:

- For special reasons, one of the NHS clinics had abnormally short consultations; and
- Thus, a fairer comparison of consultations in the two sectors should exclude this clinic and should only compare consultations taken by a single doctor in both sectors.

3. Observation

This sub-sample of cases revealed that the difference in length between NHS and private consultations was now reduced to an average of under 3 minutes. This was still statistically significant, although the significance was reduced.

Finally, if a comparison was made of only new patients seen by the same doctor, NHS patients got 4 minutes more on average - 34 minutes as against 30 minutes in the private clinic. This last finding was not suspected and had interesting implications for the overall assessment of the individual's costs and benefits from 'going private.' It is possible, for instance, that the tighter scheduling of appointments at the private clinic may limit the amount of time that can be given to new patients.

As a further aid to comparative analysis, patient participation was measured in the form of questions and unelicited statements. Once again, a highly significant difference was found: on this measure, private patients participated much more in the consultation.

However, once more taking only patients seen by the same doctor, the difference between the clinics became very small and was not significant. Finally, no significant difference was found in the degree to which non-medical matters (e.g. patient's work or home circumstances) were discussed in the clinics.

These quantitative data were a useful check on over-enthusiastic claims about the degree of difference between the NHS and private clinics. As Table 3 shows, both these quantitative measures revealed significant differences, in the expected direction, according to the mode of payment.



Table 3: Private and NHS Clinics

	Private Clinic (n=42)	NHS Clinics (n=104)
Treatment or attendance fixed at patients' convenience	15 (36%)	10 (10%)
Social elicitation	25 (60%)	31 (30%)

3. Observation

However, it must be remembered that the researcher's major concern was with the 'ceremonial order' of the three clinics. A considerable number of exchanges had been amassed in which doctors and patients appeared to behave in the private clinic in a manner deviant from what we know about NHS hospital consultations.

The question was: would the quantitative data offer any support to my observations?



Exercise 1: Differences in Ceremonial Orders

Hypothesis: Differences in 'ceremonial order' contribute to differences in treatment when services are provided through a 'public' (i.e. provided through the British National Health Service) versus 'private' (i.e. fee for service) clinic.

Are the quantitative results able to adequately address this hypothesis?

Addresses

Does Not Address

Question: What other methodology might help to address the research question regarding the role of ceremonial order?

Interview

Observation

Focus Groups

Document Review

3. Observation

The answer was, to some extent, positive. Two quantitative measures were helpful in relation to the ceremonial order.

1. The measure of the extent to which the doctor fixed treatment or attendance at the patient's convenience.
2. The measure of whether patients or doctor engaged in polite small-talk with one another about their personal or professional lives (referred to above as 'social elicitation').

Importance of Observational Methods:

The data shown in Table 3 could not offer proof of different interactional forms. However, **coupled with the qualitative data, they provided strong evidence of the direction of difference**, as well as giving a simple measure of the sample as a whole which contextualized the few extracts of talk that the researcher was able to use.

Limits of Methodology:

1. Research tabulations were dependent on observational fieldnotes. Without access to tape-recordings of these doctor-patient encounters, the database was dependent upon the inferences made by the researcher at the time. Therefore, it lacked some **reliability** because it could not claim to use **low-inference descriptors**.
2. This study also lacked some theoretical credibility. The researcher was using a **constructionist** model concerned with describing the actors' own methods of ordering the world. Yet the categories that had been counted (e.g. social elicitation) were the researcher's own and had an unknown relation to the categories actually used at the time by the people being studied.

Additionally, a practical difficulty with observational research is that it is labor-intensive and time-consuming. For instance, the oncology study took two years (12 months field observation and 12 months data analysis). The appeal of interviews and focus groups is that data collection can be much more rapid.



Exercise 2: Observational Research Concepts

Having completed the discussion of Observational Research, please review the following and match the aim that is most appropriately described by the concept.

