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Qualitative Research in TB Dx
An introduction &
argument for its relevance

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Outline

1. Examples of qualitative research
2. Why is qual research important for TB Dx?
3. Paradigms, methods of qualitative research
4. What qual methods are already being used in areas related to Dx research?

Qualitative research =?

Not one clear definition. Usually definitions have these elements:

- "Qualitative researchers study things and social relations in their natural settings attempting
- to make sense of, or interpret phenomena in terms of the meanings people bring to them [and how they act upon them].
- The word 'qualitative' suggests an emphasis on *processes* and *meanings*
- that are not rigorously examined or measured in terms of quantity, amount, intensity, or frequency ("numbers").
- Most analysis is done with words." (Leys, 2003b, p.323)

1. Examples of qualitative research

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Example #1

Social Science & Medicine 74 (2012) 1528–1535

Contents lists available at SciVerse ScienceDirect

Social Science & Medicine

journal homepage: www.elsevier.com/locate/socscimed

'As a clinician, you are not managing lab results, you are managing the patient': How the enactment of malaria at health facilities in Cameroon compares with new WHO guidelines for the use of malaria tests

Clare I.R. Chandler[a,*], Lindsay Mangham[a], Abanda Ngu Njei[b], Olivia Achonduh[b], Wilfred F. Mbacham[b], Virginia Wiseman[a]

[a] Department of Global Health and Development, London School of Hygiene & Tropical Medicine, 15-17 Tavistock Place, London WC1H 9SH, UK
[b] The Laboratory for Public Health Research Biotechnologies, University of Yaoundé, Cameroon

- In many settings in Cameroon RD
  underused, overuse of antimalari
  patients are still being prescribed

17 **Focus group discussions** with 146 health workers involved in clinical care from 49 health facilities
→ open-ended questions on the role of antimalarial drugs and tests in participants' practice, reliability and logistics

Chandler et al. 2012: examined **ho**
and treatment is dealt with in pr

Results:

- show a divide between parasitebased guidelines initiated in Geneva & how local clinicians deal with patients, how healthcare is organised, doctors roles & responsibilities
- Overprescription of antimalarials is part of how Malaria diagnosis and treatment is done in practice
- Richness of medical decision-making crucial to understand how guidelines are dealt with

Results from focus group discussions (Chandler et al., 2012)

*'When we do the malaria test and it comes out negative, it does not prevent the patient from having his malaria … We continue with the antimalarial treatment.' (*P11, FGD305 Yaoundé, mission facility midwives/nurses)

- Malaria is well-known, common & serious in Cameroon
  → presumptive treatment, even when lab results are negative
- Malaria defined by clinical symptoms & experience, not just lab test

→ role of individual experience of clinician neglected in guidelines

Quotes from focus group discussions cont.
(Chandler et al., 2012)

'According to me, most of the times I will send the patient for a malaria test just for the psychology of the patient, just to please the patient…' (P4, FGD107 Bamenda, mission facility medical doctors)

'*some patients, when you tell them it is negative, he puts in his mind that he has lost his money whereas when it is positive, he is happy.' (P3 FGD302 Yaoundé, public facility nurses)*

- Antimalarial prescriptions, drugs & tests have multiple functions, also psychological & social
- Health worker respond to entire situation of patient (ability to pay, social context, perceived needs)
- juggling patients' desires, clinical guidelines and protecting medical reputations

→ Multiple roles of health workers, tests & treatment neglected in guidelines

Implications for scale-up of Malaria RDTs (Chandler et al. 2012)

- Rapid scale-up of RDTs more complicated than expected
  → healthcare is a complex social process
- Don't overrule social functions, but support health workers in them
  - Raise consciousness of the reasons for and consequences of certain practices & stimulate problem-solving among healthworkers w/o compromising clinical outcomes (placebos)
  - Encourage experimentation with new tools in practice & assessing patient´s responses
  - Support communication skills of health workers

→ Qual research helps understand complex setting & can support scale-up of existing diagnostic test

Example #2

Original Article

New diagnostics for multi-drug resistant tuberculosis in India: Innovating control and controlling innovation

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 BioSocieties Vol. 7, 1, 50–71
www.palgrave-journals.com/biosoc/

