What is Good Qualitative Research?

A First Step towards a Comprehensive Approach to Judging Rigour/Quality

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Abstract

Qualitative research has an enormous amount to contribute to the fields of health, medicine and public health but readers and reviewers from these fields have little understanding of how to judge its quality. Work to date accurately reflects the complexity of the theoretical debate required but may not meet the needs of practitioners attempting to apply qualitative work in reviews of evidence. This article describes a simple, practitioner-focused framework for assessing the rigour of qualitative research that attempts to be inclusive of a range of epistemological and ontological standpoints. An extensive review of the literature, contributions from expert groups and practitioners themselves lead to the generation of two core principles of quality: transparency and systematicity, elaborated to summarize the range of techniques commonly used, mirroring the flow of the research process. The complexities discovered are only summarized here. Finally, outstanding issues such as 'how much transparency is enough?', are flagged up.

Keywords

- evidence base
- qualitative research
- quality

Introduction

DEBATE AND guidance around the quality of qualitative research has often been overshadowed by a kind of 'disciplinary tribalism' (Pawson, 2001) whereby polemic debate between quantitative vs qualitative theory eclipses the needs of practitioners trying to apply its findings. In some fields such as medicine, a range of researchers have replicated assumptions based on medicine's view of what makes a good study when judging qualitative research. The same has been done by sociologists, psychologists and health service researchers. A pragmatic guide focusing on the needs of those attempting to apply the research findings of qualitative research is long overdue.

Barriers to the distilling of one simple guide to good qualitative research present themselves in various forms including the qualitative researchers themselves, arguing that one set of quality criteria could never be applicable to their vast range of qualitative epistemological and methodological approaches (Howe, 1990). However, one group of experts were able to agree that a common set of principles may exist (HEA meeting, 1998). This article briefly reviews the key criteria for judging qualitative research studies, and, in examining their limitations, establishes the need for an inclusive and easily understood approach. It then presents a flow chart representing the process of qualitative research with prompts covering potential checks for rigour at each stage in a pluralistic overview of quality in qualitative research.

Drivers for greater inclusion of qualitative research

Biomedical fields of research have recognized the need to draw on the vast learning potential from qualitative research (Black, 1994). Policy drivers in health and public health have increased the potential areas of application of qualitative research studies. The emphasis on evidence-based practice by the Government (Macintyre, Chalmers, Horton, & Smith, 2001) has forced consideration of a wider pool of evidence. For health service delivery, the redefining of quality to incorporate 'lay' perspectives (*The NHS plan*—Stationery Office, 2000) points to the need to ensure good qualitative research is utilized to capture that perspective. In public health it has become important to answer questions not only about if something works but also how and why it worked. At the same time, the public health agenda (*Choosing health: Making healthy choices easier*—Department of Health, 2004) reframes health in the context of its wider economic, social and cultural determinants, drawing on an ecological model of health at the intersection of psychology, sociology, health service research and public health (Marmot & Wilkinson, 2001) and their research methodologies.

The parallel developments of evidence-based practice and models of health improvement encompassing the wider determinants of health has created a gulf between the need to address health inequalities and the sound evidence base to inform that practice. This translates into a mismatch between increasingly multi-disciplinary models of health and health policy (Davey-Smith, Ebrahim, & Frankel, 2001) and a continued reliance on models of bio-medically defined evidence, focusing on experimental methods and the need to tie down attribution. Furthermore, much is lost in the translation of qualitative research rigour into criteria for the medical reader as assumptions about good quantitative research often shape the elements selected (Oakely, 2000).

Within public health, we have a situation where policy drivers increasingly emphasize the potential of complex community development interventions while at the same time evidence tests attempt to force these interventions into linear models of causality and experimental approaches of how A leads directly to B.

Resolution of the impasse demands the incorporation of qualitative research into a more pluralistic model of evidence. Research methodologies should be seen as tools at the disposal of the research community, as more are employed so our depth of understanding of an issue increases.

A user-friendly tool is needed to enable those attempting to synthesize all disciplines of qualitative research to apply both their findings and methodologies to inform the evidence base in health and practice. The range of within-group diversity among qualitative methodologies can be compared to those between quantitative and qualitative methods. It is essential that any attempts to assess qualitative research are sensitive to and encompass this diversity.

