MMRIA Qualitative Data Analysis Webinar

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- What is qualitative research?
- What is the difference between qualitative and quantitative research design?
- What are qualitative methods?
- What is textual data?
- How is textual data analyzed?
- Example: Analysis of textual data from MMRIA





"Qualitative research involves an interpretive, naturalistic approach to the world. This means that qualitative researchers study things in their natural settings attempting to make sense of, or interpret, phenomenon in terms of the meanings people bring to them."

Denzin and Lincoln 2003:3.





Quantitative

- Objective
- Definite
- Systematic
- Rigorous
- Hard

Qualitative

- Subjective
- Tentative
- Haphazard
- Lax
- Soft





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- Polemical thinking unhelpful
- Watch out for false dichotomies
- Qualitative and quantitative methods are part of the same research toolkit
- They are different ways of recording data on the same issues
- Triangulation: The use of several research methods or sources of data can lead to a more comprehensive understanding of phenomena (Patton 1999)





Quantitative questions

- Who?
- What?
- Where?
- When?

Qualitative questions

- All of the above questions plus:
- Why?
- □ How?





Data

Analysis	Qualitative (Texts)	Quantitative (Ordinal/Ratio Scale)
Qualitative	A Interpretative text studies (e.g. Thematic analysis, Hermeneutics, Grounded theory, Phenomenology)	B Search for and presentation of meaning in results of quantitative processing
Quantitative	Turning words into numbers (e.g. Classic content analysis, Word counts, Free lists, Pile sorts, etc.)	D Statistical and mathematical analysis of numeric data





- Same essential process
- Identify a research problem
- Define the qualitative research questions
 - Why?
 - How?
- Define specific aims/objectives





Specify the Design

- Identify a study design (case study, cross-sectional, longitudinal, etc.)
- Identify study population and recruitment methods
- Select appropriate data collection methods
 - Observation
 - Interviews
 - Focus Group Discussions
 - Other (e.g. visual methods)





Differences

- Nature of research questions and aims/objectives
 - How? Why? Questions
 - Experiential and/or contextual information: influences, processes
 - Depth of data: explanations, meaning, understanding
 - Usually difficult to answer with a quantitative approach

Focus on Induction

- Relatively unstructured instrumentation (open-ended responses)
- Flexible instrumentation (broad questions, follow-ups, probes)





Differences

Quantitative Research Question:

What is the extent of maternal mortality in public hospitals?

Qualitative Research Question:

How do maternal deaths happen in public hospitals?



What are qualitative methods?



- Observation
- Individual interviews
- Focus group interviews
- Document review
- Heuristic devices
 - Free lists
 - Pile sorts



What are qualitative methods?



Observation

- Naturally occurring phenomena
- "Unremarkable" aspects of daily life
- Phenomena that are difficult to question

Individual interviews

- Individual experiences, perceptions, understandings
- Detailed information on sensitive topics

Focus group interviews

- Community-level attitudes, norms, perceptions
- Participant interaction generates more depth of information than interviews

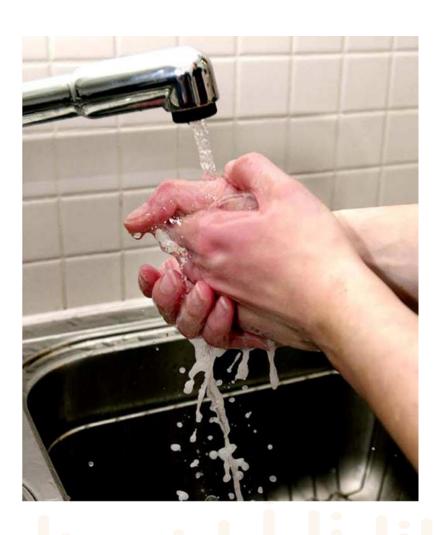
Document review

- Private, public, institutional or organizational events, priorities, activities
- Phenomena that someone deemed important to document



Observation





Hand-washing

- What people do versus what people say they do
- Unobtrusive observation preferred when individuals might alter their behavior if they know they are being watched
- Ethical considerations: informed consent



Individual Interviews



Guided conversation with specific purpose

- Varying levels of structure to the guide
 - Scripted or topical guides
 - Sequential or free-flowing
- Varying levels of specificity about focus and scope
 - Key questions
 - Follow up questions
 - Probes
 - Intents/Domains
- Ethical considerations
 - Instrumentation and Flexibility
 - Differing levels of participant control over topics of discussion and disclosure



