

Jens Seeberg  
World Health Organization  
South East Asia Regional Office

## **QUALITATIVE RESEARCH IN HEALTH CARE: FRINGE OR FRONTIER**

The earliest known attempt, according to Encyclopaedia Britannica, to amplify a sound wave was made in the seventeenth century by the innovative Jesuit priest and scholar, Athanasius Kircher (1601-1680), who designed a parabolic horn that could be used either as a hearing aid or as a voice amplifier.<sup>i</sup> According to the records, Kircher settled in 1634 in Rome where he functioned as a kind of one-man intellectual clearinghouse for cultural and scientific information not only from European sources but also from the international network of Jesuit missionaries. His research encompassed a variety of disciplines including geography, astronomy, mathematics, language, medicine, and music. Still following Encyclopaedia Britannica, he even once had himself lowered into the crater of Vesuvius to observe its features soon after an eruption.

Let us, for the moment, take note of his amplification of the sound wave – we shall return later to the variety of his research interests. In the years that followed, the amplification of body sounds became an important goal for medicine. It was reached when the French physician R.T.H. Laënnec in 1819 described the use of a perforated wooden cylinder to transmit sounds from the patient's chest (Greek: stethos) to the physician's ear. Using a foot-long wooden cylinder that he placed on the chests of his patients, Laënnec was able to hear the various sounds made by the lungs and heart. He had invented the stethoscope, which enabled him to study patients' chest sounds and correlate them with the diseases found in autopsy.<sup>ii</sup>

A range of other important diagnostic tools were invented in these centuries, such as the microscope, the thermometer and the ophthalmoscope, all of which have shown their usefulness by their very survival to the present day. One could see these inventions merely as extensions of the human senses which – along with countless other, increasingly high-tech

machines and techniques – enable the doctor to ‘see’ (or hear, as with the stethoscope) what the patient cannot sense herself. One could also see the purpose of the instruments as an effort to objectify the diagnostic process: Ideally, any trained medical doctor should reach the same conclusion when pressing the stethoscope against the patient’s chest. Finally, one could chose to stress the fact that the relation between doctor and patient has become increasingly indirect and mediated by machines and techniques. Indeed, this development has crossed the line between diagnosis and treatment to form the ‘cyborg’, advanced fusions of human beings and machines, where modern technology enables people to be kept alive or to function better by attaching the body to a machine, as with dialysis machines, life-support systems, incubators, heart pacemakers, etc.<sup>iii</sup>

Despite the efforts of medicine to understand the human being and the ailments that afflict humans, it is first and foremost a *natural* science which builds on the positivist endeavour both to isolate the part of the human being that is seen as ‘faulty’ or affected by disease, and to reduce the impact of any subjective interpretation on the doctor’s side.<sup>iv</sup> In accordance with this, biomedical science is predominantly quantitative; given the availability of the relevant diagnostic tests, the complaints of the patient are translated into something that can be measured and counted and seen as statistically normal or deviant and treated accordingly.

It seems, that the ‘*art*’ of *medicine* is not considered to be a part of the *science* of *medicine*. On this background, it may be understood why efforts to study illness and disease in context – be it the context of the community, of doctor-patient interaction, of plurality of treatment systems, of gender, etc. – have become the specialty of other social sciences that focus on social interaction and social conditions, and that use a range of methods, including qualitative research methods.

Though it holds no monopoly of qualitative research, medical anthropology may be the discipline that most consistently has applied and developed qualitative research methods in studies of illness and disease.

### *Illness, disease and sickness*

During his 14 months stay to conduct biomedical research in Taipei, Taiwan, in 1969-70, the American medical doctor Arthur Kleinman came to realize that he was confronted with clinical

phenomena and experiences that could not be adequately interpreted within the conceptual framework of the biomedical model: *My observations and experiences, though unsystematic and anthropologically “naive”, forced me to recognize, not just that the biomedical model was freighted with Western cultural assumptions and saturated with a particular theoretical and value orientation, but that it had no means for taking into account patient and lay perspectives on a given sickness episode, to say nothing of alternative therapeutic formulations held by other healing systems. The biomedical model did not account for the meaning contexts of sickness, nor was it self-reflexive.*<sup>v</sup> Kleinman’s insights led him into formal training in medical and psychiatric anthropology, and he became one of a number of leading medical anthropologists to focus on doctor-patient interaction and to develop the conceptual distinction between illness, disease and sickness.<sup>4, vi, vii, viii, ix</sup> The distinction had crystallized by 1980, where Kleinman described *illness* as “the lived experience of monitoring bodily processes such as respiratory wheezes etc.” Illness was the *sufferer’s* perspective – not even the patient’s since being a patient already implies some kind of relationship with somebody else who is treating the ailment. *Disease*, on the other hand, was “the problem from the practitioner’s perspective”.<sup>5</sup> Cassel aptly defined *illness* as “what the patient feels when he goes to the doctor” and *disease* as “what he has on the way home from the doctor’s office”.<sup>x</sup> The third concept refers to the wider socio-cultural context of both illness and disease: “*the understanding of a disorder in its generic sense across a population in relation to macrosocial (economic, political, institutional) forces*”,<sup>5</sup> or “*The process through which worrisome behavioural and biological signs (particularly disease) are given socially recognizable meanings*”.<sup>9</sup>