Process

A literature review was carried out across research disciplines to locate a range of attempts to establish the rigour of qualitative research (see Table 1). Key experts from this range were invited to a group discussion to explore potential for one set of quality criteria for judging qualitative research (see Appendix for group membership) and concluded that the diversity of approaches rendered one set of criteria impossible but that some similar core principles did exist.

These commonalities became the starting point for further 'snowballing' of relevant articles (the review was therefore not 'systematic') and for informing a comprehensive framework of not only how one carries out qualitative research but also the variety of means for establishing rigour at each stage. As the stages of qualitative research are not necessarily distinct, for example data collection and analysis often occur simultaneously, some attempt was made to communicate this by expressing the framework in a chart that mirrors the flow of the research process.

Literature—what has been done by whom

More detailed and in-depth overviews of the variety of approaches taken in relation to quality criteria have been published, for example Malterud (2001) and *Health Technology Assessment* (Murphy, Dingwall, Greatbatch, Parker, & Watson, 1998), in which their epistemological and ontological assumptions are examined. Three basic ontological groups can be simplified as follows:

- The anti-realists approach that assumes as there are multiple truths there can be no 'one' criterion.
- Those that believe quantitative and qualitative methodologies represent diverse ontological assumptions and therefore require diverse quality criteria.
- Those that believe the exclusion of the likelihood of error is common to all good research

and therefore common to quantitative/ qualitative methodologies with some methodappropriate variation.

The attempts to produce quality criteria in the health and public health fields are crudely summarized in Table 1. This may seem overly concise, however the focus of this article is the framework that was informed by the complex literature around the issue, not the literature itself. The summary in table 1 uses broad groupings of disciplines and some very basic description of approach around common quality criteria.

Challenges

The trustworthiness of qualitative research is often addressed within a polemic debate, pitting quantitative research against qualitative. Oakley (2000) highlighted this dichotomyfocused debate but also noted that flawed research from both camps often exhibits the same problems. She attempts to move on from this unhelpful position to one in which the commonalities between research methodologies provide a starting point for delineating quality in qualitative research: 'the distinguishing mark of all good research is the awareness and acknowledgement of error' (Oakley, 2000, p. 72). This article builds on capturing the essence of good research and guarding against error rather than falling into the philosophical quagmire of definitions of truth, truths or who owns the truth.

Quality criteria to date have sometimes focused superficially on the techniques involved in carrying out qualitative research. However, focusing on technical fixes or methodology as proxy guarantors ignores the diversity or presence of epistemological differences (Barbour, 2001; Popay, Rogers, & Williams, 1998; Rogers & Popay, 1997). Further confusion is spread through the wide variety of terminology and focus taken in defining quality (Morse, 1994; Oakley, 2000).

The greater demand for qualitative research from the health (Greenhalgh & Taylor, 1997), health service research ethics and public health fields presents a particular challenge as this new audience comes from a predominately positivist, bio-medical standpoint. This may mean

Discipline	Authors	Approach	
Bio-medical approaches	Boulton & Fitzpatrick (1996) Cobb & Hagemaster (1987) Mays & Pope (1995)	Bio-medical approaches have focused on the potential contribution of qualitative research to medicine and rigour relies on establishing equivalent epistemological rules of objectivity and researcher neutrality or critical distance from the data	
Health services research	Greenhalgh & Taylor (1997) Popay et al. (1998)	Health services research has emphasized the potential for qualitative research to capture lay knowledge in our understanding of care and behaviours within healthcare. Popay et al. (1998) highlight the power of qualitative research to examine ontological differences and generate theory. However, quality criteria from this sector tend to replicate some of the assumptions underlying quantitative rigour	
Health promotion/ public health	Khan et al. (2001) Malterud (1993) Oakley (2000) Rogers & Popay (1997) Secker et al. (1995)	A variety of approaches reflecting the multi-disciplinary make-up of the field. Rather than attempting to reconcile differences, a number of quality frameworks have been presented alongside each other in an attempt to be comprehensive e.g. Khan et al. (2001) present three potential frameworks for rigour	
Psychology/ health psychology	Sherrad (1997) Yardley (2000)	Key themes of sensitivity to context, transparency and researcher reflexivity emerge alongside a plea for consideration of the practical utility of qualitative health psychology	
Sociology	Blaxter, BSA Medical Sociology Group (1996) Hamberg et al. (1994) Hammersley (1990) Seale & Silverman (1997)	Some sociological approaches to rigour put greater emphasis on establishing critical distance of the researcher from data, objectivity can be achieved through methods such as multiple coders (comparability of researchers interpretations), independent verification of analysis, counting, etc.	
How to guides	Strauss & Corbin (1990) Hammersley (1987) Denzin & Lincoln (1994) Lincoln & Guba (1985)	Methodology guides tend to place emphasis on gaining greater understanding of how to carry out qualitative research enabling informed judgements on quality. Some emphasize the need to keep the commonalities of good research as a focus	