Focus Group Interviews



- Explore a range of perspectives from pre-determined group of people
- Aim is not to reach consensus but identify range of responses
- FGD is not a group interview and does not seek to generate individuallevel data
- Interaction between participants is critical
- Create a permissive environment for discussion

- Ideally 6-8 participantsModerator
- Presents questions to group
- Manages group dynamic
- Re-orients discussion

Note-taker

- Keeps track of speakers
- Back-up notes if recording fails



Document Review



- Text and images
- Used in combination with other qualitative methods – triangulate data
- May suggest questions that need to be asked
- Used to verify findings or corroborate evidence
- Means to track change and development
- Efficient data selection vs. collection
- Available public domain
- Cost-effective
- Coverage time, events, settings
- Non-reactive to research process

Considerations

- Insufficient detail
- Getting access (full/incomplete)
- Organizational or institutional priorities shape what is recorded
- Document analysis which is systematic, identifies & addresses missing/omitted data



Document Review



Process

- Assess existing documents
- Secure access
- Ensure confidentiality
- Compile documents
- Understand how and why documents were produced
- Determine accuracy
- Perform document analyses to summarize information



Models of the Interview Process



Structured Q & A style
Focus on questionnaire
Interviewer has control
& defines issues

Quantitative Model QUESTION Interviewer ANSWER Respondent

Qualitative Model

Conversation style
Listening & responding
Respondent defines issues
Interviewer builds on replies
'Co-creation' of meaning
Greater exchange

Interviewer & Respondent Respondent as co-participants Interaction determines direction

Adapted from Hesse-Biber & Leavy 2006



What are qualitative data?



Type of Data		Nature of Data	Methods of Data Generation
Textual Data	Narrative text	Free-flowing narrative data Participant generated	Individual interviews Group discussions
	Document text	Existing documents: Diaries, archival documents, media articles, speeches	Secondary data
	Words & Phrases	Participant generated Systematic elicitation methods	Free listing Pile sorts/Ranking
Visual Data		Images: film, videos, photos Participant or researchers generated	Photo-voice Existing images
Audio Data		Speeches, songs, radio dialogue	Secondary data



What are textual data?



Observation

- Notes, diagrams, taken on-site
- Fieldnotes narrative account of what happened in the field

Individual and Focus Group Interviews

- Transcripts written account of exactly what was said by whom
- Abridged transcription sometimes appropriate; process must be documented
- Fieldnotes important observations that could impact interpretation of findings (e.g. participant disposition, interruptions, contextual factors, etc.)



What are textual data?



Document review

- Institutional/Organizational records MMRIA committee decisions form, mission statements, annual reports, policy manuals, strategic plans, agendas, attendance registers, meeting minutes, manuals, training materials, maps, charts, letters, memoranda, press releases
- Public documents books, flyers, posters, brochures, newspapers (clippings/articles), websites, news media reports (papers, video, websites), YouTube videos, radio and TV program scripts
- Public records recorded & stored by gov't which the public has a right to access and view (e.g. articles of incorporation, voting records, statutes, regulations, etc.)
- Personal documents diaries, journals, e-mails, blogs, social media posts, calendars, duty logs, incident reports, scrapbooks, newsletters





More inductive than deductive

 Relies on inductive reasoning processes to interpret the meaning of data (Thorne 2000)

More interpretative than descriptive

 Describes why something operates in the manner that it does rather than explaining how something operates (Thorne 2000)





Validation strategies

- Prolonged engagement in the field study
- Triangulation of methods
- Data integration across methods (is there agreement?)
- Iterative process refine as you go
- Team-based checking individual or peer review
- External audits





Reliability strategies

- Data collection Accurate recording of MMRC decisions, high quality audio/video recording, field notes, etc.
- Data preparation Documentation of missing/omitted information (document review), high quality translation, contextual information, transcription (e.g. speakers, pauses, overlaps, etc.)

