

Qualitative Methods: Coding & Data Analysis

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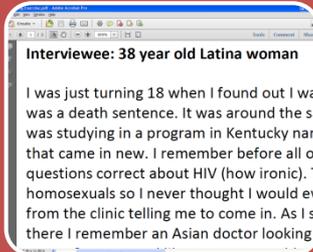
Outline for Today

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1. **Data Management**
2. **Coding**
3. **Data Analysis**

What does Qualitative Data look like?

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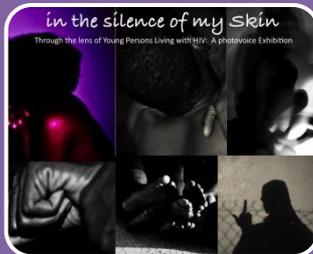
Text

- Transcriptions of interviews & focus groups
- Notes & memos



Audio

- Audio recording



Visual

- Video
- Photograph

Data Management: Security

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- How and where will you **store** your data?
 - Paper copies vs. digital copies
 - Teams: how will you share data while retaining security?
 - How and where will you back up your data?
- Removal of names and identifying characteristics on transcriptions (Anonymization) as early as possible. Destroy non-anonymized data (i.e. audio).

Data Management: Software

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Software for qualitative analysis:

- **Atlas.ti (\$99 student, \$670 full)**
- **Nvivo (\$215 student, \$670 full)**
- **CDC's EZ-text (\$0)**
- **wikipedia computer assisted qualitative data analysis software: list of proprietary and open source software**

Do you need software to do qualitative research?

Atlas.ti

The screenshot displays the Atlas.ti software interface for EMR Qualitative Analysis. The window title is "EMR Qualitative Analysis - ATLAS.ti". The menu bar includes File, Edit, Documents, Quotations, Codes, Memos, Networks, Views, Tools, Extras, A-Docs, Windows, and Help. The toolbar contains various icons for document management and editing. Below the toolbar, there are several tabs: "P-Docs" (selected), "P 9: 2011-04-15 C", "Quotes" (selected), "1:1 TS: What can:", "Codes" (selected), "Appt type: geriat", and "Memos".

The main text area shows a document with the following content:

07
08 Patient #1: 3mo 2wk baby, mother, father
09 Doc asks mother if back to work, how it's affecting
10 breast feeding pumping schedule
11 Doc asks how long mother plans to breastfeed-notes on form
12 Doc sitting at desk w/ computer terminal + paper Well Child Assessment Form, facing
13 mother w/ baby
14 Father sits on table, saying some observations about baby, email on Blackberry
15 Doc gives lots of advice about putting to sleep, no notes in form
16 Doc asks about other concerns; doc say drooling fine, no note
17 Doc opens growth chant on opposite page of chart,
18 plots height ("length") and weight, notes percentile on form
19 Doc searches uptodate.com for Sudafed affects on breastfeeding
20 Searches by generic name pseudoephedrine, then no results, then
21 searches prefix pseudo to find exact match

The right-hand pane shows a list of codes with yellow diamond icons:

- Appt type: well child exam
- Doc asks patient about lifestyle
- Doc writes exam notes during exam
- Doc suggests lifestyle change
- Doc asks patient open-ended question
- Doc writes exam notes during exam
- Doc uses public app or website

The status bar at the bottom shows "P 9: 2011-04-15", the file path "<HUPATH>\Primary documents\2011-04-15", "Size: 100%", "Text", and "Default".

Free Nodes

Name	Sources	References	Created On	Created By	Modified On	Modified By
bowling competitio	1	1	6/18/2006 10:20	GRG	6/18/2006 10:2	GRG
at home	1	1	3/13/2007 2:40	GRG	3/13/2007 2:40	GRG
Nurse	1	5	6/17/2006 3:59	GRG	3/13/2007 12:5	GRG
Walk	1	2	3/13/2007 4:09	GRG	3/13/2007 4:10	GRG
When first noticed	1	1	11/14/2006 5:39	GRG	3/13/2007 12:5	GRG

Barry

INTERVIEWER
Have you had to give anything up specifically that you enjoyed doing that was important to you?

