HOW TO WRITE A QUALITATIVE RESEARCH PAPER

Writing workshop
May 30, 2017
Duke Kunshan University
AGENDA

- This morning’s presentation: relevant to quantitative and qualitative research
- What’s different about qualitative research?
- What are editors looking for when they read and evaluate qualitative papers?
- How to write a good qualitative paper
- Take home messages
MY BACKGROUND TO THIS TOPIC

• Most of my experience is in assessing and appraising qualitative research papers as an editor
• But I also have been a qualitative researcher
EXAMPLES OF MY RESEARCH

RESEARCH ARTICLE

Barriers and Facilitators to Scaling Up the

Newborn Survival Initiative: A qualitative

study of implementation science

Kendra J. Dugan, Stuart Haddad, and

Lars Haggard

Yamey Globalization and Health 2012, 8:11
http://www.globalizationandhealth.com/content/8/1/11

RESEARCH

What are the barriers to scaling up health
interventions in low and middle income countries?
A qualitative study of academic leaders in
implementation science

Gavin Yamey
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BASIC “RULES” OF WRITING RESEARCH PAPERS

- You should apply all the lessons from this morning to writing your qualitative study

- Reasons for rejection are the same, e.g.
  - poor structure of the paper
  - no clear research question
  - no clear message
  - poor writing
  - methods not adequately explained
For both quantitative and qualitative papers, you must explain very clearly why the study was needed (what did it add?) what exactly you did and why you did it this way what you found what the findings mean

Cover letter, abstract, title, and overarching structure (with plenty of signposts) will all make a huge difference as to whether your paper is accepted/rejected
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WHAT IS QUALITATIVE RESEARCH?

- *All research* (quantitative and qualitative)
  - seeks answers to questions
  - uses a predefined set of procedures (method) to get these answers
  - collects data
  - produces findings that were not determined in advance
  - produces findings that are often applicable beyond the immediate boundaries of the study
WHAT IS QUALITATIVE RESEARCH? CONT’D

- Qualitative research also “seeks to understand a given research problem from the perspective of the local population it involves”
- It is effective in obtaining culturally specific information about values, opinions, behaviors, and social contexts of specific populations
- Describes how people experience a given research issue
HOW DOES QUALITATIVE RESEARCH DIFFER?

- Qualitative data are not easily reduced to numbers

- Qualitative research answers “how” questions rather than “how many”

  “It looks at X in terms of how X varies in different circumstances rather than how big X is or how many Xs there are” (Anderson, 2010)

- In qualitative research, gaining a rich, complex, deep understanding of an issue from the viewpoint of a particular group of people matters more than generalizability

Anderson C. Presenting and evaluating qualitative research. *Am J Pharmaceutical Education* 2010;74(8), 141
ADVANTAGES OF QUALITATIVE RESEARCH

Using open-ended questions and follow-up probes evokes responses that are:

• Explanatory in nature
• Culturally relevant and of importance to participants
• Unexpected by the researcher
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WHAT ARE EDITORS BASICALLY LOOKING FOR?

1. **Approach:** was a qualitative study the right way to answer this question?

2. **Robustness:** is this a scientifically and ethically robust qualitatively study?

3. **Analysis:** Is this more than just a collection of “anecdotes” strung together? Have the researchers done an extensive analysis of the data to pull out the messages and story?

4. **Reporting:** Have they adopted the most up-to-date standards for the reporting of qualitative research?

5. **Fit:** Does it meet the general criteria for our journal—is it a good fit? (e.g., *PLOS Medicine* is looking for important, new studies that can improve the practice of clinical medicine or public health)
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HOW TO WRITE A GOOD QUALITATIVE PAPER

1. Before you start writing
2. Title
3. Introduction
4. Research question
5. Methods
6. Findings
7. Discussion, including limitations
8. Reporting checklists

- Study design
- Recruitment
- Sampling strategy
- Data collection
- Data analysis
- Rigour
- Ethics
1. BEFORE YOU START WRITING