Intercoder agreement

- Define and reconcile codes through deliberate/systematic process
- Whether 1 or more coders





Transparency strategies

Make explicit the processes

- Justify appropriateness of method
- Document the process including decision-making
- Describe how data were collected and prepared

Write memos, field notes, analytic notes

- Writing enhances accountability and rigor by establishing an "audit trail"
- Reflect on social/institutional setting & context
- Contextualize the setting, data collection, generation, and analysis

Reflexivity

 Explicitly consider the abstractor/data entry and analysts' and roles in and influence on the data





Generates rather than tests hypotheses

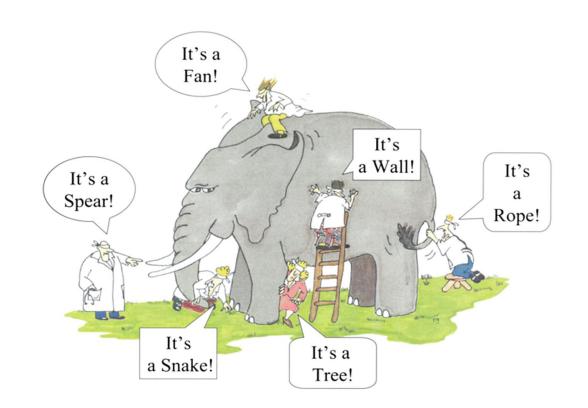
- Quantitative: adds evidence to specific, causal, and theoretical explanations of phenomena
- Qualitative: uncovers or explores the meaning of a phenomenon





Perception

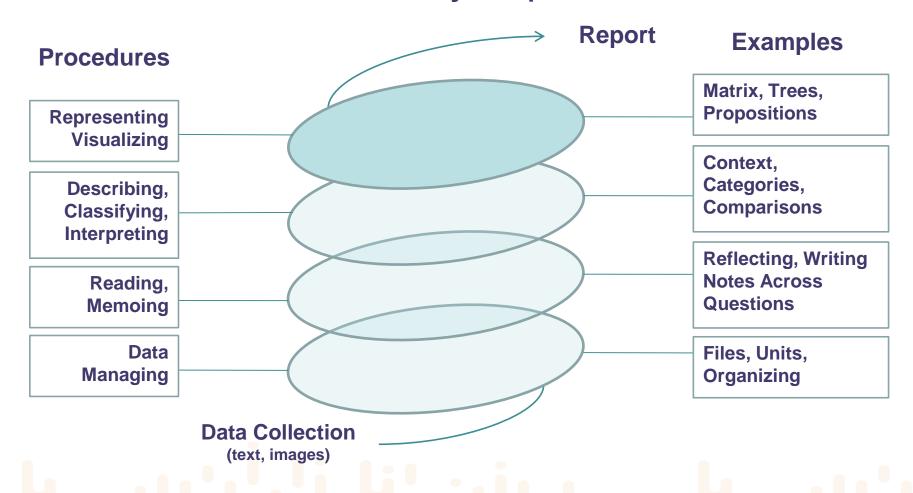
 The recognition and interpretation of sensory stimuli based upon our experience and memory







"The Data Analysis Spiral"







Elements of Qualitative data analysis

- □ Prepare & organize the data
- Reduce the data into themes thru a process of coding
- Sort & sift themes by various means to find & interpret patterns
 - "Telescope" the data
- Represent data in figures, tables, or discussion





Codes

 Well-defined labels that are applied to segments of text in order to index themes

Memos

- Annotations that are used to "amplify" textual data (notes to self)
- Keep track of preliminary ideas and see how they track overtime