While the concepts of illness and disease may be particularly relevant for the focus on the clinical encounter between patients and doctors as a key to eliciting and understanding potential communication gaps and mutual misunderstandings, Kleinman also defined the health care system as a “*local cultural system composed of three overlapping parts: the popular, professional, and folk sectors*”.<sup>5</sup> The popular sector comprises the individual, family, social network, and community beliefs and activities and takes care of the majority of all illness episodes in most, if not all, societies. The professional sector encompasses the organized healing professions, which may include not only registered biomedical practitioners but also, for example, recognized Ayurvedic professionals. Finally, the folk sector encompasses

practitioners of ‘folk medicine’, a mixture of many different components, some related and partially overlapping with the professional and popular sectors, some practicing in religious contexts, etc. (ibid.).

The borders between these three sectors are usually blurry rather than clear-cut. To establish the categories it is necessary to investigate how illness and disease are locally defined by the various actors involved. To this end, the concept of Explanatory Model (EM) was introduced.<sup>5</sup> Different EMs are established at popular, professional and folk levels to account for five major questions in relation to an illness episode: 1) etiology, 2) time and mode of onset of symptoms, 3) pathophysiology, 4) course of sickness, and 5) treatment (Ibid.: 105). Evidently, an understanding of the degree of overlap and/or conflict between the EMs put forth by various actors in the case of illness is essential to elicit and sometimes even predict practice, strategies and behaviour at both client, family and service provider levels.

#### *An example*

I shall provide but one example of the study of treatment choices across the spectrum of popular, professional and folk sectors. Bernard has described how James Young studied treatment seeking strategies among the Tarascan people in Pichátaro, Michoacán, Mexico.<sup>xi</sup> Four options were available to this community, namely 1) Self treatment, 2) a native curer, 3) a practicante (i.e., a local, unauthorized practitioner of modern medicine), and 4) a registered physician. Based on his ethnographic studies, Young had identified four factors that were taken into account in deciding for a treatment option: 1) Gravity of illness, 2) Knowledge of existing home cure, 3) Trust or faith in a particular mode of treatment, and 4) Accessibility of a particular mode of treatment. This structure was elicited through qualitative interview research with eight men and seven women from the community - a total of 15 people.

Young used a technique of contrast questions to elicit all six possible pairs of treatment choices: home treatment versus a physician, curer versus home remedy, etc. He then interviewed the same informants about cases of actual illnesses and their treatments and conducted a series of interviews with 20 informants asking ‘What if’ questions to elicit treatment seeking decision making choices under different circumstances. At the end of the day, Young was able to develop a tabular decision model based on his ethnographic research which contained nine rules. One rule in his model states that if the illness is considered grave,

and faith of the person/family favours the folk treatment, a curer will be consulted. Another rule states that, if the illness is considered grave, and faith of the person/family favours biomedical treatment, but accessibility is limited in terms of distance and/or money, a practicante would be preferred. Young went on to refine his model to include previous treatment choices in the family and eventually tested his model against 489 treatment choices from 62 new households over a 6-month period. The decision rules predicted approx. 95% of the respondents' reported behaviour. Even after excluding those rules that would appear to be governed by common-sense, the model predicted approx. 83% of reported behaviour (ibid.).

### *Qualitative research methods*

The above example was an ethnographic field work where structured qualitative interviewing played an important part in designing the ethnographic decision making model. However, the correct structuring of the questions was based on a period of unstructured interviewing and observations in the community which enabled the interviewer to identify the four relevant factors.<sup>11</sup> These four factors were probably not present in the researcher's mind at the beginning of the study but were gradually elicited during the work.