Aims:

'Contextualism'	Description
'Seeing through the eyes of'	Avoiding early use of theories and concepts
Process	Flexible research designs

Aim	Concept
	Viewing events, actions, norms, and values from the perspective of the study subject.
	Attending to mundane details to define context and provide clues to other layers of reality.
	Understanding events within their wider social and historical context.
	Viewing social life as involving interlocking series of events.
	Open and unstructured research model to allow for unexpected issues to be considered.
	Understanding what is happening in the field before applying abstract concepts.

4. Interviews and Focus Groups

Interviews are often used in quantitative research. Table 4 shows the rather different aims of qualitative interviews.

 Table 4: Typology of Interview Strategies	
Type of interview	Required skills
Structured interview	Neutrality; no prompting; no improvisation; training to ensure consistency
Semi-structured interview	Some probing; rapport with interviewee; understanding of project's aims
Open-ended interview	Flexibility; rapport with interviewee; active listening
Focus group	Facilitation skills; flexibility; ability to stand back from the discussion so that group dynamics can emerge.

Source: adapted from Noaks and Wincup, 2004:80

The open-ended interview seeks to collect 'rich data.' The keynote of such interviews is active listening, in which the interviewer "allows the interviewee the freedom to talk and ascribe meanings" while bearing in mind the broader aims of the project (Noaks and Wincup, 2004:80).

These aims have been described as "understanding the language and culture of the respondents" (Fontana and Frey, 2000:654). In order to achieve such an understanding, according to Fontana and Frey, the open-ended interviewer must resolve these problems:

- Deciding how to present one's self, e.g. as a student, as a researcher, as woman-to-woman, or simply as a humble learner;
- Gaining and maintaining trust, especially in cases where one has to ask sensitive questions; and
- Establishing rapport with respondents, i.e. attempting to see the world from their viewpoint without 'going native' (Fontana and Frey, 2000:655).

4. Interviews and Focus Groups

But while it is appealing to study people's viewpoints, analysis of qualitative interviews can overlook "the fact that experience is never 'raw,' but is embedded in a social web of interpretation and re-interpretation" (Kitzinger, 2004:128). Interview participants actively create meaning. This lies behind Holstein and Gubrium's idea of 'the active interview':

From this perspective, what respondents say should not be taken as evidence of their experience, but only as a form of talk --- a 'discourse', 'account' or 'repertoire'--- which represents a culturally available way of packaging experience (Kitzinger, 2004:128).

The following illustration reveals the implications of this position for the analysis of interviews about health and illness.

Illustration: Positive Thinking among Female Cancer Patients

Sue Wilkinson and Celia Kitzinger (2000) were interested in the way in which both laypeople and many medical staff assume that positive thinking helps people cope better with cancer. They point out that most of the evidence for this belief derives from questionnaires in which people tick a box or circle a number.

What alternative can we offer to this kind of quantitative research? The preferred qualitative route has been to analyze what people with cancer say in open-ended interviews. Such research has generally sought out patients' meanings and emotions (based on an **emotionalist** research model) and, as Wilkinson and Kitzinger point out, has broadly supported the findings of quantitative studies.

There is a problem here, namely the "widespread assumption in [both] these literatures that research participants are 'naïve' subjects, intent primarily upon accurately reporting their cognitions to the researcher" (Wilkinson and Kitzinger, 2000:801).

Construed as active, the subject behind the respondent not only holds facts and details of experience, but, in the very process of offering them up for response, constructively adds to, takes away from, and transforms the facts and details. The respondent can hardly “spoil” what he or she is, in effect, subjectively creating (Holstein and Gubrium, 1997).

