

QUALITATIVE METHODS FOR IMPLEMENTATION SCIENCE

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Objectives



- Provide an introduction to qualitative methods
- Illustrate how qualitative methods can be applied in implementation science

Outline

- Rationale for Qualitative Methods
- Research Team and Reflexivity
- Study Design
- Analysis and Presentation of Findings

Questions For You

- ❑ What comes to mind when you think of qualitative research?
- ❑ Any prior experience with qualitative research?
- ❑ Any future plans to use qualitative research?

Qualitative Inquiry Areas of Emphasis

- Holistic perspective – strive to understand the situation as a whole
- Importance of understanding the *meanings* of human behavior and the social-cultural context of social interaction.
- Emic perspective – how local people think, bottom up vs. top down generation of knowledge

Comparing Qualitative & Quantitative Methods

- Inductive
- Small n
- Purposeful sample
- Open-ended questions, geared towards discovery
- Not generalizable
- Investigates how or why
- Deductive
- Large n
- Random sample
- Closed-ended questions, predetermined measures
- Generalizable
- Investigates how many, how often, when, where

Qualitative Methods in Implementation Science

- Understand context
- Stakeholder input – allow participants to speak in their own voices
- Assess barriers and facilitators
- Evaluation of process and outcomes
- Role in mixed methods (use of both quantitative and qualitative data)