<i>Table 1</i> . Disciplines and approach	Table 1.	Disciplines an	d approach
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that new audiences for guides to rigour in qualitative research generally have little experience or understanding of using, reading, writing or reviewing qualitative studies (Popay et al., 1998).

These groups may also assume that translation of quality is: 'predicated by the assumption that qualitative research is the same sort of enquiry as quantitative research' (Oakley, 2000, p. 57) and biased towards those aspects of rigour that mirror the positivist approach. For example, putting forward techniques to establish rigour that rely on ensuring critical distance between researcher and data, ignores those researchers who ensure rigour by accounting for their relationship to the data using 'reflexivity':

the greatest concern today is that many qualitative researchers are using quantitative criteria to interpret, explain and support their research findings without realizing the questionable practice of the inappropriateness of such efforts ... inconsistent with the philosophy, purposes and goals of each paradigm. (Leininger, 1994, p. 97) Finally, qualitative research is a diverse field within which a variety of epistemological and ontological (what we can know and how we know it) standpoints are represented suggesting incompatibility with fixed, universal procedures and standards (Yardley, 2000). This has often meant that even within qualitative research, the means of establishing quality have been representative of single epistemological standpoints. Examination of various criteria (Blaxter, 1996 for the Medical Sociological Group; Boulton & Fitzpatrick, 1996; Cobb & Hagemaster, 1987; Mays & Pope, 1995) can be seen as representative of the epistemological assumptions of their discipline but not that of others. For example, Seale and Silverman (1997) focus on the need to establish objectivity as a common guarantor of qualitative research in sociological studies but Sherrard (1997) highlights the exact opposite describing how the researcher influences their findings, a technique used in some areas of psychological research.

At the same time, there is a desperate need for a comprehensive tool that can be widely applied by people unfamiliar with qualitative research as the basis for decisions about quality. The decision therefore was taken to present all the potential alternative views of rigour relevant at each stage of the research process without framing this diversity as contradiction. This creates a pluralistic overview of not only how one carries out qualitative research but also how a variety of researchers can demonstrate rigour through a diversity of approaches.

The starting point is the areas of shared ground between the different views on quality or rigour in qualitative research. These were seen as *transparency* or disclosure of all relevant research processes (Yardley, 2000, p. 222), and *systematicity*, the use of regular or set data collection and analytic process, any deviations in which are described and justified.

The model

The chart in Fig. 1 presents a pluralistic approach to rigour or quality building on two key common principles of good qualitative research, transparency and systematicity and gives the reader a choice of techniques to establish rigour at each stage within the qualitative research process that represent a range of epistemological approaches. It avoids checklists or criteria in an attempt to draw quality into a



Figure 1. Quality framework for qualitative research.

model of the process of doing qualitative research that educates the reader. The framework may come across as too general and not specific in setting levels of adequacy for each technique. This is deliberate, the guiding principles and full range of techniques are given, the reader should have enough understanding of qualitative research to decide for themselves if a study has done enough to ensure its conclusions are valid. It is hoped, anyone attempting to judge a qualitative study will be guided to look beyond the quality assessment techniques of one discipline to search for evidence of others.