- Do your homework!
- Which journal?
- Does it publish qualitative research?
- What is their style guide?
“we do not prioritise qualitative research because, as mentioned in our information for authors, qualitative studies are usually exploratory by their very nature and do not provide generalisable answers”
2. THE TITLE

• Keep it short, simple, easy to grasp (long titles can be confusing and are less likely to be cited)

• Include the research question

• You **MUST** include the method → improves discoverability of your research

• Be careful using quotations → can cause confusion
“What worries parents when their preschool children are acutely ill, and why: a qualitative study”

“Adolescent attitudes towards alcohol consumption: a qualitative study”

“Barriers to uptake of antimicrobial advice in a UK hospital: a qualitative study”
3. INTRODUCTION

• Give a short account of the background to your research

• What was known before your study and what is the gap that your study addressed?

• Brief synthesis of the literature (especially meta-analyses, systematic reviews, syntheses of qualitative studies)

• Reinforce the qualitative approach that you used (e.g. “while there have been many quantitative studies of X, we wanted to gain the kind of in-depth knowledge of this issue that comes from the patient perspective”)

• Clarify any technical jargon (e.g. phenomenology)
4. THE RESEARCH QUESTION

- Make this a separate section or make sure to end your introduction with a distinct paragraph that sets out the question
- You can use bulleted or numbered questions
Final paragraph of the introduction:

“The present study explores surgical health workers’ perceptions of patient safety in an operating theatre in Eastern DRC to identify and further overcome potential barriers to surgical patient safety interventions in a conflicted and resource-poor area.”
Final paragraph of the introduction:

“What is missing from the literature is an empirical study of patients’ perspectives on what they themselves consider to be useful engagement practices for actively enhancing their health care. Particularly relevant in the context of recent initiatives, this more active view of patients as partners calls for further exploration, including description of engagement practices. Hence, the purpose of this paper is to investigate, from patients’ own perspectives, some of the engagement practices that they have put into place in their efforts to achieve optimal health outcomes.”
5. METHODS — THE MOST IMPORTANT SECTION!

- Study design
- Recruitment
- Sampling strategy
- Data collection
- Data analysis
- Rigour
- Ethics
5A. STUDY DESIGN

• You must do two things, and I suggest splitting them:

  - give your rationale for **why you chose a qualitative study**: why did you need an exploratory approach?

  - justify your **choice of qualitative methodology**, e.g. grounded theory, phenomenology, straightforward thematic analysis, etc.

  - I suggest calling this sub-section **Study Design**

  - Why did you pick focus groups rather than one-on-one interviews? (you gain knowledge from interactions between participants)
Public health

What are the barriers to implementation of cardiopulmonary resuscitation training in secondary schools? A qualitative study

Line Zinckernagel, Carolina Malta Hansen, Morten Hulvej Rod, Fredrik Folke, Christian Torp-Pedersen, Tine Tjørnhøj-Thomsen

Methods

Study design
This is a qualitative study based on interviews with school leadership and teachers, since both are important actors in the implementation of changes in schools. We used qualitative methods as they can reveal new information, uncover dimensions such as beliefs, thoughts and motivations and provide insight into complex relations, which can be critical in order to understand what hinders the implementation of CPR training in schools. The interviews were conducted during November 2012 to January 2013 at secondary schools in Denmark (6th grade to 9th grade students, age 12–16).
“Study approach and data collection

TB cohort audit (TBCA) is considered a complex intervention and it is recognised that evaluations of this type of initiative should include a qualitative design to enable in-depth exploration of participants' experiences from their own perspectives. The aim of this study was therefore to qualitatively explore and understand perceptions and experiences of TBCA with three main stakeholder groups: TB nurse specialists, consultant physicians and public health practitioners.

Face-to-face, semistructured interviews were considered the most suitable primary data collection tool to access this knowledge and to enable flexible, in-depth exploration of the issue.”
5B. RECRUITMENT

• Explain in detail how you recruited participants

• Where and how did you reach them?