Mixed Methods

□ Function

- ▣ Convergence
- ▣ Complementarity
- ▣ Expansion
- ▣ Development
- ▣ Sampling

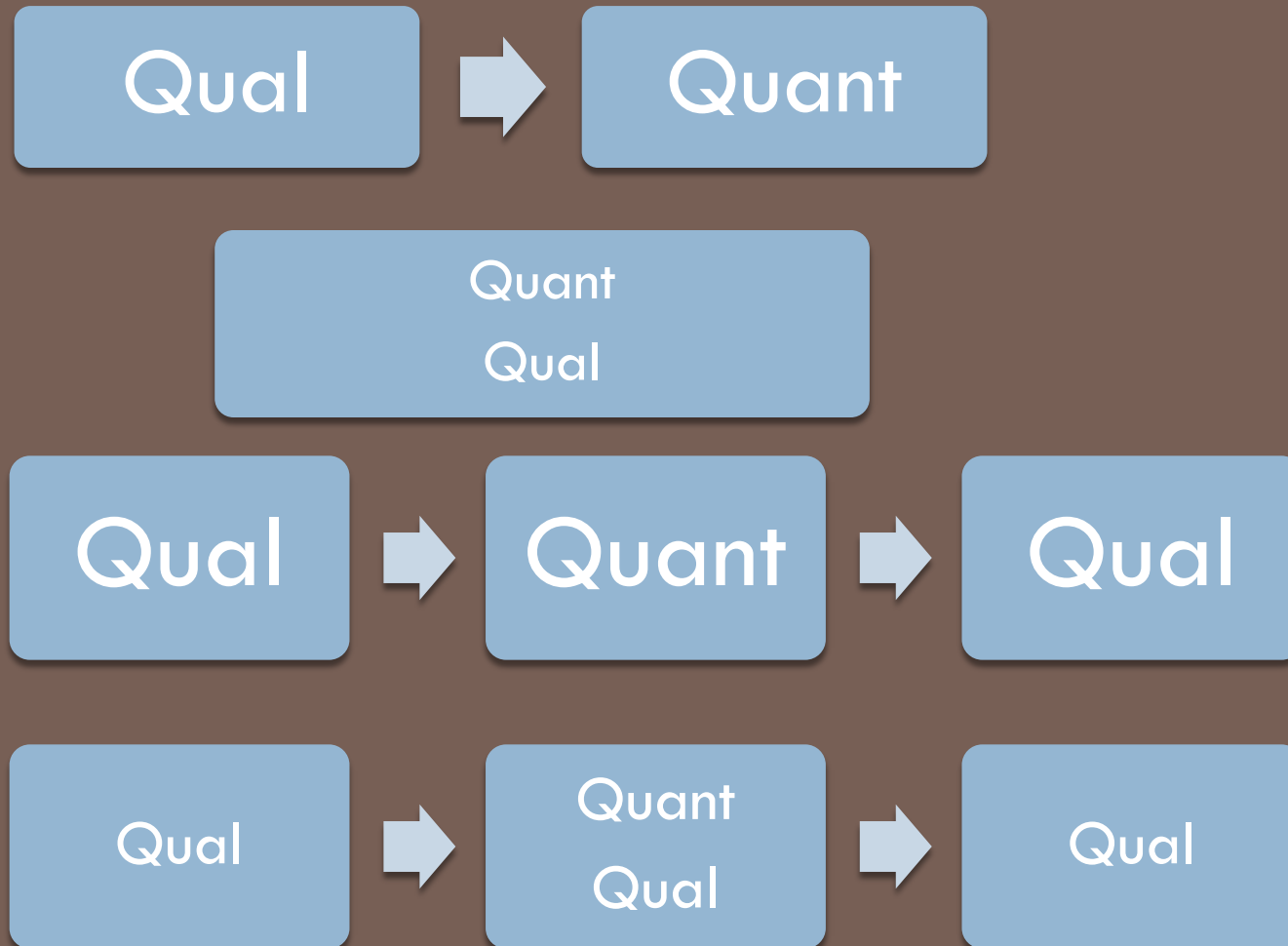
□ Structure

- ▣ Sequential
- ▣ Simultaneous

□ Process

- ▣ Merge datasets
- ▣ Connect datasets
- ▣ Embed one study within another

Mixed Methods Study Designs



Simultaneous/Expansion/Embedding

Short message service (SMS) reminders and real-time adherence monitoring improve antiretroviral therapy adherence in rural Uganda

**Jessica E. Haberer^{a,b}, Angella Musiimenta^c, Esther C. Atukunda^c,
Nicholas Musinguzi^c, Monique A. Wyatt^b, Norma C. Ware^b
and David R. Bangsberg^{a,b,c,d}**

AIDS 2016, **30**:1295–1299

The Meanings in the messages: how SMS reminders and real-time adherence monitoring improve antiretroviral therapy adherence in rural Uganda

**Norma C. Ware^{a,b}, Emily E. Pisarski^a, Melanie Tam^a,
Monique A. Wyatt^a, Esther Atukunda^c, Angella Musiimenta^c,
David R. Bangsberg^{d,e} and Jessica E. Haberer^{d,e}**

AIDS 2016, **30**:1287–1293

Research Team and Reflexivity

- Personal Characteristics
 - ▣ Credentials
 - ▣ Occupation
 - ▣ Gender
 - ▣ Experience/Training
- Relationship With Participants
 - ▣ Established
 - ▣ Participant knowledge of interviewer

Methodological Orientation



- Grounded Theory
- Phenomenology
- Narrative Analysis
- Framework Analysis
- Content Analysis
- Concept Mapping

Grounded Theory

- Development of a theory “grounded” in data from participants who have experienced the process

Goal: to *generate* explanatory theory from social processes

Best uses: unstructured in-depth interviews, structured data sets with rich, lengthy narratives

Glaser and Strauss, *The Development of Grounded Theory*, 1967

Corbin and Strauss, *Basics of Qualitative Research*, 2008

Phenomenology

- What is the meaning, structure, and essence of the lived experience of this phenomenon for this person or group of people?
- Goal: to elucidate the meaning of the lived experience

Starks and Trinidad, "Choose your Method: Comparison of Phenomenology, Discourse Analysis and Grounded Theory" Qual Health Res, 2007

Narrative Analysis

- What does this narrative reveal about the person and the world from which it came? How can this narrative be interpreted so that it provides an understanding of and illuminates the life and culture that created it?
- What was the point of the story? What was this person trying to tell me?
 - ▣ Comparing stories and cases to create meaning
- Goal: to interpret stories to reveal cultural patterns

Framework Analysis

- Commonly used in applied research, involves a set of distinct yet highly interconnected analytic stages.
- ▣ Goal: to follow a *transparent* analytic process
- ▣ Best uses: interdisciplinary, team-based research, in depth interviews and focus group data

