QUALITATIVE RESEARCH – A COMPLEMENTARY APPROACH

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McGill TB Research Methods Course 2015
Outline

1. Principles of qualitative research
2. Comparing paradigms
3. *Doing* qualitative research
   - Sampling, data collection, analysis
4. Ethical considerations
5. Evaluation criteria
6. Mixing methods
7. Key references
Expected outcomes

1. Obtain a basic understanding of qualitative methods
2. Realize its relevance and contributions to TB research
3. Understand the difference and complementarity between qualitative and quantitative methods
What is qualitative research?

- Studying social phenomena in terms of the meanings people attribute to them
- Naturalistic inquiry – collects evidence from the perspective of the local population in their natural setting
- Produces findings without guessing them in advance
- Inductive – develops theory
- Informs how those theories and findings may be applied
Discovering the hidden layers

Focus on meaning, depth, detail

Why, how, in what way

versus

Whether, how many, how much
Meanings that people assign to social phenomena (e.g., TB) reflect how they experience it, how they interpret that experience, and how they make sense of it.

If we can understand how people make sense of their worlds (meaning), we can understand their perceptions, values, motives, and behaviours.
Comparing paradigms

Our participants have been telling us valuable stories. We've learned so much about what we're doing right and where we can improve.

Did you get their emails? If so, we can survey them and get some real evidence.

freshspectrum.com
<table>
<thead>
<tr>
<th>QUANTITATIVE</th>
<th>QUALITATIVE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PREMISE</strong></td>
<td><strong>Multiple truths (realities) exist</strong></td>
</tr>
<tr>
<td><strong>Confirm / refute hypotheses</strong></td>
<td><strong>Multiple truths (realities) exist</strong></td>
</tr>
<tr>
<td><strong>Quantify variations</strong></td>
<td><strong>Multiple truths (realities) exist</strong></td>
</tr>
<tr>
<td><strong>Predict relationships</strong> (X → Y)</td>
<td><strong>Multiple truths (realities) exist</strong></td>
</tr>
<tr>
<td><strong>GOAL</strong></td>
<td><strong>Explore / develop hypotheses</strong></td>
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<tr>
<td><strong>Explore / develop hypotheses</strong></td>
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<tr>
<td><strong>Describe experiences</strong></td>
<td><strong>Explore / develop hypotheses</strong></td>
</tr>
<tr>
<td><strong>Explain variations / relationships</strong> (why/how does X relate to Y)</td>
<td><strong>Explore / develop hypotheses</strong></td>
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<tr>
<td><strong>INQUIRY</strong></td>
<td><strong>Semi-structured</strong></td>
</tr>
<tr>
<td><strong>Structured</strong></td>
<td><strong>Open ended</strong></td>
</tr>
<tr>
<td><strong>Closed ended</strong></td>
<td><strong>Open ended</strong></td>
</tr>
<tr>
<td><strong>Fixed, pre-conceived</strong></td>
<td><strong>Open ended</strong></td>
</tr>
<tr>
<td><strong>Surveys, questionnaires</strong></td>
<td><strong>Open ended</strong></td>
</tr>
<tr>
<td><strong>DATA</strong></td>
<td><strong>Textual (audio, video, notes)</strong></td>
</tr>
<tr>
<td><strong>Numerical</strong></td>
<td><strong>Textual (audio, video, notes)</strong></td>
</tr>
<tr>
<td><strong>Objective</strong></td>
<td><strong>Textual (audio, video, notes)</strong></td>
</tr>
<tr>
<td><strong>DATA</strong></td>
<td><strong>Textual (audio, video, notes)</strong></td>
</tr>
<tr>
<td><strong>ANALYSIS</strong></td>
<td><strong>Data used to create theory</strong></td>
</tr>
<tr>
<td><strong>Data used to prove theory</strong></td>
<td><strong>Data used to create theory</strong></td>
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<tr>
<td><strong>Stable throughout</strong></td>
<td><strong>Data used to create theory</strong></td>
</tr>
<tr>
<td><strong>Subject to statistical assumptions / conditions</strong></td>
<td><strong>Data used to create theory</strong></td>
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<tr>
<td><strong>Detached</strong></td>
<td><strong>Involved</strong></td>
</tr>
<tr>
<td><strong>RESEARCHER</strong></td>
<td><strong>Involved</strong></td>
</tr>
<tr>
<td><strong>Involved</strong></td>
<td><strong>Involved</strong></td>
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</table>
Doing qualitative research