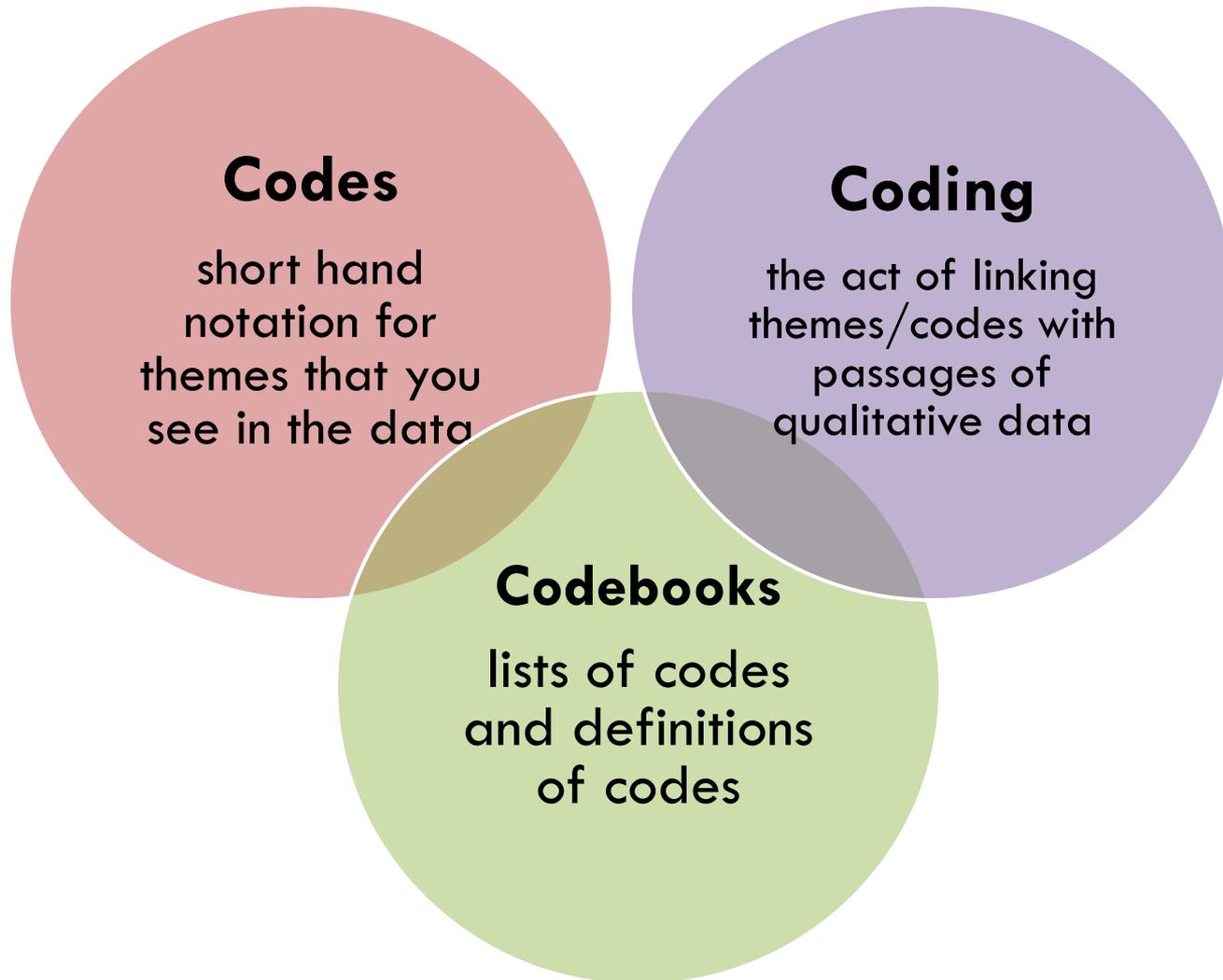
BARRY
Well, the only thing that we've really given up is - well we used to go dancing. Well she can't do it now so I have to go on my own, that's the only thing really. And then we used to go indoor bowling at the sports centre. But of course, that's gone by the board now. So we don't go there. But I manage to get her down to works club, just down the road on the occasional Saturdays, to the dances. She'll sit