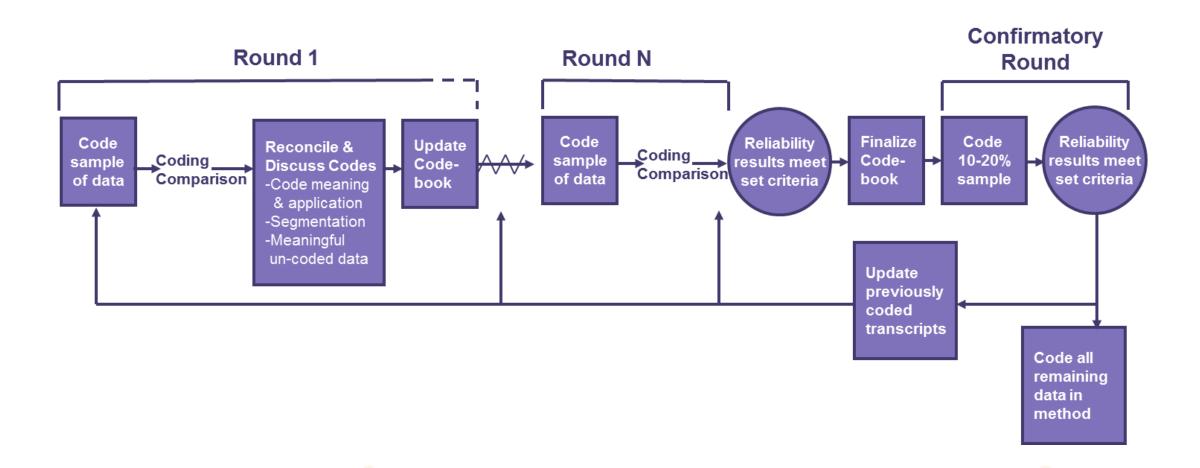
Other attributes

 Record discrete information about the type, source, or content of the data or participant (FGs, sites, SES, etc.)



How is textual data analyzed?







Creating a Code Book



- Includes each code, with a code definition
- Definitions clarify code meaning and how they will be applied
- Definitions can state what the code does and does not include
- Each code should be mutually exclusive
- A section of text can be assigned to more than 1 code



Creating a Code Book



- Include manageable number of codes to cover key topics
- Intercoder agreement and reliability may be negatively affected by too many codes
- If one code becomes too big, create sub-codes to unpack it
- Nesting coding process may be required for complex data



Creating a Code Book



Codebook: Project PHRESH.comm

This updated codebook includes revisions in code definitions based on reconciliation calls from the Reliability Round, November 2006. The language in each definition has also been simplified and redundancies removed.

Code Name	Arc of Relationship	
Brief Description	This code captures references to:	
	Beginnings and endings of relationships	
	Progression in relationship, chronology	
Use for	Tracking the chronology of relationships	

Code Name	ATOD
Brief Description	This code captures references to:
	Alcohol, tobacco and other drugs
Use for	Alcohol, tobacco and drug use and/or sale

Code Name	Condoms/Contraception
Brief Description	This code captures references to:
	Condom use/non use
	Contraception
	Other strategies used to prevent pregnancy
Use for	Discussions of use/non-use of protection (STI/HIV and/or Pregnancy)

Code Name	Baby Mama/Baby Daddy	
Brief Description	This code captures references to:	
	A person with whom the participant has a child/children	
Do Not Use for	Passing references that primarily relate to the child	

4	
Code Name	Exclusivity
Brief Description	This code captures references to: • Fidelity/infidelity (behaviors indicative of faithfulness/unfaithfulness on the part of the participant or partner) • monogamy and/or commitment as related to exclusivity • Participant or partner having multiple sexual or romantic partners at same time • Competition: women competing over men or men competing with men over women (when in reference to a relationship) including rivalry with baby's mama /baby daddy
	Trust/mistrust pertaining to perceptions of cheating or being cheating on.
Use For	Monogamy, infidelity or multiple partners.

Code Name	Legal system
Brief Description	This code captures references to:
	 Incarceration, custody, probation, restraining orders, foster homes, juvenile
	hall, truancy
Use for	Contact/fear of contact with legal system on the part of participants or partners

Code Name	Pregnancy/Children	
Brief Description	This code captures references to: Existing children (own children or partner's children) Childbearing attitudes and/or desires Pregnancy Abortion Pregnancy testing, paternity testing Caring for children, responsibility for children, any childcare issues	
Use for	Include passing references.	
Do Not Use for	Passages that only refer to Baby Mom/Dad	

Code Name	Relationship Nature/Quality	
Brief Description	This code captures references to:	
	The nature and quality of a relationship (e.g. commitment, seriousness, sharing, reciprocity)	
	 Feelings (positive or negative: catching feelings, emotional attachment, love, hurt, sadness, anger, hatred, disappointment) Activities: Participants' description of nonsexual activities which take place in a relationship, including dating and 'just talking' 	
	Partner characteristics (what participant liked or didn't about a partner)	
Use for	Participant description of experience in a relationship	

Code Name	Sex	
Brief Description	This code captures references to:	
	Sexual activity	
	Abstinence	
	Virginity	
Use for	Include accounts of non-genital contact (e.g. kissing) when related to a discussion related to sexual activity, abstinence, or virginity	
Do not use for	TAI MANAGEMENT	

٦	Code Name Social/Familial Context	
	Brief Description	This code captures references to:
		Individuals who are influential in the life of participants and/or partners with
Į		respect to relationships, sexual behavior, use of protection, etc.