By contrast, Wilkinson and Kitzinger prefer to treat statements about ‘thinking positive’ as actions and to understand their functions in particular contexts of speaking. Let us look at one data extract that they use from a focus group of women with breast cancer:

Extract 1

[Wilkinson and Kitzinger, 2000:805]

Transcript Conventions

Fiona: *Life's too short to worry about whether you can afford or whether you can't afford, or whether you should spend the money or whether you shouldn't spend the money, you know, I think we, we're sort of thinking that towards the back end of next year, we're off on a holiday to Australia. I think you've got to feel like that. If you wanna do it, I think you've gotta go for it, because none of us, I mean, it's all very well, they say, "Oh yeah, you're fine now", you, you know, "Everything's gonna be okay", but none of us know what next week, or next month, or next year has in store. And I, so I think you, you have to be positive.*

4. Interviews and Focus Groups

Fiona ends her comments about spending money now because “life’s too short” by saying “you have to be positive.” But should we take this to mean that this shows she is a ‘positive thinker’?

First: As Wilkinson and Kitzinger note, Fiona shows that the object of her positive thinking is vague and diverse. She is “thinking positively neither about the cancer and its effects, nor about [her] possible recovery, but about [her life] apart from the cancer” (Wilkinson and Kitzinger, 2000:805).

Second: If we inspect closely what Fiona says, we can notice that she uses a multiplicity of different voices to frame what she is saying. ‘You’ expresses the voice of any reasonable person (e.g. “if you wanna do it” and “you have to be positive”). ‘They’ occurs once to refer to other people, who tell a person things that may not turn out to be true. ‘I’ is used to refer to someone who ponders about all this (“I think”).

Like many of the women in these focus groups, Fiona frames her references to positive thinking in the voice of ‘you.’ Used in this way, as what “you have got to do,” ‘positive thinking’ is used as a kind of maxim.

The beauty of maxims is that, because they are supposed to reflect a shared world, their recipients can do little other than agree with them (Sacks,1992, Vol.1: 23-25).

The main strength of qualitative research is its ability to study phenomena which are simply unavailable elsewhere.

Interestingly enough, Wilkinson and Kitzinger report that Fiona’s last comment does indeed elicit agreement. What Fiona is saying turns out to be complex and skilful. A lot of the time we want to obtain the agreement of others and Fiona structures her talk to do just that – notice that she also invokes a maxim (“life’s too short”) to justify spending money.

This suggests that, at the very least, we should not tear out what Fiona says about ‘positive thinking’ from the multi-faceted structure of her comments and reject the common idea that

'positive thinking' is an internal, cognitive state of people with cancer. In Wilkinson and Kitzinger's analysis, 'thinking positive' is less a 'natural reaction' and more a moral imperative. (Wilkinson and Kitzinger, 2000: 806-7).

This example shows the value of looking at how talk is organized and not just treating it "as providing a transparent 'window' on underlying cognitive processes" (Wilkinson and Kitzinger, 2000: 809).

By contrast, Wilkinson and Kitzinger's **constructionist** model has allowed us to get a quite different, process-oriented grasp of the phenomenon. Rather than simply confirm lay or medical beliefs about the phenomenon, it provides new insights of potential value to both patients and healthworkers.

5. Documents

Documentary sources are mainly used as 'background' material in social research. This is a pity because documents offer a source of data which can be both quick to collect and contain very rich material. Table 5 lists some of the advantages of working with documents.



Table 5: The Advantages of Documentary Data

Advantage	Rationale
Richness	Close analysis of documents reveals presentational subtleties and skills.
Relevance and Effect	Documents influence how we see the world and the people in it and how we act - think of advertisements and CVs!
Naturally-occurring	Documents are instances of what participants are actually doing in the world - without being dependent on being asked by researchers.
Availability	Texts are usually readily accessible and not always dependent on access or ethical constraints. Because they may be quickly gathered, they encourage us to begin early data analysis.

Unlike quantitative researchers, ethnographers are more concerned with the processes through which texts depict 'reality' rather than with whether such texts contain true or false statements. As Atkinson and Coffey (2004) put it:

"In paying due attention to such materials, however, one must be quite clear about what they can and cannot be used for. Documents are 'social facts', in that they are produced, shared and used in socially organized ways. They are not, however, transparent representations of organizational routines, decision-making processes, or professional

diagnoses. They construct particular kinds of representations using their own conventions.”