• Show that you were able to identify participants specific to the research question

• The way in which you select participants should fit with your overall theoretical framework

• Give inclusion and exclusion criteria, and reasons for non-participation
Selection of participants

The study consisted of 12 focus groups of biomedical scientists working in four university medical centres in The Netherlands. Scientists were eligible to participate if they were able to speak Dutch, were scientifically active (scientists who recently authored and published a scientific paper) and were willing to give informed consent.

Scientists were recruited with the help of the deans’ offices of the participating medical centres, each of which provided the email addresses of all active scientists in nine departments (2 preclinical (microbiology, pathology), 2 supportive departments (methodology/epidemiology, anatomy/physiology), 3 clinical departments (internal medicine, surgery and psychiatry)), and the most and least publishing department (expressed as the average number of papers per active scientist). “
5C. SAMPLING

• Must describe and justify your sampling strategy

• Your sample is a sub-set of the population

• Common strategies:
  • **purposive sampling** (sampled according to preselected criteria e.g. disease, age, gender) \(\rightarrow\) sample size based on theoretical saturation [see next slide]
  • **quota sampling**: we decide up front how many people to recruit and we keep recruiting until we hit the “quota”
  • **snowball sampling**: participants refer you to other people
  • **convenience sampling**: whoever is most accessible
  • **theoretical sampling**: use insights gained from previous research to inform sample selection for your new study
PRINCIPLES OF RECRUITMENT

Cleary and colleagues’ 5 principles of participant selection

“1. Small numbers are studied intensively.
   2. Participants are chosen purposively
   3. Selection is conceptually driven by the theoretical framework (or in the case of grounded theory - evolving concepts that arise from interview material.
   4. It is commonly sequential rather than pre-determined.
   5. A rationale for selection is necessary.”

“Because Shanghai’s floating population tends to live outside the mainstream, it was appropriate to seek a convenience sample of participants for this study. Specific job sites were targeted (restaurants, hotels, and food markets), where most of the floating population works.”
“Participants were recruited through **purposive sampling**. Participants were eligible if they were: (1) first-generation Chinese immigrants living in Los Angeles County, (2) aged ≥45 years, and (3) diagnosed with type 2 diabetes for at least 1 year. Recruitment was conducted in regions highly populated by Chinese residents, such as Monterey Park, Alhambra and San Gabriel, through a partnership with three collaborative agencies.”
“We used a qualitative methodology, interviewing 33 breast screening experts across Australia with recognisable influence in the Australian mammographic breast cancer screening setting. We used **purposive and theoretical sampling** to identify experts from different professional roles (including clinicians, program managers, policy makers, advocates and researchers) with a **range of opinions** about communication in breast screening.”
5C. SAMPLING CONT’D — SAMPLE SIZE

• Must justify your sample size
• **Too few:** could lead to inadequate breadth/depth
• **Too many:** wastes time/resources and could produce huge volumes of superficial data
• Key difference between qualitative and quantitative research:
  - qualitative research is interactive and iterative; analysis is carried out after each interview → this means you have information that allows you to know when to stop
“SATURATION” (“REDUNDANCY”)

“the process of sequentially conducting interviews until all concepts are repeated multiple times without new concepts or themes emerging” (Trotter, 2012)

→ additional interviews won’t provide any additional insights

“Our analyses revealed that more than 80% of all themes were discoverable within two to three focus groups, and 90% were discoverable within three to six focus groups.

Three focus groups were also enough to identify all of the most prevalent themes within the data set.”
“Just over half of the papers did not justify their sample size in any way. Claim to data saturation was the most common justification for the sufficiency of sample size.”
5C. SAMPLING CONT’D — SAMPLE DESCRIPTION

• For one-one-one interviews, use a table to summarize the participants, and give them an identifier (e.g. “KI [Key Informant] 1, KI2, KI3).

• When you use example quotations later in the paper, you include the identifier so that readers have an idea about who said it.

• Must not put any information about the person that could breach confidentiality/anonymity.