Researching innovation dynamics
(Engel, 2012)

- Research around a demonstration study of a new diagnostic test & efforts of smaller players innovating MDR-TB Dx

- TB programme: need for standardization of diagnostic process →‚product in a box'

Semi-structured **interviews**, **observations** & **document** research with practitioners, policymakers, civil society, microbiologists, donors, pharmaceuticals, health staff, patients
→ Topics investigate: diagnostic and innovation processes, challenges,

New Tests: designing a ‚product in a box‘ (Engel, 2012)

- FIND demonstration study: `product in a box´ from Europe does not fit local context: requires changes in the laboratories: in their hierarchies, environment and culture (existing manpower is not prepared or qualified)

- Smaller players in medical colleges: no means, capacities & political relations to develop a commercially viable ‘product in a box’

→ Way standardization is done might not fit local context

→ need for standardization excludes local scientific expertise

New Tests: designing a ‚product in a box‘

- PATH India: Designing a ‘product in a box’ which is tested in community last

  “When the kit is ready, we need to talk to the patients also. Maybe there will be some cultural issues on that. We don’t know. We don’t know how the community responds to this test.” (Interview, int. NGO programme manager -3, Hyderabad, 27.11.2008)

- field conditions act as test for acceptance, not as component in development stage ´*technology diffusion perspective*´

→ *The way standardization is done excludes non-scientific expertise*

Researching innovation dynamics
(Engel, 2012)

- Research around a demonstration study of a new diagnostic test & efforts of smaller players innovating MDR-TB Dx

- TB programme: need for standardization of diagnostic process →‚product in a box'

Results:

- Central role of standardization for innovation process
- No open negotiation of those needs, not all potentialy relevant actors participate

Who should be included in development of diagnostics? (Engel, 2012)

- Constructivist view on science: relevant social groups have different forms of expertise → none is a priori superior over the other (Bijker, 2009)

- Considerable *scientific uncertainty*: Room to deliberate freely among scientists without involvement of interest groups (Bijker, Bal & Hendriks, 2009)
  → not given → local scientific expertise excluded
- Desiging a product in a box involves also *political, operational & cultural uncertainty* → more than scientific expertise is needed
  → often local non-scientific expertise is excluded

→→*participation should be assessed depending on the degree & form of inherent uncertainty in the innovation situation*

Implications of results

Qual research is able to unravel complexity of innovating diagnostics.

This has implications…

→ for design of demonstration studies

→ for implementation strategies of tests

→ but also for design of diagnostic test itself (which is more than the technique but a “product in a box”)