While quantitative researchers, like legal practitioners, are concerned with the accuracy of documents, the concern here shifts to how documents represent reality. This generates a specific set of research questions, as follows:

Research Questions about Documents

1. How are documents written?
2. How are they read?
3. Who writes them?
4. Who reads them?
5. For what purposes?
6. On what occasions?
7. With what outcomes?
8. What is recorded?
9. What is omitted?
10. What is taken for granted?
11. What does the writer seem to take for granted about the reader(s)?
12. What do readers need to know in order to make sense of them?

Source: Hammersley and Atkinson, 1983: 142-143.

5. Documents

The following illustration demonstrates how the use of documents can inform research beyond simply confirming findings.

Illustration: Describing Hospital Care

Gubrium and Buckholdt's (1982) study of a U.S. rehabilitation hospital shows that a concern to assemble credible files may be a common feature of organizational activities. The authors examine how hospital staff select, exchange, and present information about the degree of physical disability and rehabilitation of patients and potential patients. Like reports of selection interviews, such descriptions are never context-free but are assembled or 'worked up' with reference to some audience. For example:

"Staff members work up descriptions of activities ... using their knowledge of audience relevance in organizing what they say and write." (Gubrium and Buckholdt, 1982:ix).

Such 'working up' occurs in the context of what the authors call 'third-party description.' This refers to **descriptions assembled for insurers and Government agencies rather than for patients or their families.**

Rehabilitation at this hospital was paid for through Government funds (via Medicare and Medicaid programs) and insurance companies with two important constraints.

- An essential constraint (established by the U.S. Congress in 1972) was a review agency called the Professional Standards Review Organization (PSRO). The PSRO looks at decision-making over patient intake and discharge with a view to limiting costs. For instance, the acceptable average stay for a rehabilitation patient had been calculated at 38 days.
- A further constraint on the organization of patient care were two rules of insurance companies. First, the hospital's charges would not be paid if a patient could not have rehabilitation because of additional medical problems (e.g. pneumonia). Second, if a patient's stay is very short, the insurance company may decide, retrospectively, that the patient should not have been admitted in the first place. These constraints shape how admissions are organized and how patient 'progress' is described.

Admissions staff had to make an initial decision about whether or not a potential patient is suitable for rehabilitation, or needs other services involving chronic or acute care. A rule of thumb when considering whether a patient should be admitted is that the patient should be able to benefit from at least three hours of therapy per day. However, staff recognize that the files they are sent are not conclusive and may 'shade the truth.' For instance, another institution may wish to discharge the patient or the family may have exerted pressure for a transfer to the rehabilitation hospital. Consequently, admissions staff appeal to 'experience' and 'professional discretion' in working out what a potential patient's notes really mean.

Appealing to these kinds of grounds, staff establish a basis for deciding what is 'really' meant by any file. Thus, in sorting out 'facts' from 'fancy,' participants use a body of interpretive and rhetorical resources to define what will constitute 'reality' or 'the bottom line.'

Once a patient is admitted, the 'work up' of descriptions continues. 'Progress Notes' are prepared at regular intervals and staff work at making them internally consistent and appropriate to the recommendation (just like selectors). For instance, staff talk about "the need to make sure that the figures tell the right story" and regularly try out their accounts on colleagues by asking "how does that sound?"

The institutional interest is to show some sort of progress which will be sufficient to satisfy the funding agencies. Consequently, there is a pressure to identify simple problems where progress can readily be made and to seek patient statements which accord with the therapist's version of progress.

Gubrium and Buckholdt's work shows that hospital files can be treated as the outcome of a series of staff decisions grounded in the contingencies of their work.

