

The Human Factor (THF)

Week 5 Workshop: Data Analysis

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Analysing Qualitative Data

Why do we need to analyse data?

- We analyse data to:
 - Make sense of the data we have collected
 - Identify meaningful, interesting and valuable findings
 - Translate findings into design specifications, guidelines, recommendations, suggestions, implications
- Types of Data:
 - Quantitative Data: information that can be quantified or expressed as numbers (e.g. responses to closed questions, error rates, etc)
 - Qualitative Data: difficult to measure as numbers (e.g. descriptions such as field notes, responses to open ended questions, interview transcripts, think aloud talk, etc)

Thematic Analysis

Thematic Analysis of Qualitative User Research Data



Thematic Analysis

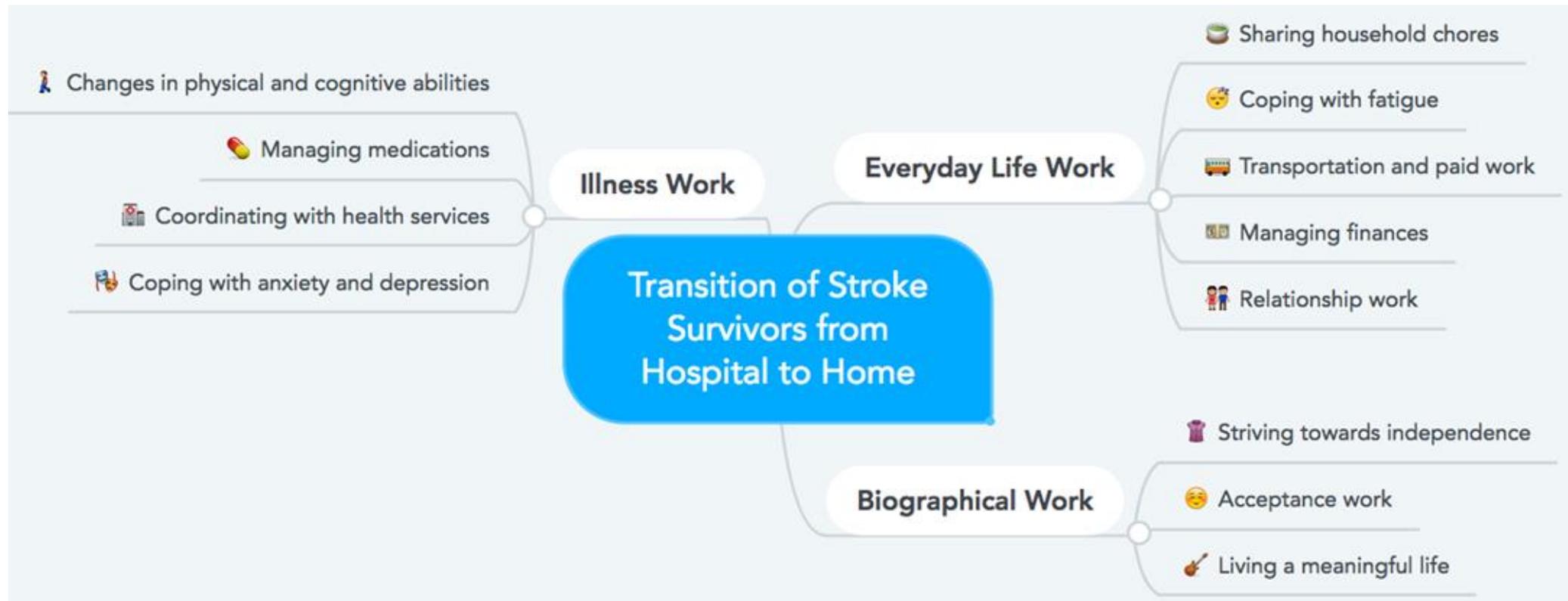
- “Thematic analysis is a method for identifying, analysing and reporting patterns (themes) within data. It minimally organises and describes your data set in (rich) detail” (Braun and Clarke 2006).
- A six-step method for identifying, analysing and reporting patterns (themes) within data in response to a research question:
 - Familiarise yourself with the data
 - Generate initial codes
 - Search for themes
 - Review themes
 - Refine and name themes
 - Produce the report
- Thematic analysis is a practical method used across UX industry and research

Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3, 77-101.

https://www.researchgate.net/publication/235356393_Using_Thematic_Analysis_in_Psychology

<https://www.nngroup.com/articles/thematic-analysis/>

Example: codes and themes to describe the experience of stroke survivors in their transition from hospital to homes



Ploderer, B., Stuart, J., Tran, V., Green, T. L., & Muller, J. (2017). The transition of stroke survivors from hospital to home: understanding work and design opportunities. In *Proc. OZCHI* (pp. 1-9).