- Sampling
- Interviews
- Focus Groups
- Observations
Critical reflexivity

- To question our biases and assumptions
- To bracket what is obvious
- To doubt what is taken for granted
- To be open to multiple, differing perspectives
- To mitigate “biases” during data collection and analysis
Sampling

- Purposeful sampling
  - Targeted - intentional selection of individuals to best understand the research problem

- Non-representative – equal importance to outliers

- Aim to achieve data saturation
  e.g., interviews
  rule of thumb
  n = 30

\[ X \]
Interviews

- In-depth conversations with a purpose
- With persons who have personal and direct experience with the research problem
- To elicit a richer understanding of the research problem in the participant’s own words – stories, narratives
  - Participant = expert
- NOT... to elicit facts, knowledge, impersonal generalizations or hearsay → use a questionnaire / survey!
- Usually audio recorded + notes + observations
Interviews

I'll start with a few basic questions, leading you to my own preconceived responses. Then I'll interrupt you and go into a long unrelated personal anecdote. Finally, when the interview is over, I'll attribute the lack of substantive feedback on you being quiet and uncooperative.
Rapport is key
Focus groups

- Group of interacting participants
- Convened by a facilitator who uses the group interaction to learn about the research problem
- Participants may share some characteristics but data richness comes from diversity in their experience
- Yields in-depth data on group norms
  - Points of divergence and convergence
- Usually audio-recorded + notes + observations
"All those in favour say 'Aye'."

"Aye."

"Aye."

"Aye."

"Aye."

"Aye."
<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Builds on the fact that people naturally interact with and are influenced by each other</td>
<td>Researcher has less control over the group and direction of questions</td>
</tr>
<tr>
<td>Useful to collect data from HCW, youth</td>
<td>Less feasible for discussion of sensitive topics</td>
</tr>
<tr>
<td>Helps discover nuances within shared experiences and norms</td>
<td>Requires a skilled facilitator to manage group dynamics</td>
</tr>
<tr>
<td>Once arranged, data is collected quickly and at a lower cost</td>
<td>Takes preparation and logistic planning</td>
</tr>
<tr>
<td>May serve as a forum for change and empowerment</td>
<td>Does not provide valid data on individuals</td>
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</table>
Observations

- Documentation of social interactions and social environments
- Via prolonged field engagement
- Researcher observes people in their natural environment to gain an insider’s perspective
- Based in traditional ethnographic research
- May be combined with and inform interviews and other forms of inquiry
"Anthropologists! Anthropologists!"
<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Insider’s perspective on social and physical contexts</strong></td>
<td>Time consuming</td>
</tr>
<tr>
<td>Insight into relationships, interactions, behaviors that may be less known</td>
<td>Requires skilled documentation (memory and diligence of researcher)</td>
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<tr>
<td>Informs the iterative interpretation of other data (triangulation)</td>
<td>Requires conscious effort at objectivity and reflexivity despite methodological subjectivity</td>
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<td></td>
<td>Can be ethically challenging</td>
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Qualitative analysis

- Findings are typically **grounded** in the data
- Researcher is continuously **reflexive**
  - Questions his/her biases and assumptions
- Mainly **inductive**: bottom-up approach
  - Collect data → detect patterns → infer conclusion
  - But also deductive → verify patterns via repeated readings of the data
- Optional use of software (e.g., N-vivo, Atlas-ti, MS Word)
Analysis is iterative

Sample schematic

Open coding
all codes

Negative case analysis
Researcher reflexivity
Constant comparisons

Axial coding
core codes

Selective coding
patterns, themes
<table>
<thead>
<tr>
<th>Common critiques</th>
<th>Suggested responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not rigorous</td>
<td>Rigourous... we just use different criterion!</td>
</tr>
<tr>
<td>N is too small</td>
<td>Interest in how/why &gt; how much/how many</td>
</tr>
<tr>
<td></td>
<td>Interest in outliers &gt; average</td>
</tr>
<tr>
<td></td>
<td>Time consuming</td>
</tr>
<tr>
<td>Researcher bias</td>
<td>Researcher is involved but always reflexive</td>
</tr>
<tr>
<td></td>
<td>Open ended questioning allows for new and unanticipated findings</td>
</tr>
<tr>
<td>Subjective</td>
<td>So are behaviours, norms, decision-making!</td>
</tr>
<tr>
<td></td>
<td>Managed by theoretical lens, researcher reflexivity</td>
</tr>
<tr>
<td>Conventional quantitative inquiry</td>
<td>Naturalistic qualitative inquiry</td>
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<tr>
<td>---------------------------------</td>
<td>---------------------------------</td>
</tr>
<tr>
<td>Internal validity</td>
<td>Credibility</td>
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<tr>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>External validity</td>
<td>Transferability</td>
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<tr>
<td></td>
<td></td>
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<tr>
<td>Reliability</td>
<td>Dependability</td>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Objectivity</td>
<td>Confirmability</td>
</tr>
</tbody>
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Ethical considerations