Example #3

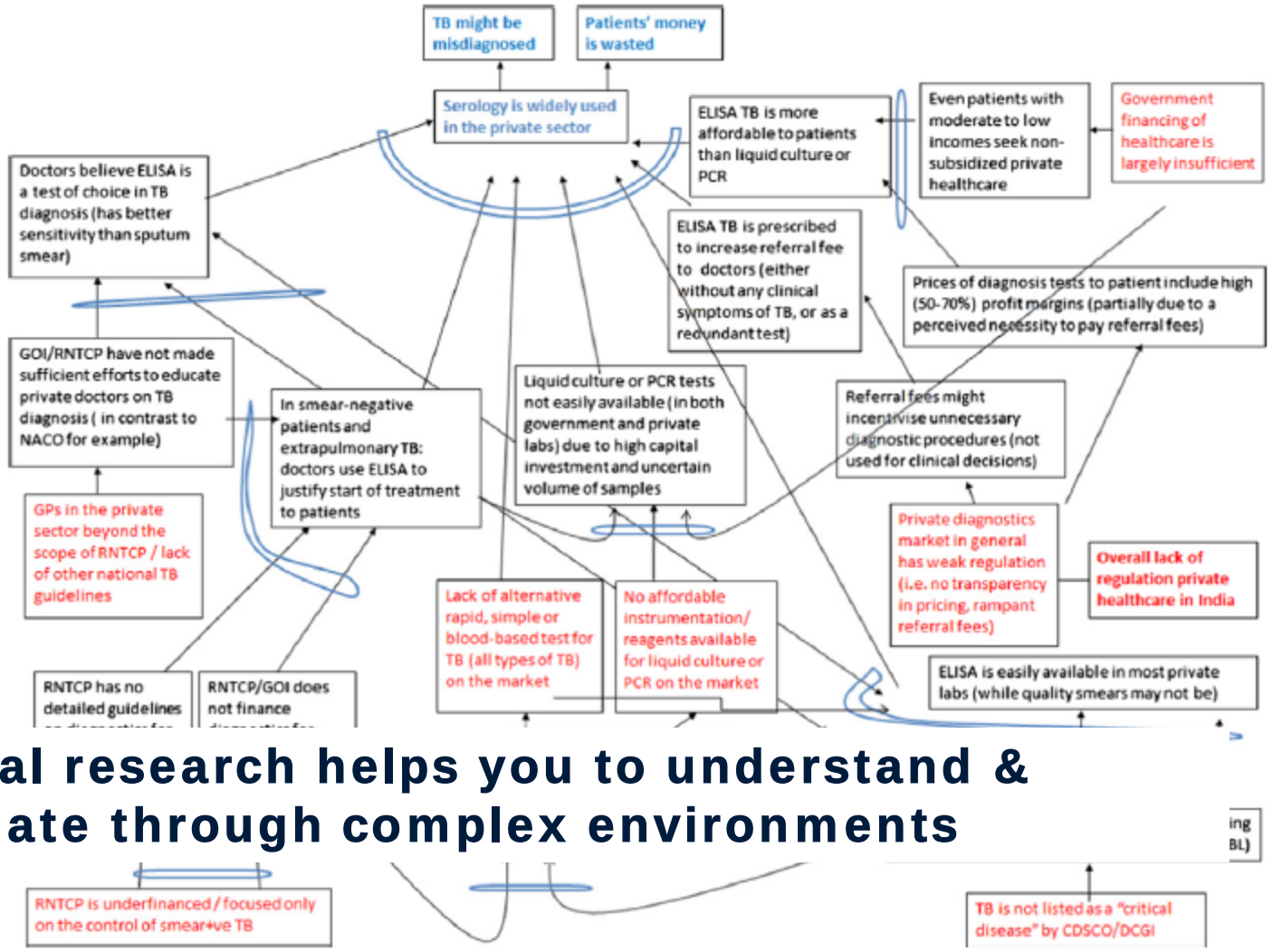
Journal of Epidemiology and Global Health (2012) 2, 39–50

Why are inaccurate tube
widely used in the Indian
sector? A root-cause ana

Szymon Jarosławski [a], Madhukar Pai [b,*]

[a] *Institute of Bioinformatics and Applied Biotechnology, Bangalore, India*
[b] *McGill University, Montreal, Canada*

Face-to-face/ telephone interviews with 41 stakeholders: private doctors, hospital laboratory staff, private stand-alone laboratories, test distributors, test manufacturers, hospital doctors, NGOs
→ Questions focused on: reasons for use of ELISA, interests of stakeholders, cost, experiences



→ Qual research helps you to understand & navigate through complex environments

(Jaroslawski & Pai, 2011)

2. Why is qual research important for TB Dx

Qualitative research is useful to..

- ..help in **explorative** stage of a research project: clarify/set research questions, conceptualize, generate hypotheses
- ..support **interpretation**, qualification, illumination of quantiative results (answering how and why questions)
- ..understand **social context** of biomedical interventions → improve **implementation**
- .. Support **clinical trials** (how trialists **experience** & why they stop to participate, improve trials in real time)
- ..answer **why** questions in **evaluation of interventions** (combined with RCT and quantitative methods)
- ..support **design process** of medical device
- ..answer questions about **technology-in-use**

Diagnosis is central to medicine

- Diagnosis validates what counts as disease; offers explanations and coherence to patients' symptoms; legitimates illness, enabling patients to access the sick role; provides means to access resources and facilitates their allocation; and forms the foundation of medical authority. (Jutel & Nettleton, 2011)

- Change in nature of diagnostic process
  - Diagnosing is now more complex: New categorizations of potential diseases and risk factors
  - patients bring expertise, knowledge and expectations
  - Progress in biotechnology, RDTs, self-testing

→ qual research good at examining processes

Future of diagnostic research (editorial of Journal of Epidemiology & Community Health, 2002)