This confirms that qualitative researchers are not primarily concerned with whether files are factually 'true' or 'false.' Instead, they focus on how such files reveal the practical decision-making of employees in the context of the constraints and contingencies of their work.

In the contemporary world, where Western governments, worried about value for money, increasingly impose 'targets' on health care providers, Gubrium and Buckholdt's research shows that setting targets may merely encourage rhetorical moves that 'cook the books' in favorable ways.

6. Visual Data

When people interact face to face, they do not use merely verbal cues. Researchers who work with visual data have access to many of these cues. Think of the potential of studying how surgical teams coordinate their actions during an operation or the exchange of looks between patients and doctors in general practice. However, as we shall see, complicated data can often mean complicated problems!

It is not easy to organize the technical aspects of recording human interaction, nor are such data easy to transcribe and rigorously analyze.

The illustration below gives one relevant example.

Heath (2004) discusses a medical consultation with a female patient complaining of pain in her knee. Towards the end of the consultation, the doctor begins to prepare a prescription. As he starts to write, the patient, who is still standing following the physical examination, begins to tell a story.

Extract 3 shows how she tells her story. Her words are transcribed using the conventions explained in the **Transcription Symbols** section.

In addition, however, Extract 3 shows both body movements and the direction of the participant's gaze (marked as 'up' or 'down' below).

Extract 3 [Heath (2004:274): Fragment 1, (adapted)]

walks

up down up down up down up down

P: I was coming up the steps like this all the way up I felt

Dr: *writes prescription turns to P's face turns to P's legs nods and smiles*



Illustration 1: Communicating with Patients



6. Visual Data

As Heath points out, however, we should not treat these movements as simply to do with the patient herself.

It turns out that P has a problem: how to encourage the doctor to look as well as listen to her story. For, as this extract begins, Dr is looking down, while writing a prescription. By its end, however, Dr is looking at his patient.

As she begins to step up for the second time, she swings her hips towards the doctor. In particular, she swings her hips towards his visual field, an area midway between the prescription pad and his face. Just as her hips move towards the doctor he looks up, turning to the face of the patient.

The **patient's movement, a component of the overall demonstration, engenders the reorientation by doctor**, encouraging him to abandon the prescription temporarily and transform the ways in which he is participating in the delivery of the story.

On turning to the patient's face, he finds her looking at her own legs as she utters 'like this.' He looks down and watches her dramatic performance as she steps up and down. And, as she brings the performance to completion with 'terribly' and the doctor utters 'yeh,' 'yes' and nods, the patient successfully transforms the participation of the doctor and has him temporarily abandon his current activity to witness the difficulties that she experienced walking up the steps at Debenham's (Heath, 2004: 276-7).

By including video data in his analysis, Heath has elegantly revealed the interplay between words, gaze, and bodily movements. As he puts it, the patient's bodily conduct is both "part of her story" and functional in gaining the doctor's gaze. Now that doctors' activities include not only prescription-writing but looking at the screens of their PCs, Heath's address of the visual elements of conduct could not be more practically relevant.

Although visual data can be attractive, it is very complex to work with since both transcription and analysis is more difficult than is the case with audio-data. Novice qualitative researchers need to think very carefully about whether they need video-data for their research. Some important things to consider if choosing video data collection:

- It is usually important to **keep the recording simple**;
- **One camera** is usually fine for most purposes;
- When you have your data, it is particular important to have a **limited research problem**; and
- **Resist the temptation** to reconstruct all aspects of the interaction from the videotape.

7. Multiple Methods

Researchers are often tempted to use multiple methods. For instance, ethnographers often seek to combine observation with the interviewing of 'key informants.' Similarly, in the illustration discussed earlier on oncology clinics, simple tabulations were used to test field observations. An excellent illustration of a recent study using multiple methods is set out below. This section concludes with a note of caution on the subject.