Qualitative research is characterized by *exploration*. Based on a broadly defined research question or research problem, the researcher is interested in understanding why and how something unfolds. It is an important principle in qualitative research not to impose pre-existing assumptions on the research process – the researcher should take on the position of a complete ignorant and should ask 'stupid' questions which are often extremely useful in exploring new ground and understanding phenomena which are not well known. The initial focus of the study should be broad. Only gradually, as patterns of meaning emerge from the data, may hypotheses be generated and tested, and the study becomes more focused.<sup>11</sup>

Ethnographic field work acknowledges that data gathered in one particular context may not be representative for all contexts.<sup>xii</sup> For example, one person's answers to a particular question provided in an artificial interview setting may be very different from the answer from the same person to the same question asked by the same researcher if it is provided while performing some daily routine, where the question fits naturally in the context of the activity.

During the ethnographic field work, a number of methods are usually combined.<sup>11</sup> These include various forms of observation and interviewing which enable the researcher to

understand and describe the social complexity of the issues under study. Both observation and interviewing techniques may vary along a continuum from highly structured to the completely unstructured, where the observation consists of just being part of the social scene and perhaps doing the same tasks as the people under study, and then carefully noting down the observations when alone; and where the interviewing is more like any other conversation between two people, but where the information obtained also forms part of the data for the study, along with information about the context of the information obtained. Often, then, there would be a tendency to gradually change to or complement with more structured methods, as the researcher develops an understanding for the topic.

While quantitative research, as is implied in the terms, is working with numbers, qualitative research is not preoccupied with the number of informants in a study. Above, Young used a very limited number of informants and yet was able to develop a model that accurately predicted health seeking strategies in the community. The qualitative research process is iterative, i.e., the information obtained during previous observations and interviews informs subsequent data collection and methodological fine-tuning. Hence, the necessary number of informants cannot be predetermined in the research design – at best, an expected range of needed informants in relation to an interview study can be provided. Gradually, the researcher will see that no new information comes from collecting more data, and this realization will ideally mark the closure of the data collection process (*ibid.*).

In this way, qualitative research is inductive in nature, i.e., the generalizations, theories and conclusions are gradually built on the data collected. This flexible research design is possible because the research is not based on a hypothesis that is to be tested. Indeed, it is precisely this flexibility and the absence of predefined assumptions that make qualitative research the appropriate tool for exploratory studies involving social interaction and human values.

Qualitative research holds very strong tools for exploring socio-cultural aspects of human behaviour. Also, it can inform other research strategies, such as survey research, by providing information on what questions would be relevant and how they should be asked in a questionnaire or structured interview. Too often, however, structured and, therefore, inflexible survey designs are used to explore unknown land with doubtful results as a consequence.

### *Survey research*

The noble Scotchman Sir John Sinclair described his vision of the new science of statistics after returning from a travel to Germany in his 'Statistical Account of Scotland', which was published in 1798: *..I found that in Germany they were engaged in a species of political inquiry to which they had given the name Statistics. By statistical is meant in Germany an inquiry for the purpose of ascertaining the political strength of a country, or questions concerning matters of state; whereas the idea I annexed to the term is an inquiry into the state of a country, for the purpose of ascertaining the quantum of happiness enjoyed by its inhabitants and the means of its future improvement.*<sup>xiii</sup> Perhaps, happiness is too difficult to quantify to make it a suitable topic for a survey study. However, the new preoccupation with numbers and statistics expanded tremendously in those years. Today, statistics have come to be accepted as the standard base for informed or evidence-based decision making at policy levels. While in principle survey studies and statistics may provide very sound documentation for decision making, it is often very difficult if not impossible to evaluate the quality of the data being reported in tables and graphs, especially, when attempts are made to study complex issues involving complex questions which are difficult to quantify. One example of a widely used and highly problematic survey design is the KAP study.<sup>12, xiv, xv</sup>

KAP stands for Knowledge, Attitudes and Practices. The design implies an assumption that knowledge determines the attitudes that again have a determining influence on the human practices in the area under study. This may, however, be a very dubious assumption. Studies in the area of HIV/AIDS have suggested that knowledge and attitudes do not determine sexual practices - including practices related to condom use - but that a whole range of factors influencing the single sexual encounter may be of far greater importance.<sup>xvi</sup> Such factors include power relations between the partners (from rape to mutual consent and the wide range in-between), the actual types of sexual practice involved, and social, economical and cultural factors relating to different sexual practices, relating to different sexual partners, and relating to different types of contraceptive methods. This level of complexity is difficult to handle in any questionnaire design because too many assumptions have to be made beforehand to design the questions.