- Distinction in practice:

performance of diagnostic tests
↔
comprehensive patient care

- Is mirrored in research: the part that a diagnostic test is supposed to play in patient-practitioner encounter is hardly researched (diagnostic decision-making, diagnostic processes)

→ qualitative research & active participation of clinicians are essential

Qual research supports market & product requirement documentation (Weigl et al., 2012)

- If you do not innovate incrementally (build on existing platform) but innovate a new platform or setting of use (POC)
- You need to:
  - develop and clinically validate a new device
  - Identify simultaneously potential end-users
  - Formulate reimbursement approaches
  - educate medical and diagnostic establishment
  - develop use algorithms

→ academic, nonprofit, or commercial start-up diagnostics R&D settings not equipped to do that

Why is qual research important for you?

- As a lab scientist you might not think in these terms

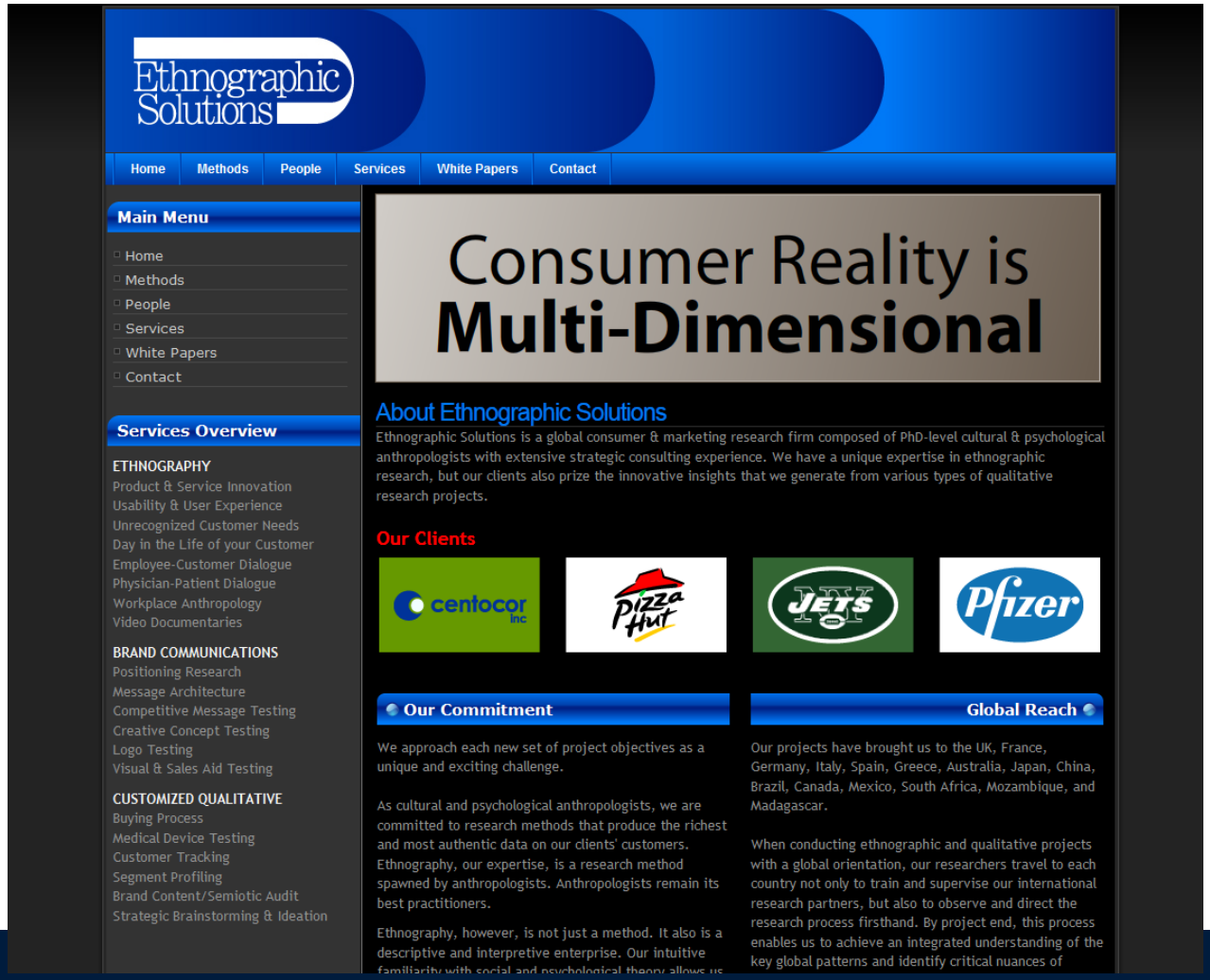
But qualitative research will..