Visualization categories: Activities, Core activity, Changes, Coding Density, Doing for, Dances, Dancing, Joint activities ceased, Joint acti

GRG Nodes: 16 References: 20 Read-Only Line: 138 Column: 0

Definitions

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Qualitative Researcher Qualities

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Organization

Perseverance

Accept
Ambiguity

Flexibility

Creativity

Ethical

Vocabulary

Tips for Beginners

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**Code on hard
copy printouts
first –**

*Not via a computer
monitor*

Once codes are
fairly well set then
**transfer codes to
electronic file**

**Begin working with
qualitative
software *AFTER*** you
have understanding
of fundamentals of
qualitative analysis

Lumping

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- “Holistic coding” – broad brush strokes
- Very expedient
- Future detailed sub coding still possible

Pro

Gets to essence of categorization of a phenomenon

Con

May lead to superficial analysis if you do not employ conceptual words and phrases

Splitting

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- “In vivo coding” – splitting data into smaller “codable” moments
- Generates more nuanced analysis from the beginning

Pro

Encourages
careful scrutiny of
data

Con

May overwhelm
data analysis
when it comes
time to categorize
codes

Coding

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First Cycle Coding

Attribute Coding

Descriptive Coding

Structural Coding

In Vivo Coding

Analytic Coding

Process Coding

Topic Coding

Second Cycle Coding

Pattern Coding

Focused Coding

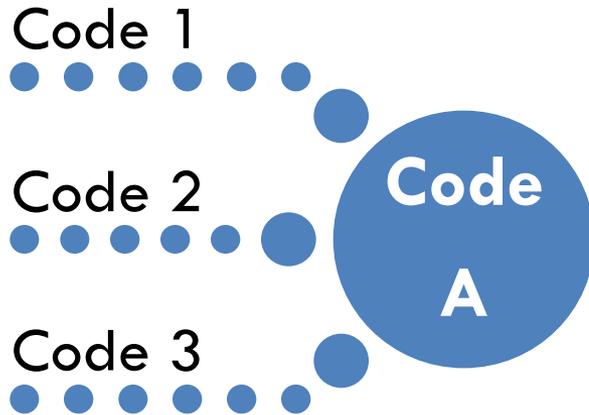
Axial Coding

Theoretical Coding

Longitudinal Coding

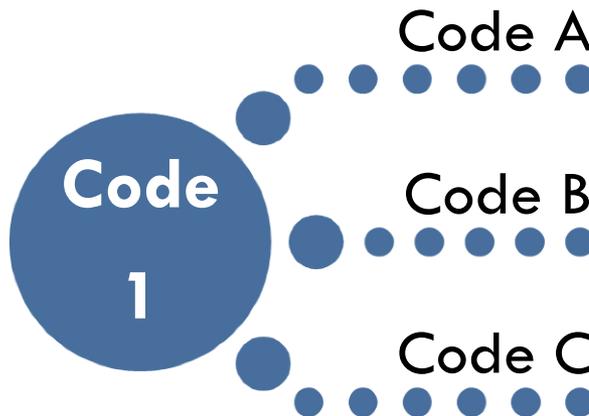
2nd Cycle Coding (Lumpers vs. Splitters)

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Collapse original number of 1st cycle codes into smaller numbers

- Reanalyze data
- Find larger segments of text are better suited to just one key code rather than several smaller ones



Expand number of 1st cycle codes into larger number of codes

- Reanalyze data
- Find segments of text are better suited in smaller codes rather than just one.