• For focus groups, summarize the characteristics of the participants.
Women's views on overdiagnosis in breast cancer screening: a qualitative study

Table 1  Characteristics of women in focus groups about mammography screening and overdiagnosis (n=50)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>No (% of women)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years):</td>
<td></td>
</tr>
<tr>
<td>40–49</td>
<td>19 (38)</td>
</tr>
<tr>
<td>50–69</td>
<td>16 (32)</td>
</tr>
<tr>
<td>70–79</td>
<td>15 (30)</td>
</tr>
<tr>
<td>Mammography screening history*</td>
<td></td>
</tr>
<tr>
<td>Screened at least once</td>
<td>31 (62)</td>
</tr>
<tr>
<td>Never screened (age &lt;50 years)</td>
<td>12 (24)</td>
</tr>
<tr>
<td>Never screened (age &gt;50 years)</td>
<td>7 (14)</td>
</tr>
<tr>
<td>Education†</td>
<td></td>
</tr>
<tr>
<td>No formal qualifications</td>
<td>4 (8)</td>
</tr>
<tr>
<td>Intermediate school certificate</td>
<td>11 (22)</td>
</tr>
<tr>
<td>Higher school certificate</td>
<td>9 (18)</td>
</tr>
<tr>
<td>Diploma or trade certificate</td>
<td>12 (24)</td>
</tr>
<tr>
<td>University degree</td>
<td>13 (26)</td>
</tr>
</tbody>
</table>
What are the barriers to scaling up health interventions in low and middle income countries? A qualitative study of academic leaders in implementation science

Gavin Yamey

Table 1 Basic demographic information about key informants (to protect KIs’ anonymity, identifying information has been removed)

<table>
<thead>
<tr>
<th>Key Informant (KI)</th>
<th>Current position</th>
<th>Previous experience relevant to scale-up</th>
<th>Type of intervention scaled up or studied (in current or past positions)</th>
<th>Papers indexed in PubMed: No. of papers, and key topics of research</th>
</tr>
</thead>
<tbody>
<tr>
<td>KI 1</td>
<td>Academic global health post in a HIC, university leadership post</td>
<td>Leadership of a multilateral health agency, headquartered in Europe; has led large-scale implementation in LMICs</td>
<td>Experience in scaling up both simple interventions (e.g., a specific drug treatment) and complex interventions (e.g., complex public health promotion)</td>
<td>Approx. 300 papers; communicable and non-communicable disease control</td>
</tr>
<tr>
<td>KI 2</td>
<td>Academic global health post in a HIC, university leadership post</td>
<td>Previous academic posts; leadership positions in two multilateral organizations, one headquartered in Europe and the other in the US; has led large-scale implementation in LMICs</td>
<td>Experience in scaling up both simple and complex interventions</td>
<td>Approx. 100 papers; global health financing, child health, public health, and communicable and non-communicable disease control</td>
</tr>
<tr>
<td>KI 3</td>
<td>Academic global health post in a HIC, leads health service scale-up projects in LMICs</td>
<td>Has led multiple health systems improvement projects in LMICs</td>
<td>Experience in scaling up complex health systems interventions in LMICs</td>
<td>Approx. 75 papers; scaling up health systems improvements in LMICs, financing of global health</td>
</tr>
<tr>
<td>KI 4</td>
<td>Academic public health post in a MRC in Africa; advises national government on large-scale implementation</td>
<td>Research on scaling up in LMICs, with a focus on building research capacity and on health systems</td>
<td>Research on scaling up simple and complex interventions</td>
<td>Approx. 30 papers; implementation science in LMICs, global health research prioritization</td>
</tr>
</tbody>
</table>
5D. DATA COLLECTION

• The approach should fit your chosen methodology

• What kind of interviews? How long did they last? Did you record them?

• Where were the interviews conducted? Who collected the data? How was the study explained to the participants?