Illustration: Software on the Ward

Ross Koppel (2005) used multi-method research in a study of computerized physician order entry (CPOE) in a U.S. hospital. This study arose by accident when Koppel was doing a study of the stress experienced by junior house physicians for two essential reasons. It turned out that the CPOE system produced not only stress among these doctors but a noteworthy number of errors (although, as Koppel points out, some of these errors may not be experienced as stressful at the time). Moreover, although studies had been completed of how CPOE worked, these were purely quantitative and none were based on interviews and observations of physicians.

To establish the extent of the phenomenon, Koppel constructed a multi-method study which incorporated:

- Face-to-face interviews and focus groups with house physicians;
- Shadowing doctors as they entered prescriptions into the system and observing nurses and pharmacists as they received prescriptions; and
- Interviews with senior medical and nursing staff and a 72-item questionnaire to a 90% sample of house physicians.

The prescribing errors discovered included doctors failing to stop one drug when they prescribed its replacement, confusion of which patient was receiving the drugs, and confusing an inventory list for clinical guidelines.

In the United States, it is estimated that medication errors within hospitals kill about 40,000 people a year and injure 770,000. According to Koppel's study, it turned out that CPOE systems can facilitate errors. Ironically, CPOE was most useful at stopping errors with few dangerous consequences.

In particular, the way in which CPOE had been programmed had two unfortunate consequences:

1. **Fragmented data displays** meant that physicians had difficulty in identifying the specific patient for whom they were prescribing; and
2. **The system did not work in the way that doctors worked** and created confusion or extra work to address the ambiguities.

Given the amount of government and industry support for CPOE, it is not surprising that Koppel's findings were both treated as highly newsworthy by the national media and also came under immediate attack. Many medical researchers suggested that such qualitative research could not produce "real data." The manufacturers of CPOE systems launched a campaign which said that Koppel had "just talked to people" and reported "anecdotes." In particular, the public were told, Koppel's study was faulty because it offered no measure of adverse drug events and had identified no 'real' errors but only "perceptions of errors."

Koppel's study is a fascinating example of what can happen when qualitative researchers stumble into what turns out to be a controversial topic. It reveals that the power of vested interests can work to denigrate qualitative research in support of a hidden agenda. In this way, the key strength of such an ethnographic study (its ability to depict what happens in situ) is presented as a weakness.

Now a note of caution. The desire to use multiple methods sometimes arises because novice researchers want to get at many different aspects of a phenomenon. However, this may mean that the topic has not yet sufficiently been narrowed down. Sometimes a better approach is to treat the analysis of different kinds of data as a 'dry run' for the main study. As such, it is a useful test of the kind of data which can most easily be gathered and analyzed.

Moreover, mapping one set of data upon another is a more or less complicated task depending on one's analytic framework (see **triangulation** in Glossary). In particular, if the researcher treats social reality as constructed in different ways in different contexts, then one cannot appeal to a single 'phenomenon' which all the data apparently represent.

8. Credibility

As we have seen, the critics of Koppel's qualitative study treated it as 'anecdotal.' Set out below are some of the arguments that qualitative researchers use to answer their critics (for more detail, see Silverman, 2006: 271-314).

- Whether qualitative or quantitative, social science is credible to the extent that it uses appropriate methods and is rigorous, critical, and objective in its handling of data.
- Qualitative research can be made credible if we make every effort to falsify our initial assumptions about our data.
- High reliability in qualitative research is associated with what Clive Seale (1999: 148) calls low-inference descriptors. As Seale puts it, this involves: "recording observations in terms that are as concrete as possible, including verbatim accounts of what people say, for example, rather than researchers' reconstructions of the general sense of what a person said, which would allow researchers' personal perspectives to influence the reporting."
- Appropriate methods for validating studies based largely or entirely upon qualitative data include: analytic induction, the constant comparative method, deviant-case analysis, and the use of appropriate tabulations.
- Generalizing from case-studies is less of a problem than is usually assumed. The generalizability of a piece of qualitative research can be increased by purposive sampling guided by time and resources and theoretical sampling (see Silverman, 2006: 303-10).