Example 1: Coding Contributing Factors

Report From Nine Maternal Mortality Review Committees



Code Book Example



Contributing Factor Code	Definition	Contributing Factor Level	Contributing Factor Class
Consultation failure	Failure to seek [fill in MD specialty area – e.g., cardiology] consultation	Provider	Assessment Referral
Lack of coordination	Lack of coordination between providers	Provider	Care Coordination
Patient management issues	Lack of coordination in patient management between providers. NB: Only use when Level=Systems of Care	Systems of Care	Communication Care coordination Continuity of care



Code Book Example

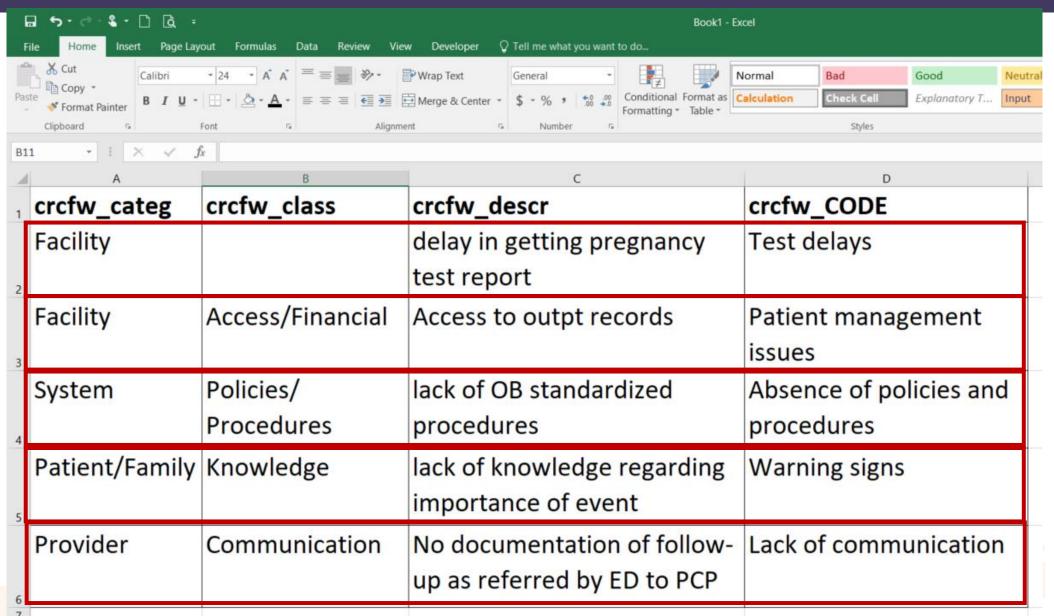


Contributing Factor Code	Definition	Contributing Factor Level	Contributing Factor Class
Warning signs	Includes any mention of patient's knowledge of warning signs; not recognizing care was needed; delays in seeking	Patient	Knowledge Outreach
	care		
Adherence	Adherence to medical advice including medication regimens	Patient	Adherence