Content Analysis

- ❑ Involves grouping and tagging interview data with codes derived from theory or from prior knowledge and then analyzing the distribution of the codes
 - ❑ Once codes are developed, they become the unit of analysis rather than the utterances to which codes are assigned
- ❑ Goal: begin with deductive application of a priori codes, but remain open to inductive revelations.
- ❑ Best uses: Structured in-depth interviews, focus group

Hsieh and Shannon, Three Approaches to Content Analysis, Qual Health Res 2005

Concept Mapping Technique

- ❑ Investigates how people describe concepts and relationships associated with concepts using visual displays.
- ❑ Pile sorts facilitate similar outcomes – concepts are identified in advance and participants asked to rank order.
- ❑ Useful when combined with in-depth interviews - maps serve as prompts for further investigation

Trochim, Eval and Prog Planning, 1989

Participant Selection

- ❑ Method of approach – flyers, mail, through provider
- ❑ Sample size – designed to achieve “saturation”
- ❑ Non-participation – how many refused to participate or dropped out? Why?
- ❑ Collection of demographic data

Guest et. al “How many interviews are enough?” Field Methods, 2016

Sandelowski “Sample size in qualitative research” Res in Nurs & Health, 1995

Participant Sampling

- Sampling
 - ▣ Purposive (purposeful)
 - Criterion sampling
 - Extreme case sampling
 - Maximum variation
 - ▣ Convenience
 - ▣ Snowball

Key Elements of Data Collection

- Setting should ensure privacy and comfort
- Clear procedures for handling distress or conflict
- Audio-recording of encounter – describe procedures for storing, transmitting, and transcribing data
- Duration of encounter
- Compensation

Modes of Data Collection

- In-depth interviewing (IDI) with key informants
- Focus groups
- Observation/Participant-observation
- Video/Photo

Interviews

□ Degree of Structure

▣ Structured

▣ Semi-structured

- Use of an interview guide – iterative development
- Helpful when you have multiple interviewers
- May result in “*a priori*” codes

▣ Open-ended

- Guided by interview topics
- Follow the lead of the interviewee

Rapley, “The art(fullness) of open-ended interviewing” Qual Res, 2001

Focus Groups

- Definition – a group of people brought together to discuss a particular topic
- Useful when exploring ideas and during the formative phase
- Group size depends on number of informants available and typically includes 5-10 people

Morgan and Spanish, “Focus groups: A new tool for qualitative research”
Qualitative Sociology, 1984

What Focus Groups Can Tell You

- Give information on **how groups of people think or feel** about a particular topic
- Give greater insight into **why certain opinions are held**
- Help improve the **planning and design of new programs**
- Provide a means of **evaluating existing programs**
- Produce insights for **developing strategies for outreach**

What Focus Groups Cannot Tell You

- ❑ Valid information about **individuals**
- ❑ Valid "before-and-after" information (**how things have changed over time**)
- ❑ Information that you can **apply generally** to other groups of people

*Using Focus Groups For Evaluation by Mary Marczak & Meg Sewell

<http://ag.arizona.edu/sfcs/cyfernet/cyfar/focus.htm>

Selecting the method

- The method you select depends entirely on the research question.

- Our research questions were:
 - ▣ What are the barriers to ART use from the perspective of patients retained in care and their providers?
 - ▣ What are the factors that promote regular clinic attendance in the absence of ART

Match Evaluation Question to Method

Formative Evaluation

- What is necessary to carry out the program to achieve the stated program goals?

Focus group discussions with key informants

Process Evaluation Methods

- How was the program implemented?
- Provide detailed description of program
- Identify strengths/weaknesses of program

Baseline and follow-up key informant interviews with program staff

Match Evaluation Question to Method

Outcomes Evaluation Methods

- Was the desired change achieved as a result of the program?

One-time, in-depth interviews with target population of the program

Impact Evaluation Methods

- Was the ultimate goal of program achieved (over longer term)?