9. Summary

Quantitative researchers are rightly concerned to establish correlations between variables. However, while their approach can tell us a lot about inputs and outputs to some phenomenon (e.g. communication), it has to be satisfied with a purely 'operational' definition of the phenomenon and does not have the resources to describe how that phenomenon is locally constituted (see Figure 1). As a result, its contribution to social problems is necessarily lopsided and limited.



Figure 1: Missing Phenomenon in Quantitative Research



The main strength of qualitative research is its ability to study phenomena which are simply unavailable when quantitative researchers seek to establish correlations between variables. The latter approach can tell us a lot about inputs and outputs to some phenomenon (e.g. the link between the social characteristics of doctors and patients and compliance), but it has to depend upon the use of prior 'measures' and does not have the resources to describe how that phenomenon (physician-patient communication) is locally constituted. Think, for instance, of what Heath's (2004) visual data can tell us about what actually happens in the consulting room.

The conclusion I draw from this argument is that we can most satisfactorily answer research questions by combining separate quantitative and qualitative studies.

For instance, my research on HIV-test counseling (Silverman, 1997) used similar data to Heath's. Although it could add to our understanding of processes within counselor-client communication, it could not document the impact of this communication upon subsequent client behaviour. This carries an important message.

While quantitative research is blind when it does not have access to qualitative research on the local construction of social phenomena, qualitative research is immeasurably strengthened when it is combined with quantitative data about the inputs and outputs of its chosen topics. Such a division of labour would seem to be the most fruitful future path.

10. Resources

These topics receive detailed treatment in three of my textbooks.

- Doing Qualitative Research (2008) is a hands-on primer for PhD students.
- A method by method discussion is offered in Interpreting Qualitative Data (Third Edition: 2006).
- A Very Short, Fairly Interesting, Reasonably Cheap Book about Qualitative Research (2007) provides an introduction to cutting edge debates in the field.
- For on-line articles on the qualitative-quantitative debate see: www.qualitative-research.net/fqs/fqs-e/inhalt1-01-e.htm

11. Glossary of Terms

GLOSSARY

Analytic Induction [AI]

Analytic Induction [AI] is the equivalent to the statistical testing of quantitative associations to see if they are greater than might be expected at random (random error). Using AI, the researcher examines a case, and, where appropriate, redefines the phenomenon and reformulates a hypothesis until a universal relationship is shown (Fielding: 1988,7-8).

Constructionism

Constructionism is a model which encourages researchers to focus upon how phenomena come to be what they are through the close study of interaction in different contexts. It is opposed to Emotionalism.

Deviant-Case Analysis

Deviant-Case Analysis in qualitative research involves testing provisional hypotheses by "negative" or "discrepant" cases until all the data can be incorporated in one's explanation (see Analytic Induction).

Emotionalism*

Emotionalism is a model of social research in which the primary aim is to generate deeply authentic insights into people's experiences. Emotionalists draw from Romantic perspectives and favor open-ended interviews (see Gubrium and Holstein,1997).

Ethnography

Ethnography puts together two different words: ethno- means folk or people, while graph derives from writing. Ethnography refers, then, to highly descriptive writing about particular groups of people.

Focus Groups

Focus Groups group discussions usually based on visual or verbal stimuli provided by a researcher.

Grounded Theory

Grounded Theory involves three stages: an initial attempt to develop categories which illuminate the data; an attempt to 'saturate' these categories with many appropriate cases in order to demonstrate their relevance; and trying to develop these categories into more general analytic frameworks with relevance outside the setting.

Low-Inference Descriptors*

Low-Inference Descriptors seek to record observations "in terms that are as concrete as possible, including verbatim accounts of what people say, for example, rather than researchers' reconstructions of the general sense of what a person said, which would allow researchers' personal perspectives to influence the reporting." (Seale: 1999,148) (see Reliability).