Coding Example

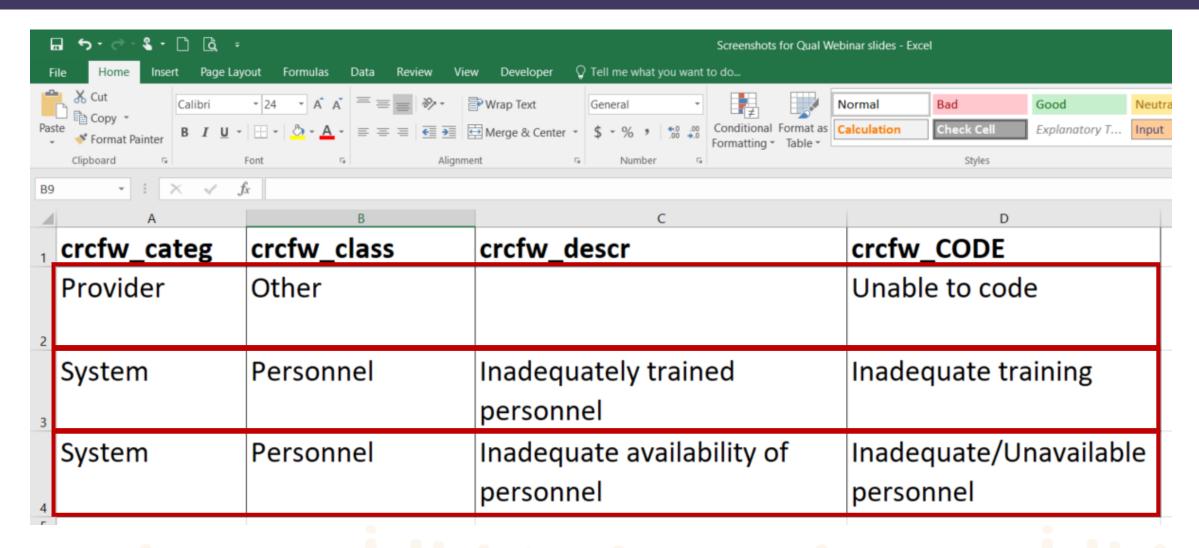






Coding Example







Thematic Analysis



CODE: THEME:

Warning signs



Lack of knowledge on warning signs and need to seek care

Patient management issues



Lack of coordination between providers that supports coordinated care

Lack of communication



Lack of communication with patient

Lack of communication with other providers

Example 2: Coding Recommendations for Action

Report From Nine Maternal Mortality Review Committees



Code Book Example

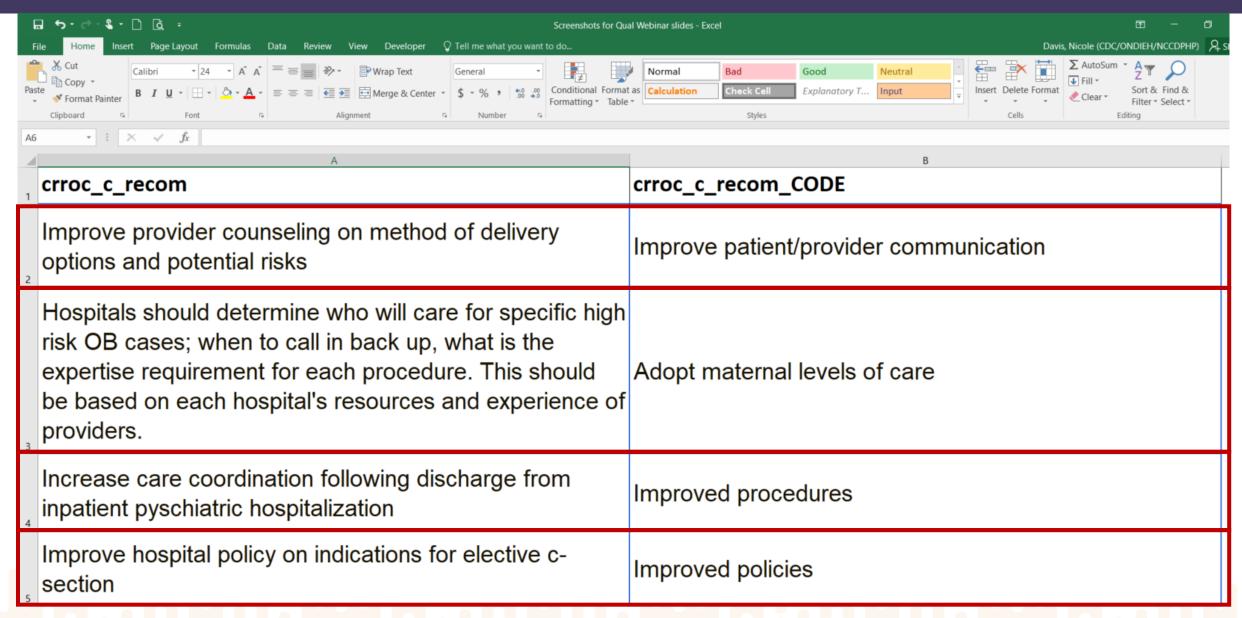


Recommendation Code	Definition
Improve patient/provider communication	Includes "improve counseling"
Adopt maternal levels of care	Includes "appropriate level of care determination" and "should have focused on mom instead of/in addition to fetus/baby"
Improved procedures	Treatment services and/or protocols for medication or intervention procedures; operationalize standards into practice
Improved policies	System of care policies which impact patients more broadly, rather than on a case by case basis. For example, hard stop early elective delivery policies.