- Adherence to core principles of respect, beneficence, justice – researcher reflexivity

- Emphasis on confidentiality
  - Personal stories = data
  - Boundaries between researcher and participant
  - Ongoing process of consent (form ≠ consent!)

- Collaborative, participatory approach
  - Gatekeepers, field observations
Mixed methods research

- To address research questions that call for real-life contextual understandings, multi-level perspectives and cultural influences
- Employs intentional integration of
  - Quantitative methods to assess magnitude / frequency of constructs
  - Qualitative methods to assess the meaning and understanding of those constructs
Rationale

- To contextualize the research problem (fuller picture, multiple perspectives)
- To triangulate findings (validate subjective findings with objective data)
- To inform data interpretation (explanatory – why does X cause Y)
- To inform data collection (exploratory – identify survey categories)
Key considerations

- Logic – what is your analytic logic / fundamental basis
- Timing – will they be used in sequence or concurrently
- Priority – are they equal or is one embedded in the other
- Point of interface – at what point will you ‘mix’
- Phases – will you conduct one study or multiple studies
Sample designs

- Convergent, parallel or concurrent
- Sequential explanatory or sequential exploratory – use one data set to inform the other
- Embedded or nested – data collected / analyzed in tandem
- Multiphase – involving multiple smaller studies

* List not exhaustive or mutually exclusive!
Example – PROX Study

- Prospective Study on XDR-TB, South Africa (PI: O’Donnell M)
- Sequential, explanatory, multi-phase mixed method study
- To characterize adherence to XDR-TB and HIV treatment in coinfected patients
- Quantitative aim
  - To measure adherence to second-line TB medications and ART
  - To identify the association between patients’ knowledge, attitudes and beliefs on adherence
Quantitative findings – “what”

- Adherence to ART > XDRTB treatment
- No correlation to baseline knowledge, attitudes, beliefs (KAB)
- Qualitative aim: To understand adherence barriers and facilitators from the patient perspective

Qualitative findings – “why”

<table>
<thead>
<tr>
<th>DR-TB</th>
<th>PILL BURDEN</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Many</td>
<td>ADVERSE EFFECTS</td>
<td>Few</td>
</tr>
<tr>
<td>Public</td>
<td>NOTIFICATION</td>
<td>Private</td>
</tr>
<tr>
<td>Supervised</td>
<td>DRUG INTAKE</td>
<td>Self-administered</td>
</tr>
<tr>
<td>Low</td>
<td>PATIENT EDUCATION</td>
<td>High</td>
</tr>
</tbody>
</table>

Example – ENRICH Study

- Enhance Initiation and Retention in IPT Care for HIV Study, Ethiopia (PI: Howard AA)
- A nested, parallel mixed methods study
- To evaluate the effectiveness of a combination intervention package (CIP) for IPT use in HIV patients
- Quantitative methods to measure the effectiveness and cost-effectiveness of the CIP vs. standard of care
- Qualitative methods to examine acceptability of the CIP components – interactive voice response (IVR)
References: design & analysis

Robert Woods Johnson Foundation website
http://www.qualres.org/


References: data collection


References: sample papers


Stein J, Lewin S, Fairall L. Hope is the pillar of the universe: health-care providers' experiences of delivering anti-retroviral therapy in primary health-care clinics in the Free State province of South Africa. Social Science & Medicine 2007;64(4):954-64
References: mixed methods

US National Institutes of Health website:
http://obssr.od.nih.gov/mixed_methods_research/

Cohen D, Crabtree B. Qualitative research guidelines project; 2006. Available at: http://www.qualres.org/

POSTGRADUATE WORKSHOP

QUALITATIVE METHODS IN GLOBAL TUBERCULOSIS RESEARCH

SIGN UP AT http://capetown.worldlunghealth.org/

THANK YOU! QUESTIONS?