The framework tries to communicate enough knowledge about the process to enable readers to make a value judgement about rigour and quality. Using the key reference points of systematicity and transparency, readers are led through the stages of a qualitative study and asked to check whether studies attempt to demonstrate elements of each principle under the key headings of researcher epistemological and theoretical stance, process and analysis (methods, sampling, data collection, analysis) and results and conclusions (applicability).

Step-by-step guide through the framework

The chart is presented initially in its entirety and then broken down for further description at each step.

Researcher epistemological and theoretical stance



Good quality research ensures that the epistemological and theoretical stance of the researcher is stated clearly in the study. This can be done through establishing their distance from the data through guarantors of objectivity (Seale & Silverman, 1997) or defining the exact nature of their proximity through reflexivity. For example, a white, male researcher may focus on aspects of a topic that resonate with his own experience (Sherrard, 1997) thereby shaping his findings and this should be acknowledged.

Methods



Good research of any kind makes the aims and objectives of the research and research question clear for which appropriate methods can be selected. This is generally more robust when the researcher can demonstrate that they have established methods through reference to a body of literature. If the article states its objectives clearly, the reader can make judgements on the appropriate selection of methodology and whether they meet the criteria.

Sampling



Ensuring there is enough detail about sampling techniques and clearly establishing the rationale and theory behind them is a key element of good qualitative research and one of the most common omissions in qualitative articles.

If the sample is representing the themes around an issue using theoretical sampling, cases will be collected until issues are felt to be 'theoretically saturated'; i.e. no new relevant data seem to emerge (Strauss & Corbin, 1990). If the sample represents a group, information on that group and how representative the sample is of that group should be included.

Data collection



Good qualitative research should include sufficient detail about how the data were collected such as a description of the context and how and why there were changes in techniques or focus. This can establish a transparent process and allow the reader to judge if the methods used and decisions made during data collection were reasonable. Establishing systematicity can be done through the use of an explicit analytic framework (demonstrating how analytic procedure was consistently applied, e.g. statements categorized as positive or negative, Seale & Silverman, 1997). The process of data collection should be detailed enough to allow readers to confirm the generation of categories and conclusions and the regularity of the processes used.

Demonstrating responsiveness to data through refocusing of work along the way can be good qualitative research practice but changes should be described and justified.

Analysis



Again, providing sufficient information about the journey from data to conclusions is important. The route may vary but the reader requires sufficient detail to be able to follow the process and judge how 'fair', 'reasonable' or 'regular' the process or steps taken were. Ensuring that all cases are included and reported counters the criticism that qualitative research relies only on cases that support conclusions, this can also include exact numbers (Silverman, 1993).

Deviant case analysis or examining why some cases contradict an emerging pattern can strengthen theory building. Internal validity, or how well methods represent what or who was studied can be accounted for through, again, detail of the steps the researcher took from data to conclusions, detail of interview technique and also reflection on how the researcher,

participant or situation influenced this process. This transparent pathway is a technique of rigour described as an audit or 'confirmability' trail (Erlandson, Harris, Skipper, & Allen, 1993) as it enables the reader to confirm that researchers' decisions 'reasonable'. were Alternatively, objectivity of the researcher can be established though techniques that establish critical distance between the researcher and data, such as using multiple and independent coding to confirm analysis of interviews. At this stage triangulation of methods, samples, theoretical approaches, sources and other research (Denzin, 1978) enables either confirmation of findings or strengthens theory building by accounting for contradictions.

Results and conclusions



Demonstrating exactly how the data themselves shaped the conclusions is important in re-enforcing the link between data and conclusions in qualitative work (especially in grounded research; Strauss & Corbin, 1990) and is strengthened by cross-reference between conclusions and data within the study write-up. Some researchers feel that giving their transcripts or conclusions back to the participants for vetting is one way of establishing the strength of their conclusions. However, this is often difficult and places the participants' view of themselves at the heart of the research, rather than the researchers' interpretation of the data.

Research that gives enough detail about the group studied and the context in which they were studied allows the reader to make judgements about how far they wish to extrapolate or transfer these findings to other groups. Alternatively, if researchers feel the findings are representative or generalizable to certain groups, the grounds for this must be demonstrated.

Outstanding issues

Early feedback from a range of practitioners suggested a number of outstanding issues including the following.