Coding Example







Thematic Analysis





Improve procedures

THEME:

Improve procedures related to communication and coordination between providers

Improve policies

Improve Policies Related to Patient Management, Communication and Coordination Between Providers, and Language Translation

Improve Policies Regarding Prevention Initiatives, Including Screening Procedures and Substance Use Prevention or Treatment Programs

Example 3: Coding Informant Interviews



Example – Coding Informant Interviews REVIEW to



"That part of the Christian background was a big part of my life, being abstinent but being young at the time and being in love, or what some would call puppy love. A lot of times we don't look at it that way or we tend to not really care about how they feel about the situation why because they're not the ones in it, we are. It used to bother me but because I loved her so much, the times that we did I didn't really feel I was doing anything wrong, because yeah, we had plans of one day being married. We were inseparable."

Deshawn, AA Male



A Example – Coding Informant Interviews REVIEW to



"That part of the Christian background was a big part of my life, being abstinent but being young at the time and being in love, or what some would call puppy love. A lot of times we don't look at it that way or we tend to not really care about how they feel about the situation why because they're not the ones in it, we are. It used to bother me but because I loved her so much, the times that we did I didn't really feel I was doing anything wrong, because yeah, we had plans of one day being married. We were inseparable."

Deshawn, AA Male

- Christianity
- Abstinence
- Puppy love
- Marriage and sexuality



Example: Coding Informant Interviews



"The situation stressed me so I ended up having a miscarriage. He wanted to do all this other stuff. 'You can go get an amniocentesis to find out who the father is.' We could do all that. I didn't have a problem because I knew I hadn't been with anybody else. But he was just like, 'we're going to go get an amnio.' I said, 'Fine, we can do all that' but it stressed me. So, I was in the lunchroom eating lunch at school and I felt this sharp, sharp pain. I come to find out a day later, I started bleeding and I lost the baby."

Letitia, AA Female

Potential codes

Arc of Relationship

ATOD

Condoms/Contraception

Baby Mama/Baby Daddy

Exclusivity

Legal System

Violence

Pregnancy/children

Relationship Nature/Quality

Sex

Social/Familial Context

STD/HIV



Example: Coding Informant Interviews



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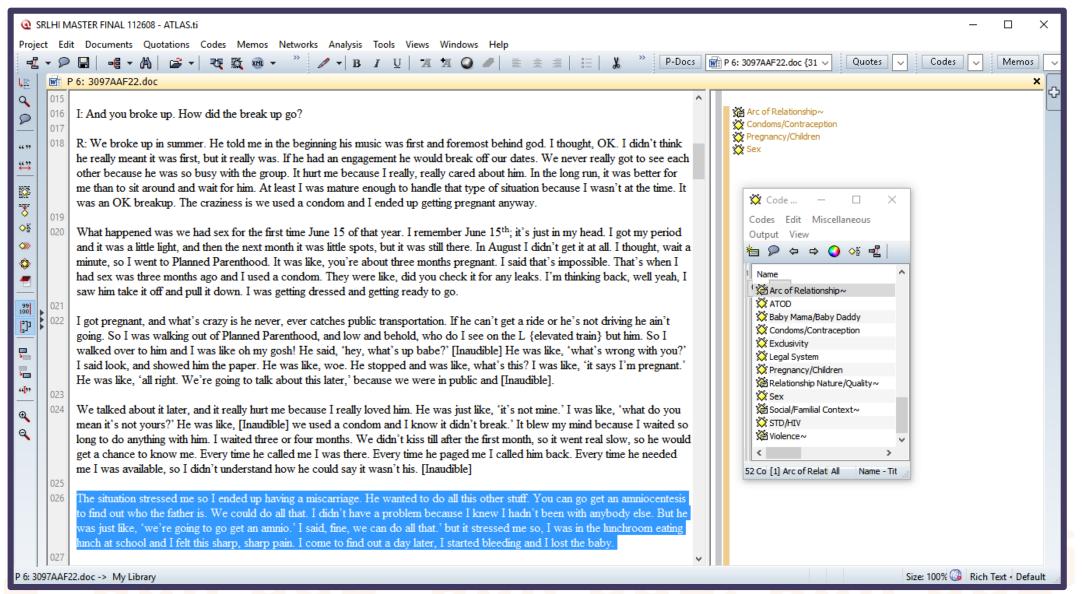
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Example – Coding Data