<https://doi.org/10.1145/3152771.3152772>

Phase 1: Familiarise yourself with the data

- Transcribe verbal data
- Immerse yourself in the data: read and re-read transcripts, notes etc
- Read data in an active way: search for meaning, patterns, etc, and take notes about ideas for coding

Phase 2: Generate initial codes

- Codes identify a feature of the data that is important or interesting or meaningful to your research question
 - A code is a word or a short phrase that describes a piece of data - essentially a label
 - Codes can indicate the subject of a comment, the nature of a comment, feelings or emotions, etc
 - Each item can have multiple codes
- Inductive (bottom up) and deductive (top down) coding

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Activity 1: Generate codes

- Familiarise yourself with the transcript
- Work individually
- Annotate on paper

Phase 3: Search for themes

- All data has been initially coded
- Group similar codes together into overarching themes
 - Some initial codes may form main themes, others may become sub-themes, others may be discarded
 - Group codes through an affinity diagram
- Affinity diagram process:
 1. Write one code per post-it note
 2. Place notes on surface and add similar notes in close proximity
 3. Keep revising arrangements
 4. Name each group

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Activity 2: Group codes into themes

- Create an affinity diagram to group your codes from Activity 1 into themes
 1. Work in CW groups
 2. 1 code per post-it note
 3. Place similar codes together
 4. Give each group/theme a label

Activity 3: Map themes to Human Factors

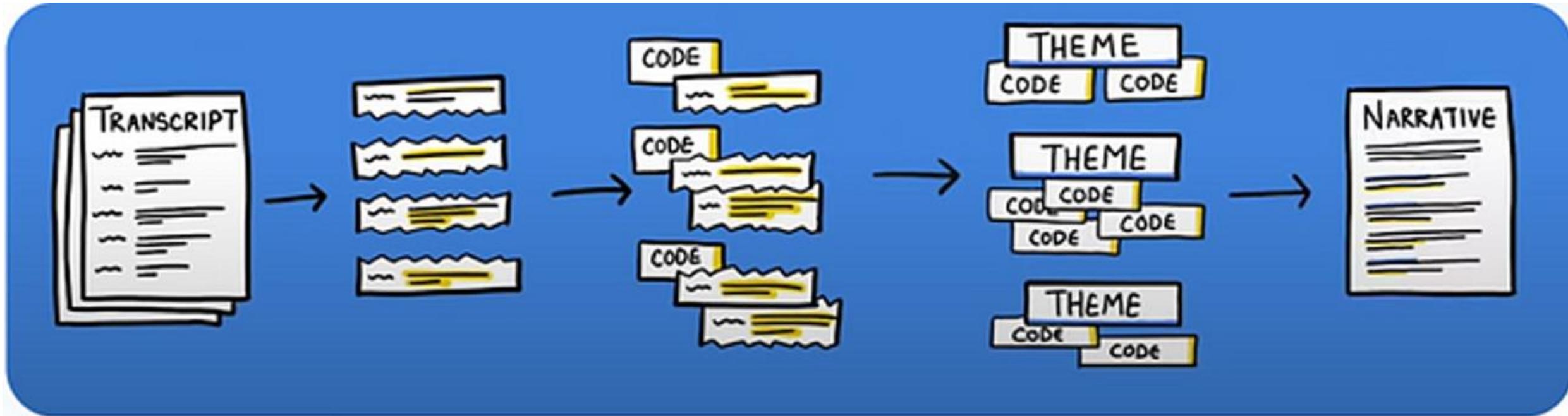
For each theme, consider the relevant human factor/s:

1. Anthropometric (physical/bodily)
2. Behavioural (habits, routines, actions, patterns)
3. Cognition (mental processes, motivation, perception)
4. Social (interpersonal, cultural, context)

Ask:

- What are the opportunities or problems this theme raises?
- What need is not being met?
- What does this theme suggest about current technology and its limitations?
- What design implication/idea could address this?

Phase 3-6: Review themes, refine and name themes, and produce the report



Tools to support qualitative analysis

- Start coding on paper as you have more flexibility
- You can add codes as comments in Word or through a separate column in Excel
- Online whiteboards such as Miro
- Analysis tools such as Nvivo

Any questions?