Furthermore, there may be general problems with survey research conducted in developing countries, especially perhaps in rural areas.<sup>12, 15</sup> Based both on others' and on their

own experiences, Chen and Murray have devised the following descriptive definition: “A rural Third World survey is the careful collection, tabulation, and analysis of wild guesses, half-truths, and outright lies meticulously recorded by gullible outsiders during interviews with suspicious, intimidated, but outwardly compliant villagers”.<sup>xvii</sup> As they say, the definition is meant to be a caricature of the researcher, not in all but in many village surveys. On a more serious note, Stone and Campbell carefully designed and conducted a very important experiment in Nepal to measure the accuracy of a KAP survey by intensely cross-checking the findings, using qualitative research methods. The experiment demonstrated that non-sampling error (i.e., errors where for some reason or the other the response given to a question is not valid) was “far greater than what is normally computed as a sampling error”.<sup>12</sup> For example, while only 5% of respondents in the national survey that had been conducted in Nepal responded that they had heard of abortion, and 64% had heard of abortion in the KAP study conducted in the test communities, in fact all adults knew of abortion. One identified reason for this that was reinterpretation of the study, where the question of “heard of abortion” was reinterpreted as a question of *knowledge of technique* or as knowledge of *who* had had an abortion. While this could be seen narrowly as an issue of rephrasing the interview question, the researchers suggest that there is a general problem with the uncritical adoption of the Western survey research method in developing countries: *Whereas Westerners may be familiar with surveys, the survey interview marks a new and somewhat unusual experience for many rural Nepalese. In their daily lives, villagers, like anyone else, give out information about themselves and express their opinions in a great variety of contexts. But for them the survey setting may be the least familiar and least comfortable context for providing personal information and expressing views.*<sup>12</sup>

Obviously, the experiment not only gives reason to doubt the feasibility of the recommendations concerning the areas where health education and information should be promoted – if any;<sup>12</sup> it gives reason to seriously evaluate the research methods used to provide results which serve as foundation for evidence-based policy making.

#### *Methodological complementarity*

Let me repeat that survey studies and statistics may provide very sound documentation for decision making. But survey studies are not useful for exploratory studies because questions

by definition have to be formulated beforehand. Furthermore, survey studies are of limited use if the questions are complicated and/or if the issues to be explored are seen as controversial. Survey studies are useful for simple studies involving questions that can readily be understood and are easy to answer, and where answers are not likely to vary with different interview contexts. In short, survey studies are much more difficult to design and conduct than is usually assumed, and the issue of non-sampling error is often neglected.<sup>12, 17</sup>

On the other hand, qualitative research has its limitations as well. The patterns of patient-doctor communication or referral of patients among departments in one hospital may not be similar in another hospital in the same city. Or results from a field work carried out in a village in Rajasthan cannot readily be generalized to cover rural areas of Bihar or Tamil Nadu – perhaps not even other rural areas of Rajasthan. This is so, not only because the participants in such a study do not constitute a representative sample of the population of India (or the hospitals in a city), but because the project is to understand human perceptions, values and interaction in context, i.e., situated in the sociol-cultural circumstances that they themselves see as meaningful and important for their decisions and their lives.

However, this does not mean that the relevance of the resulting analysis necessarily is limited to the locality under study. Above, the theoretical concepts of illness, disease and sickness were discussed, along with the sectors of popular, professional and folk medicine. The concept of the Explanatory Model may be used, along these lines, to study how illness, disease and sickness are differently construed, understood, felt and acted upon in these various sectors in comparison to other societies. By shifting the level of analysis to a theoretical level it becomes possible to compare qualitative research across different contexts and thereby establish the limits for reasonable and plausible generalization.

If, however, survey-based generalizations are actually required to determine the feasibility of an intervention, and if the team of researchers are not convinced that knowledge on the ‘how’ and ‘why’ of the topic of interest already exists and that only the question of ‘how many’ remains, it is generally advisable – in fact necessary, as was seen from the Nepal example above – to conduct a qualitative study before designing the questionnaire. This also holds true the other way: If a qualitative study has been conducted, and an estimate of the generalizability of the results is needed to take policy decisions, a well-designed and carefully conducted survey can successfully strengthen the utility and the utilization of the qualitative

findings.<sup>11</sup>

Often, however, in operational research the research problem is local, and there is no need of generalization – merely a need to implement the recommendations emanating from the research.