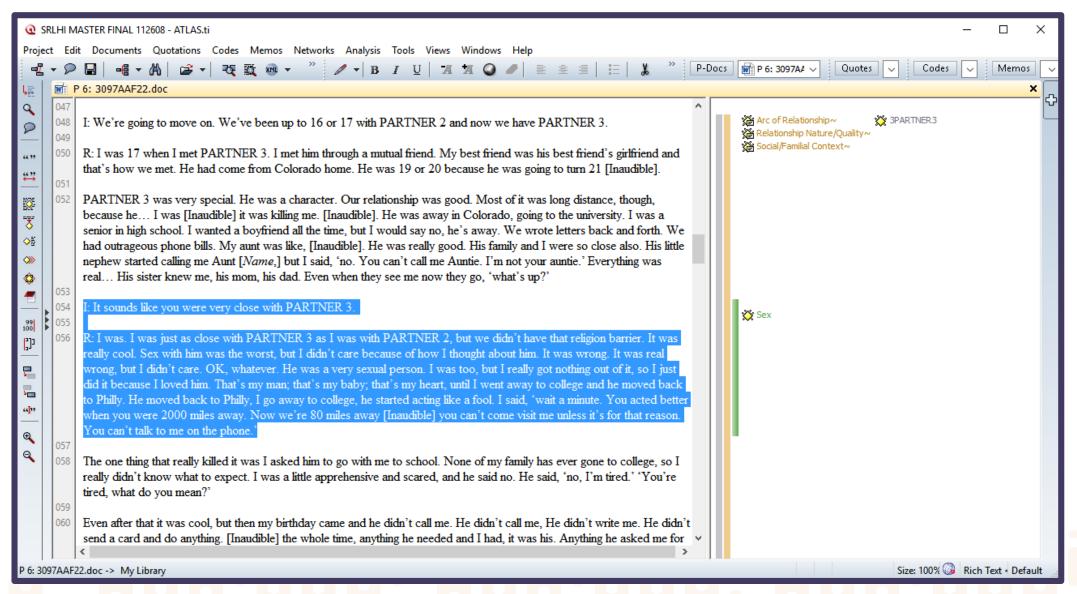






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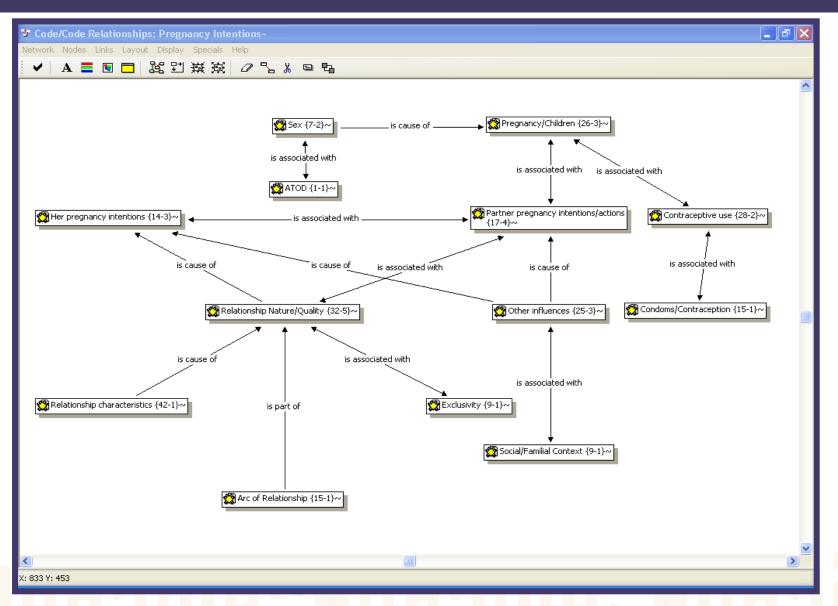






Example – Code Relationships







What is qualitative data analysis?



- □ There is more to qualitative data analysis than coding data
- Memo writing, indexing, sorting & sifting data
- Validity and reliability concerns
 - Iterative data collection & analysis process
 - Inter-coder agreement
 - Reflexivity analyst as participant
- More than a "jumping off point"
- Products of systematic analysis are usually more than observations with supportive quotes
 - Typologies, taxonomies, matrices



Conclusion



- Public health problems are complex & need diverse methods to solve them
- Specializing in analytic methods by type may be necessary but it is no longer sufficient
- Understanding the role of diverse methods encourages multidisciplinary collaboration and puts the means to solving complex problems at your finger tips