Follow up interviews with key stakeholders and/or in-depth interviews with target population

Sample Interview Guide Section

	Questions	Probes	Rationale
Health care, the clinic, and providers (PAST)	Tell me about your experiences with health care before your HIV What has your experiences with doctors been like over the years? Tell me about your past experiences with hospitals.	Tell me about some good experiences Tell me about bad experiences	Orientation to health care
(CURRENT)	Tell me about your experience at this clinic.	How long have you been here? What do you like about it? What don't you like about it?	History at clinic and general experience

Field Notes

- Written record of data collection activity to capture:
 - ▣ Aura of interview/focus group
 - ▣ Interpersonal dynamics
 - ▣ Non-verbal communications
 - ▣ Initial impressions and/or changes/modifications

Qualitative Analysis

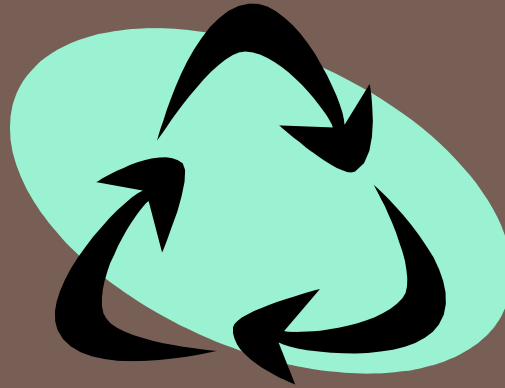
- Qualitative analysis is the process by which you turn your data into findings.
- What are you doing when you are analyzing data?
 - ▣ Reducing the sheer volume of raw data
 - ▣ Separating out trivia from significance
 - ▣ Identifying significant patterns

Qualitative Analysis for Program Evaluation

- Driven by goals and aims of the evaluation
 - ▣ Describe program
 - ▣ Elucidate program dynamics
 - ▣ Identify patterns
 - ▣ Explain, confirm, or refute quantitative findings

Key Analytic Activities

- Thinking
- Reading
- Noticing
- Reacting
- Learning
- Producing insights
- Reading
- Sharing & discussing



- Refining insights
- Reading
- Labeling
- Producing insights
- Labeling
- Reading
- Parsing
- Assembling
- Understanding
- Interpreting
- Reading
- And so on

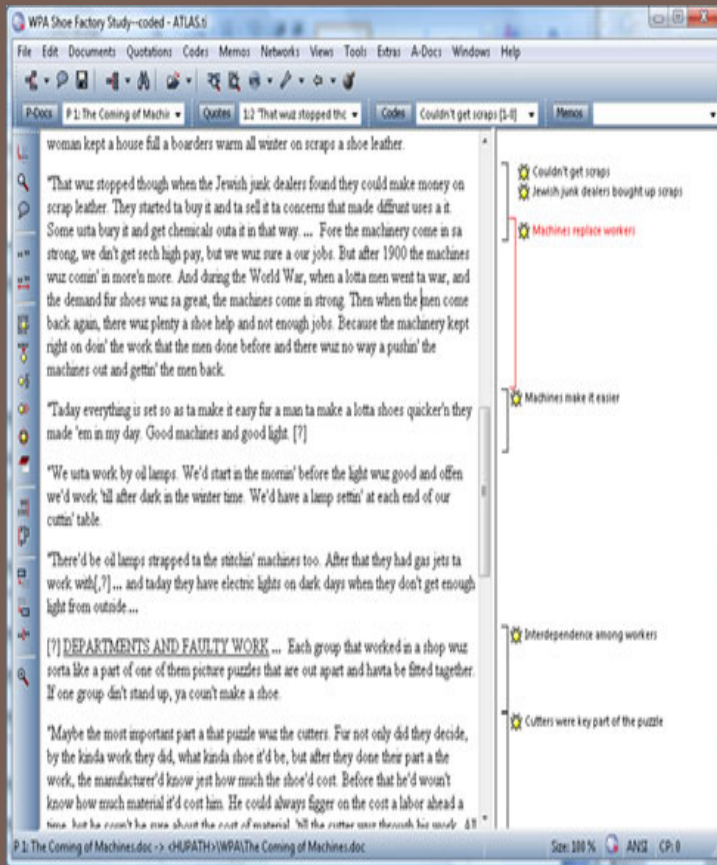
Coding

- Emergent vs. a priori codes
- “Constant-comparison” = each incident in the data is compared with other incidents for similarities and differences
- Open coding = breaking data apart and delineating concepts to stand for blocks of data
- Axial coding = relating concepts and categories to each other
- In vivo code = uses the exact words of participants