Value judgements

Within any one of the techniques for rigour outlined, it is not clear how, or if, it is possible to indicate how well the study applies the technique. This raises questions around the value judgements of the reader and whether they can be dictated by a guide. In quantitative research, it is essentially the reader's knowledge of guarantees of rigour that influences their value judgements about how well they have been tackled in a piece of research. As is the case with quantitative studies, reader's knowledge of reliability and validity will dictate their evaluation of the study methodology and large bodies of literature exist on how to establish those. In the same way, the detail is not given in this article but the areas to look for and the guiding principles put the responsibility for agreeing if quality has been established on the reader. The 'definability' of rigour in quantitative research could never be achieved for qualitative research and neither could the techniques themselves be placed in a hierarchy of value with a gold standard identified. However, judgements could be made on whether studies were 'good enough' and perhaps a very crude overall scoring of research at minimum application of one of the potential guarantors of rigour could be useful?

Breadth of application

Only application in the field will be able to test the limitations or true comprehensiveness of this pluralistic approach. Its design tried to encompass the range of qualitative research from quite traditional to extremely radical qualitative studies with the aim of allowing synthesis of such research for diverse disciplines in order to broaden the current evidence base.

Conclusion

If we are truly to expand the range of evidence used to inform what works in health, we need to be able to draw on the full range of qualitative research from a variety of fields that intersect around health and well-being. This article attempts to provide a general overview of the markers of good qualitative research across all disciplines, which, as far as the author is aware, has not been done before. This is only a first step towards how to judge, compare and synthesize qualitative evidence and is only a distillation of the key techniques from a wide and contradictory literature. However, with a focus on the areas of agreement between different qualitative approaches, it is hoped that it will move the polemic debate on to look at pragmatic solutions to the dilemmas of evidence. The policy making and practice worlds will not wait for methodological perfection but are happy to accept 'good enough' research evidence of what works.

Appendix: Health education authority expert panel, 1998

The views expressed in this article are in no way attributed to the panel members below. However the panel's discussions did inform the author's thinking.

Prof. Mildred Blaxter (sociologist) Prof. Jennie Popay (public health/sociology) Prof David Silverman (sociologist) Prof. Michael Berger (psychologist) Dr Lucy Yardley (psychologist) Dr Judith Green (public health) Dr Madeline Gantley (anthropology) Prof. Pamela Gillies (public health) Prof. Raymond Fitzpatrick (public health) Prof. Gareth Williams (public health/sociology) Dr Mary Boulton (public health) Dr Anne Rogers (public health/sociology) Dr Kathryn Beckett Milburn (public health) Dr Clive Seale (sociology) Dr Jonathan Watson (public health) Dr Jane Meyrick (public health/psychology)

Dr Catherine Swann (public health/psychology) Dr Jenny Secker (public health) Antony Morgan (public health) Moira Kelly (health promotion/public health)

HEA Discussion Paper

Meyrick, J., & Gillies, P. (1998). Recognising the contribution of qualitative studies to systematic review and the search for evidence in health promotion, not widening the goal posts but changing the field of play.

References

- Barbour, R. S. (2001). Checklists for improving rigour in qualitative research: A case of the tail wagging the dog? *British Medical Journal*, 322, 115–117.
- Black, N. (1994). Why we need qualitative research. Journal of Epidemiology and Community Health, 48, 425–426.
- Blaxter, M. (1996). Criteria for the evaluation of qualitative research papers. *Medical Sociology News*, 22(1), 68–71.
- Boulton, M., & Fitzpatrick, R. (1996). Evaluating qualitative research. *Evidence Based Health Policy* & Management, 1(4), 83–85.
- Cobb, A. K., & Hagemaster, J. N. (1987). Ten criteria for evaluating qualitative research proposals. *Journal of Nursing Education*, 26(4), 138–143.
- Davey-Smith, G., Ebrahim, S., & Frankel, S. (2001). How policy informs evidence. *British Medical Journal*, 322, 184–185.
- Denzin, N. K. (1978). *The research act: A theoretical introduction to sociological methods.* New York: McGraw Hill.
- Denzin, N. K., & Lincoln, Y. S. (1994). Handbook of qualitative research. Thousand Oaks, CA: Sage.
- Department of Health. (2004). *Choosing health: Making healthy choices easier*. London: Department of Health.
- Erlandson, D. A., Harris, E. L., Skipper, B. L., & Allen, S. D. (1993). *Doing naturalistic inquiry*. London: Sage.
- Greenhalgh, T., & Taylor, R. (1997). How to read a paper: Papers that go beyond numbers (qualitative research). *British Medical Journal*, 315, 740–743.
- Hamberg, K., Johansson, E., Lindgern, G., & Westman, G. (1994). Scientific rigour in qualitative research: Examples from a study of women's health in family practice. *Family Practice—Oxford University Press*, 11(2), 176–181.
- Hammersley, M. (1987). Some notes on the terms 'validity' and 'reliability'. *British Educational Research Journal*, *13*(1), 73–81.
- Hammersley, M. (1990). *Reading ethnographic research*. New York: Longman.
- Howe, K. (1990). Standards for qualitative (and