Models

Models provide an overall framework for how we look at reality. They tell us what reality is like and the basic elements it contains ('ontology') and what is the nature and status of knowledge ('epistemology').

Naturally-Occurring Data

Naturally-Occurring Data derive from situations which exist independently of the researcher's intervention (e.g. everyday conversations but not interviews).

Triangulation

Triangulation involves comparing different kinds of data (e.g. quantitative and qualitative) and/or different methods (e.g. observation and interviews) to see whether they corroborate one another.

12. Transcription Symbols



Table 6: Transcript Conventions

Symbol	Example	Explanation
[C2: quite a [while Mo: [yeah	Left brackets indicate the point at which a current speaker's talk is overlapped by another's talk.
]	C2: and i thought] Mo: you said]	Right brackets indicate the point at which two overlapping utterances end.
=	W: that I'm aware of = C: =Yes. Would you confirm that?	Equal signs, one at the end of a line and one at the beginning, indicate no gap between the two lines.
(.4)	Yes (.2) yeah	Numbers in parentheses indicate elapsed time in silence in tenths of a second.
(.)	to get (.) treatment	A dot in parentheses indicates a tiny gap, probably no more than one-tenth of a second.
_____	What's <u>up</u> ?	Underscoring indicates some form of stress via pitch and/or amplitude.
:::	O:kay?	Colons indicate prolongation of the immediately-prior sound. The length of the row of colons indicates the length of the prolongation.
WORD	I've got ENOUGH TO WORRY ABOUT	Capitals, except at the beginnings of lines, indicate especially loud sounds relative to the surrounding talk.

.hhhh	I feel that (.2) .hhh	A row of h's prefixed by a dot indicates an inbreath; without a dot, an outbreath. The length of the row of h's indicates the length of the in- or outbreath.
()	future risks and () and life ()	Empty parentheses indicate the transcriber's inability to hear what was said.
(word)	Would you see (there) anything positive	Parenthesized words are possible hearings.
(())	confirm that ((continues))	Double parentheses contain author's descriptions rather than transcriptions.
-	talking about- uh	A hyphen after a word or part of a word indicates a cutoff or self interruption, often done with a glottal or dental stop.
°	C2: and then° I remember	The degree sign indicates that the talk following it was markedly quiet or soft.
<u>_</u> : or :	C2: In the gy:m?	If the letter(s) preceding a colon is underlined, it indicates the pitch turning downwards.
><	>we were just<	"Greater than" and "less than" carrots in this order indicate that the talk between them is rushed or compressed.
<>		"Less than" and "greater than" carrots in this order indicate that the talk between them is markedly slow.
↓ or ↑	↓are you↓	The up and down arrows mark sharp rises or falls in pitch or may mark a whole shift or resetting of the pitch.
#	# it was in the	Indicates a rasping or 'creaky' voice quality.
£	£ it was so	Indicates the speaker is smiling while speaking.

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14. Author Biography

David Silverman, PhD has been Emeritus Professor of Sociology at Goldsmiths' College, London University, since 1999. He is also Visiting Professor in the Management Department of King's College, London. Since 2003, he has served on the Board of the Qualitative Research Forum of the European Sociological Association. His research has included studies of HIV counselling, pediatric and oncology consultations, and selection and promotion boards. His current books include: *Interpreting Qualitative Data* (Sage, 3rd edition, 2006), *Doing Qualitative Research: A Practical Handbook* (Sage, 2nd edition 2005) and *Harvey Sacks: Social Science and Conversation Analysis* (Polity, 1998). His most recent book is called *A Very Short, Fairly Interesting and Reasonably Cheap Book about Qualitative Research* (Sage, September 2007). He is the editor of *Qualitative Research* (Sage, 2nd edition 2004) and co-editor with Clive Seale, Giampietro Gobo, and Jaber Gubrium of *Qualitative Research Practice* (Sage, paperback edition 2006).