• Show your semi-structured interview guide
5E. DATA ANALYSIS

• Explain exactly how you analyzed the data
• Did you use software? (e.g. NVivo, Atlast.ti)
• Deductive (concept-driven, theoretical coding) or inductive (data-driven, open coding)
• How did you do the coding?
• Show how the themes were generated from the codes
• Coding:
  • Open coding: your initial tentative codes (you identify, name, categorize phenomena)
  • Axial coding: more substantive codes that shows the relationships between open codes
  • Selective coding: look for confirmatory (and contradictory data)
The structure of contraceptive education and instruction within nurse led family planning clinics: a grounded theory study

Mark Hayter

Article first published online: 12 FEB 2009
DOI: 10.1111/j.1365-2702.2008.02651.x
© 2009 The Author. Journal compilation © 2009 Blackwell Publishing Ltd

Journal of Clinical Nursing
Volume 18, Issue 18, pages 2656–2667, September 2009
<table>
<thead>
<tr>
<th>Table 2. Extract from consultation 6 (Clinic A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurse: What we suggest you do is start your pill from whatever date your period starts and from then on you are sort of protected.</td>
</tr>
<tr>
<td>Woman: The last day...?</td>
</tr>
<tr>
<td>Nurse: No, the first day of your period, so whatever day of the week that is and you carry on for all your 21 pills. We suggest you take it at the same time everyday. It doesn’t matter what time of day it is, it’s whatever suits your lifestyle. It’s best if you get up at the same time in a morning and are able to remember to take it with your first cup of coffee at breakfast.</td>
</tr>
<tr>
<td>Woman: Yes.</td>
</tr>
<tr>
<td>Nurse: What we suggest you do is take it at the same time everyday within a few hours.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Open codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructions on use</td>
</tr>
<tr>
<td>Protection from pregnancy</td>
</tr>
<tr>
<td>Women questioning</td>
</tr>
<tr>
<td>Awareness of menstruation</td>
</tr>
<tr>
<td>Being aware of time</td>
</tr>
<tr>
<td>Instruction in use</td>
</tr>
<tr>
<td>Fitting into lifestyle</td>
</tr>
<tr>
<td>Affirming understanding</td>
</tr>
<tr>
<td>Awareness of time</td>
</tr>
<tr>
<td>Instructions on use</td>
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<tr>
<td>OPEN CODES</td>
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<tr>
<td>----------------------------</td>
</tr>
<tr>
<td>Timing of pill taking</td>
</tr>
<tr>
<td>Timing of Depo injection</td>
</tr>
<tr>
<td>Timing of smear test</td>
</tr>
<tr>
<td>Timing of coil change</td>
</tr>
<tr>
<td>Timing of condom use</td>
</tr>
<tr>
<td>Timing of emergency</td>
</tr>
<tr>
<td>contraception</td>
</tr>
<tr>
<td>Timing of menstruation</td>
</tr>
<tr>
<td>The pill rules</td>
</tr>
<tr>
<td>Fitting into lifestyle</td>
</tr>
<tr>
<td>Written time regimens</td>
</tr>
<tr>
<td>Effectiveness times</td>
</tr>
<tr>
<td>Awareness of time</td>
</tr>
<tr>
<td>Timings for diaphragm use</td>
</tr>
</tbody>
</table>
5F. RIGOUR

“In qualitative research, there needs to be a way of assessing the extent to which claims are supported by convincing evidence” (Anderson, 2010)

Anderson C. Presenting and evaluating qualitative research. Am J Pharmaceutical Education 2010;74(8), 141
5F. RIGOUR

• What techniques did you use to improve the rigour of the study?
• You should refer to the newest literature on steps to increase rigour and what they were aimed at doing

• Techniques include:
  • Have a 2nd researcher analyze data and give inter-rater reliability
  • Respondent validation (ask study participants to review)
  • Constant comparison (read and re-read to search for/identify emerging themes in a constant search for meaning)
  • Triangulation (e.g. between sources or methods)
  • Deviant cases (do you need to revise your concepts to be more inclusive?)
5G. ETHICS

- IRB approval and truly informed consent
- Steps to ensure confidentiality
- How did you handle distress among participants?
6. FINDINGS