Example

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“We think that sometimes parents, we don’t talk about sex to our daughters. Therefore when they start to have sexual relations, they don’t have as much knowledge on how to use a condom and that puts them at higher risk. They say that girls have a higher risk because there is less information about sex.”

Types of Coding

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Descriptive/Structural Coding:

- Describe characteristics of the data itself
- Answers who, what where, and how the data were collected.

Topic/Thematic Coding:

- Most common kind of coding
- Coding to describe topic; any passage will include several topics
- Creating a category or recognizing one from earlier

Analytic coding:

- Going beyond gathering by topic to analysis
- Pursue comparisons
- Ask yourself “ What is this all about?”

Descriptive Codes

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“We think that sometimes parents, we don’t talk about sex to our daughters. Therefore when they start to have sexual relations, they don’t have as much knowledge on how to use a condom and that puts them at higher risk. They say that girls have a higher risk because there is less information about sex.”

- Father, 40 years old
- Interviewed at UW Medical Clinic
- Question: Why do you think people don’t protect themselves from HIV?

Topic Codes

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*“We think that sometimes **parents, we don’t talk about sex to our daughters.** Therefore **when they start to have sexual relations, they don’t have as much knowledge on how to use a condom and that puts them at higher risk.** They say that **girls have a higher risk because there is less information about sex.**”*

Topic codes:

- **Parent-child communication**
- **Lack of knowledge**
- **Vulnerability of girls**

Analytic Codes

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We think that sometimes parents, we don't talk about sex to our daughters. Therefore when they start to have sexual relations, they don't have as much knowledge on how to use a condom and that puts them at higher risk. They say that girls have a higher risk because there is less information about sex."

- Make new categories based on what you see across interviews.
- Revisit categories to see if they still fit or change definition as you add more data.
- **Ex:** Do parents who feel comfortable talking about HIV with their children have different thoughts than parents who feel uncomfortable talking about HIV with children?

CODING EXERCISE

Discussion

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- What codes did you develop for your research question?
- What would your codebook look like?
- What was the experience like to code with other people and to reach consensus about codes?

How many codes are enough?

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- Lichtman (2006) – Generate 80-100 codes that will be organized into 15-20 categories which eventually synthesize into five to seven (5-7) major concepts
- Cresswell (2007) – Begin with a short-list of five to six provisional codes to begin the process of “lean coding”. This expands to no more than 25-30 categories that then combine into five to six (5-6) major themes
- Wolcott (1994) – 3 of anything major is a good quantity for reporting qualitative work
- Final number of themes/concepts should be kept to a minimum to keep analysis coherent

No Magic or standardized number to achieve.

The Codebook is KEY

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- Create a codebook from the beginning—record of your emergent codes
- Review periodically – maintaining list provides opportunity to organize and reorganize codes into major categories and subcategories

Codebook Contents

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- codes
- definition or content description
- guidelines for when to use the code
- guidelines for when not to use the code
- examples

Code	MARGIN
Definition	Marginalized members of the community. Groups that are perceived negatively as social and/or physical outsiders from the main community structure.
When to Use	This code applies to all references to groups of people who have been marginalized from the rest of the community.
When Not to Use	Don't use this code to refer to groups that are institutionalized for health or criminal justice reasons (see INSTIT).
Example	“....”

Team coding

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- Pros/Cons to coding as a team
- Should I calculate inter-coder reliability?

Using Notes/Memos

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- Making memos or notes of ideas/thoughts/ observations as you are coding (or immediately after an interview/FG)
- Can use to go back and make comparisons, deeper analysis
- Can treat as additional piece of data and code as you are coding the transcribed interview

References

- Cresswell, J.W. (2007). *Qualitative inquiry and research design: Choosing among five approaches* (2nd ed.). Thousand Oaks, CA: Sage
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- Saldana, J. (2009). *The coding manual for qualitative researchers*. Thousand Oaks, CA: Sage
- Wolcott, H.F. (1994). *Transforming qualitative data: Description, analysis, and interpretation*. Thousand Oaks, CA: Sage.

Thank You!