Memoing

- Analytic technique sometimes used in place of coding a data set – memos consider the whole case whereas coding breaks cases down into component parts
- An analytic memo summarizes key information and interpretations of a field note & interview transcript in a structured format.
- Small data sets benefit analysis stemming from memos rather than coded data segments

Software



- Qualitative software packages exist to facilitate the organization of qualitative data.
- Dedoose single user \$(15 per month)
- Atlas.ti single user \$1800
 - ▣ Multi-user (5) - \$6700
- Nvivo single user - \$1300
 - ▣ Multi-user (5) - \$5200

Comparing Narratives

PR/PT	Good Set?	
* COPRO1 37yo Hisp MSM, housed w/main partner T-cell 212, NO drug Alcohol	YES - but extreme PT narrative on transition to ART under-explored	YES
47yo M COPRO2 Male-hetero / incarceration CD4 406 / Unstable housing	yes.	
54yr COPRO3 Jamaican / Main partner T-cell 91 / incarceration Lives w/drinker, psych, NO drugs	yes	-depo
28yo Psych only Hisp MSM main partner housed PR04	yes. PT w/high fear is gradually moved to take ART	
27y psych housed drugser 90% T-cell	yes - extreme PR. beliefs.	
31 M AA MSM 33% housed 06	Yes!	
26y AA MSM 34% psych inc. 07	Interview Not great NO	
39 AA female 42% partner 08	? Ambivalent case	NO, but
34 AA MSM 101	? Good Q&A on PR-target ++ what to say re CD4 %	
30 AA Jamaican MSM 37% (No partner SITS)	YES!! Q&A.	
few drugusers in CO. Not pain-med seeking The "Columbia Way" under 200 push than 350-500 disc All will eventually accept ART or already have Mainly "Not Sick Enough"		

4?	ON ART?	Why NO ART	ART NI
remc ve on to ART oved	YES - w/enthusiasm	AZT tox. Not sick enough	
	NO	Can't be on belief my t-cells will drop is not sick enough.	
	NO	privacy/stigma. housing instability	No- pris w/o
	yes -deportation issue		
can is gradually like ART	NO	PR d/n encourage. Im not sick enough	NO on pr
remc PR. efs.	yes		
not great	NO	Lifestyle	
at case	NO, but will when sick enough	can't say why - hates Pills	with
in PR-target + say re CD4 %	yes - prior to interview	Kpt missing doses, Pill reminded him of HIV	NO- proc
Q&A.	NO	family disclosure, travels commitment is huge.	
9 of 10 = ON			20
urgently Push than 350-500 discuss; over 500 assess all factors RT or already have			2 of 2 of

Techniques to Ensure Validity and Reliability

□ Validity

- ▣ Saturation
- ▣ Repeat interviews if doing IDIs
- ▣ Inclusion of deviant or “negative” cases
- ▣ Member checking

□ Reliability

- ▣ Regular meetings
- ▣ Multiple coders – AT LEAST 2 people
- ▣ Comparison of coding to calculate % agreement (kappa measure of inter-rater reliability)

Requests for Data Sharing

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Promises and pitfalls of data sharing in qualitative research



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Key Take Home Points

- ❑ Qualitative research is resource-intensive yet the return on investment is high
- ❑ Team endeavor; interdisciplinary teams are ideal because different perspectives are present during guide creation and data analysis
- ❑ IDIs and focus groups are the most common data collection strategies but observation is important for implementation-related research

Resources

- ❑ Basics of Qualitative Research, Corbin & Strauss
- ❑ Qualitative Inquiry & Research Design, Cresswell
- ❑ Constructing Grounded Theory, Charmaz
- ❑ Situational Analysis, Clarke
- ❑ Researching Lived Experience, Van Manen
- ❑ Narrative Methods for the Human Sciences, Riessman
- ❑ Ethnography, Hammersley and Atkinson