### *Styles of reasoning*

Why then, if qualitative research in health care can successfully move the frontiers of our understanding of the complexities of health care systems, why is it often assigned a role at the fringes of the medical scientific community. Why are qualitative research results often not accepted as valid? A. C. Crombie' concept of *styles of scientific reasoning* which has been developed further by the Canadian philosopher of science, Ian Hacking, may provide at least one answer.<sup>xviii</sup> Crombie identified a number of different styles, including the statistical style of reasoning which is of primary interest in this context. Simplifying matters somewhat, a style of reasoning may be understood as an established system of rules that not only identifies something as true or false, but that decides what can be put up as a candidate for truth-or-falsehood.<sup>xix</sup> These rules differ across different styles: The same criteria would not be applied in evaluating a research problem in a mathematical style of reasoning as in the experimental style of reasoning governing the research laboratory.

In statistics, of course, truth-or-falsehood is replaced by probabilities of truth-or-falsehood which means that problems are researchable if they can be answered in numbers that can be tested according to the statistical formulae. However, this limitation does not change an important point: If one assumes a position outside the style of reasoning, one cannot correctly evaluate the truth-or-falsehood of a statement given from within; however, one can dismiss the entire style of reasoning as irrelevant in relation to a particular problem.

Hacking does not discuss qualitative research as a style of reasoning, and certainly, the 'rules' that are generally accepted to guide qualitative research are less well defined than, say, mathematics. However, seeing qualitative research as a style of reasoning which is governed by entirely different rules for the questions and answers of truth-and-falsehood to be produced may be enlightening. As a medical anthropologist, I have often heard critique from medical doctors of qualitative research, stating that the number of respondents is too low; or it is not understood what is the initial hypothesis to be tested; or what is the statistical analysis to be

employed. This type of critique may be very relevant for survey studies or other quantitative studies using statistical methods. They are designed to determine whether a research project adheres to the rules of the statistical style of reasoning. However, they are clearly unfit to evaluate qualitative research. In countries, where a critical mass of qualitative researchers does not exist, one may fear that existing attempts to carry out qualitative research may suffer from evaluation according to the wrong standards.

To rectify this situation would not only require an open mind among the medical research community and others who have been trained exclusively in quantitative methods and who have an interest in exploring contextually oriented research methods. It certainly also implies an obligation on qualitative researchers in the health field to enter into dialogue and to explain the premises and rationale for their approach. In this way, we may be able not only to promote both good quality qualitative and quantitative research in combination, we may also be able to identify and dismiss poor quality qualitative and quantitative research.

### *Health Systems Research*

The above medical anthropological examples of theoretical conceptualization of the health care system and the example of a concrete analysis carried out should be seen as merely that – examples. More recent examples have deliberately not been included. The field of medical anthropology has grown enormously over the past twenty years and consists now of a number of sub-fields, including nutritional anthropology, AIDS research, international health aid, pharmacological anthropology, anthropology of the body, and cross-cultural psychiatry to mention a few. The literature on these subject is enriched by scores of new books and journal articles, and medical anthropology is being taught outside anthropology departments in medical schools and nursing colleges in many countries.<sup>3</sup> Thus, medical anthropology and its contributions to the use of qualitative methods in health research does not in itself constitute a new frontier. It is but one of a number of disciplines that combine in Health Systems Research and related areas and that may be utilized in a fruitful multidisciplinary effort to improve our understanding of the entire health arena,<sup>xx</sup> from the local village level to the global sociol-cultural, economical, political and environmental levels.

Whatever the level, researchers should employ the same open mind in understanding research methods as they are trained to employ in conducting the research itself. In the days of

Athanasius Kircher, research was a real challenge. Today, life is easier for the researcher. Not only can most of us avoid to be lowered down into the crater of a ferocious volcano in pursuit of new knowledge; we can also avoid the containment of multi-disciplinarity in a single individual. If the imagined supremacy of any single method – or *style of reasoning* – is abandoned, Health Systems Research may provide a suitable umbrella concept for the required multi-disciplinary exercise, where complementary research methods be selected in accordance with the problem-base of the research project at hand, making the results a reliable foundation for appropriate interventions and actions in the health care area. In this way, research in health may move beyond the approach of R.T.H. Laënnec and lend ear not only to the stethoscope pointed at the patient’s chest, but also to the multiple voices of patients and healers and other involved actors in the relevant social and cultural context.

#### *Disclaimer*

The author alone is responsible for the views expressed in this article. It should not in any way be construed as an expression of any opinion whatsoever on the part of the Secretariat of the World Health Organization.

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