quantitative) research. *Educational Researcher*, 19(4), 2–9.

- Khan, S. K., Riet, G., Popay, J., Nixon, J., & Kleijnen, J. (2001). Study quality assessment. In Undertaking systematic reviews of research on effectiveness (Stage II, phase 5, pp. 1–18). York: CRD, Report 4.
- Leininger, M. (1994). Evaluation criteria and critique of qualitative research studies. In J. M. Morse (Ed.), *Critical issues in qualitative research methods* (pp. 95–115). Thousand Oaks, CA: Sage.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Beverly Hills, CA: Sage.
- Macintyre, S., Chalmers, I., Horton, R., & Smith, R. (2001). Using evidence to inform health policy: Case study. *British Medical Journal*, 322, 222–225.
- Malterud, K. (1993). Shared understanding of the qualitative research process: Guidelines for the medical researcher. *Family Practice—Oxford University Press*, 10(2), 201–207.
- Malterud, K. (2001). Qualitative research: Standards, challenges and guidelines. *Lancet*, 358, 483–488.
- Marmot, M., & Wilkinson, R. G. (2001). Psychosocial and material pathways in the relation between income and health: A response to Lynch et al. *British Medical Journal*, 322, 1233–1236.
- Mays, N., & Pope, C. (1995). Rigour and qualitative research. *British Medical Journal*, 311, 109–112.
- Morse, J. M. (1994). *Critical issues in qualitative research methods*. Thousand Oaks, CA: Sage.
- Murphy, E., Dingwall, R., Greatbatch, D., Parker, S., & Watson, P. (1998). Qualitative research methods in health technology assessment: A review of the literature. *Health Technology Assessment*, 2(16).
- Oakely, A. (2000). *Experiments in knowing: Gender and method in the social sciences*. Cambridge: Polity Press.
- Popay, J., Rogers, A., & Williams, G. (1998). Rationale and standards for the systematic review of qualitative literature in health services research. *Qualitative Health Research*, 8(3), 341–351.
- Pawson, R. (2001). Realistic synthesis: A new model for evidence based policy. Paper presented at

Evidence into Practice: HDA Conference, London, 3 April.

- Rogers, A., & Popay, J. (1997). *Inequalities in health & health promotion: Insights from the qualitative research literature.* London: Health Education Authority.
- Seale, C., & Silverman, D. (1997). Ensuring rigour in qualitative research. *European Journal of Public Health*, 7(4), 379–384.
- Secker, J., Wimbush, E., Watson, J., & Milburn, K. (1995). Qualitative methods in health promotion research: Some criteria for quality. *Health Education Journal*, 54, 74–87.
- Sherrard, C. (1997). Qualitative research. *The Psychologist*, April, 161–162.
- Silverman, D. (1993). Interpreting qualitative data methods for analysing talk, text and interaction. London: Sage.
- Stationery Office. (2000). The NHS plan: A plan for investment, a plan for reform. London: Stationery Office.
- Strauss, A., & Corbin, T. (1990). Basics of qualitative research: Grounded theory procedures and techniques. London: Sage.
- Yardley, L. (2000). Dilemmas in qualitative health research. *Psychology and Health*, *15*, 215–228.

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