- Present your “story”: a narrative that uses data (quotations) as illustrations
- Usually structured around key themes
- Can use semi-quantitative information, e.g. “Many participants felt,” “Most participants believed,” “Twenty out of the thirty participants felt”
- Try reading it without data → should still flow well
- Make sure to use data from most/all participants (e.g. if you did 40 interviews, but you only ever cite 7 key informants, editor will worry)
- Clearly label data sources (e.g. KI 3, KI 7)
- Use house style for quotations (e.g. italics, indented)
Research

Women’s views on overdiagnosis in breast cancer screening: a qualitative study

*BMJ* 2013; 346 doi: http://dx.doi.org/10.1136/bmj.f158 (Published 23 January 2013)
Cite this as: *BMJ* 2013;346:f158

Reactions to learning about overdiagnosis

For some women, learning about overdiagnosis prompted concern about the implications in terms of the undesirable psychological and physical consequences of experiencing a cancer diagnosis and enduring treatment unnecessarily:

- “It could cause a lot of unnecessary stress and heartache to the person.” (Participant 42, age 72, 3 screens)

- “So you have to go through all the rigmarole of chemotherapy, radiation, all that sort of thing, and it may not have been necessary, and those in themselves are hard to go through.” (Participant 09, age 45, 0 screens).
7. DISCUSSION — INCLUDING LIMITATIONS

• Can use the same **Structured Discussion** that I presented earlier today
• Relate your findings to previous research
• What did your data add?
• Transferability to other settings? (usually not much)
• Strengths and limitations
• Reflexivity: how might your own views have affected the results?
• International relevance
The structure of contraceptive education and instruction within nurse led family planning clinics: a grounded theory study

Mark Hayter

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© 2009 The Author. Journal compilation © 2009 Blackwell Publishing Ltd

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Limitations of the study

This is a relatively small, qualitative study that is limited to a specific cultural group of women – namely white European women. The particular social and cultural aspects of contraceptive education are not explored in this study and an examination of these aspects would extend our understanding of contraceptive education further. Secondly, it does not explore how the nurses and women concerned think about contraception – this would provide an interesting avenue for further research. Lastly, it can only describe the education that takes place in these specific types of clinics – its applicability to women who do not seek advice from family planning clinics is uncertain.
8. CHECKLISTS

• Many journals ask you to use a qualitative reporting guideline and checklist, e.g.


• Many journal editors will use a checklist to review your paper – there are many

• Example is the BMJ checklist at http://www.bmj.com/about-bmj/resources-authors/article-types/research/editors-checklists

• Very valuable for you as an author to know how your paper will be appraised

• Mays and Pope checklist is often used by editors
MAYS AND POPE CHECKLIST (11 ITEMS)

1. Did the researcher(s) create an adequate account of the methods and data analysis process? This account should be able to stand independently such that another trained researcher could analyze the data in the same way and reach the same conclusions (audit trail)?

2. Did the researcher(s) produce a coherent and plausible explanation of the phenomenon under investigation?

3. Is the sampling process described adequately? Is there a coherent rationale presented for the sampling strategy, and is the investigator identifying participants or examining circumstances that are relevant to the research question?

4. Validity in qualitative research can be attained by appropriate use of some of the following strategies:
   - triangulation
   - negative or deviant case analysis
   - member-checking

5. How well does the research account explain why people behave as they do?
MAYS AND POPE CHECKLIST (11 ITEMS)

6. How comprehensible is the account to someone in the setting?

7. How does the report correspond with and advance current knowledge?

8. Does the report have sufficient detail for an outsider to function in the setting that the investigator studied?

9. Was there evidence of prolonged engagement in the field?

10. Can the reader distinguish data from interpretation?

11. Did the research reflect on how the methods chosen and used might have influenced or shaped the data collected and the interpretations made (reflexivity)?
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TAKE HOME MESSAGES

• Write a clear account of why you did the study, exactly what you did, what you found, and what the findings mean
• enough detail for other researchers to replicate what you did
• the findings would be convincing to the participants themselves
• Use a tight structure with sub-headings and effective writing skills
• Use a qualitative reporting checklist
• Show knowledge of recent literature e.g. on sample size/saturation, ways to increase rigour
THANK YOU

gavin.yamey@duke.edu