- ..help you to develop better products: create better fit with local contexts, user needs and support scale-up to different contexts,
- ..support introduction of existing products (implementation)
- ..evaluate what products do to the context

→ **reach out to social scientists & qualitative researchers!!**

(f.ex. medical anthropologists & sociologists, design ethnographers, science & technology studies scholars, political scientists)

You could also purchase qualitative research skills in the private market, f.ex…



3. Paradigms, methods of qualitative research

Quantitative and qualitative methods

Quantitative methods

useful for generating numerical findings for statistical manipulations

→ Statistical generalizations

→ Predictions

→ estimations of causal explanations

→ Hypothesis-testing

Qualitative methodology

useful for understanding processes, context & considering experiences or perspectives

→ Analytical generalizations

→ Interpreting or explaining numbers & causal events

→ Theory-building

Quant vs. Qual:

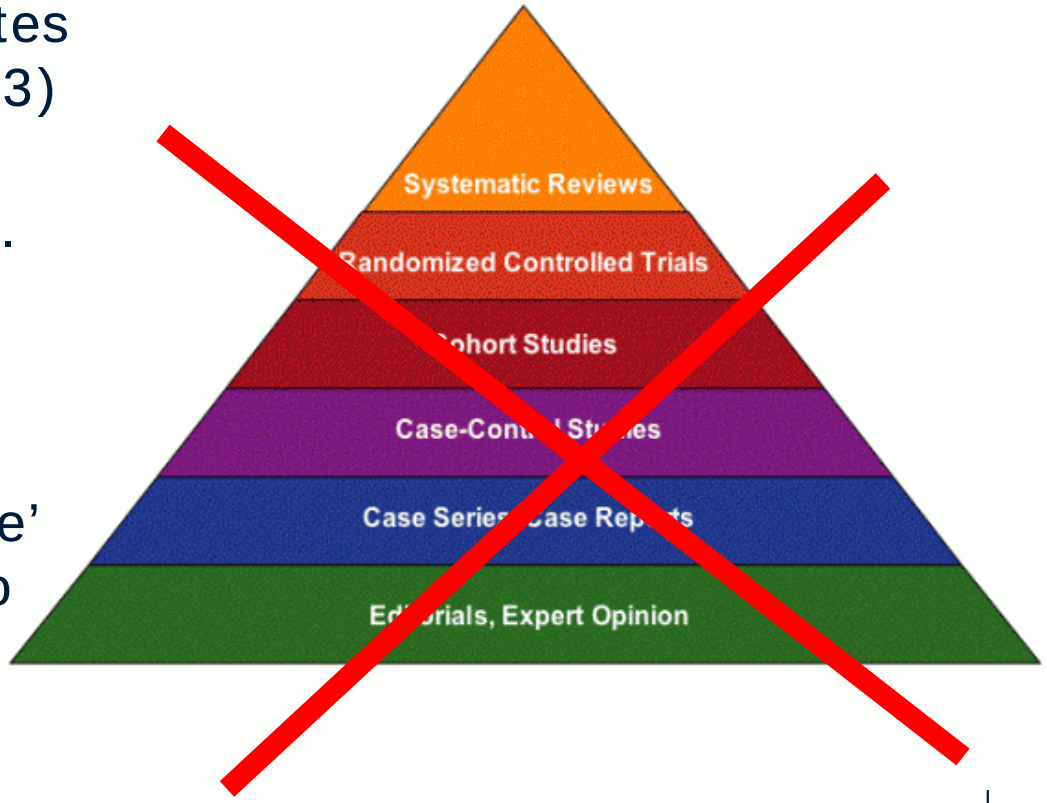
- Qual researchers emphasize „.. evidence is developed in order to answer specific question(s), which may privilege certain stakeholders. The nature of a question (of the decisionmaker as well as the researcher) and how questions are asked, have an impact on developing evidence.“ (Leys, 2003)

Quant vs. Qual:

- Hierarchy of evidence creates false dichotomy (Leys, 2003)
- Results of qual. research equally important as quant.

→ rather: what information is relevant in what situation?

- instead of making 'ultimate' judgments about what is to be considered as 'best' evidence for policymaking, and which kind of data are 'better'.



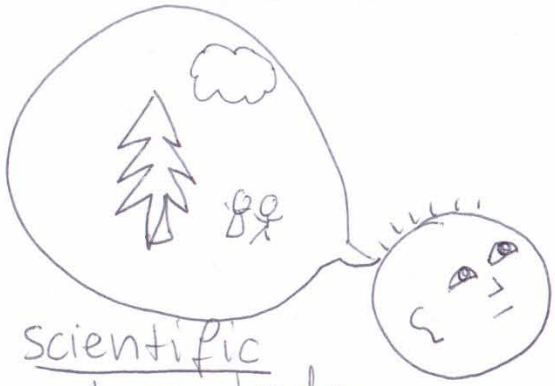
General characteristics qual. research

- Open data collection techniques
- Aimed at unraveling complex processes and mechanisms that constitute contexts

  AND/OR
- Focus on (construction of) meaning/perceived truths (facts), interpretation and experience
- Variety of methods
- Digs deep
- Reflexive

→ Can be used with different philosophical paradigms!

Positivism



Scientific knowledge
= superior:
not colored
= exact picture

independent

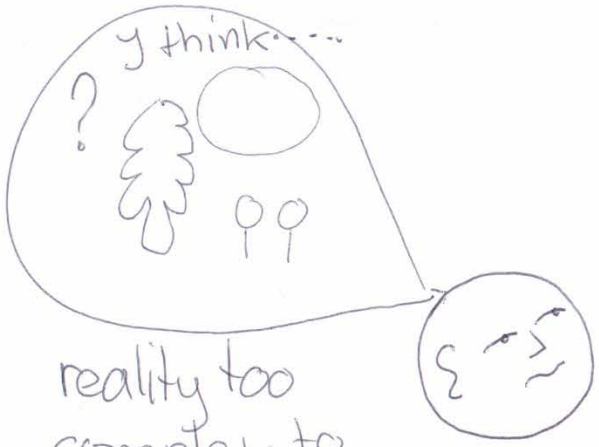
normal individual

lay understanding
= trial + error
= common sense
= colored
= imperfect

reality can be known if not blurred by subjectivity/emotions etc. → strict rules on methods guarantee true knowledge

Drawing @ Anja Krumeich

Post-positivism



reality too complex to know it all

↓

reduced (simplified) to theory, "for now"

- common sense

etc

Room for QLR ← methodology not too strict

striving for perfect knowledge → falsification

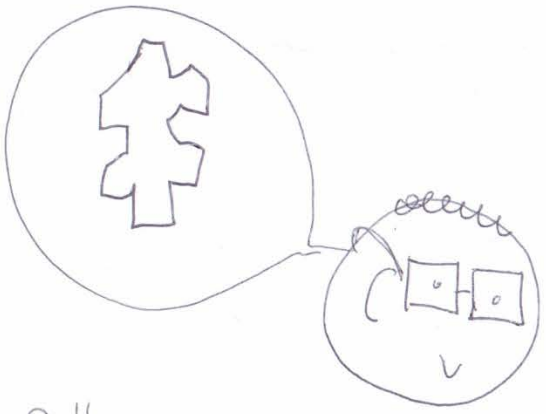
still superior to lay-knowledge

Drawing @ Anja Krumeich

Interpretivism

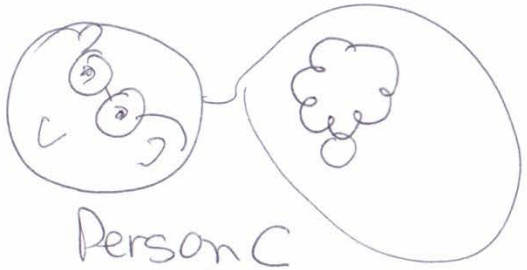
methodology: relativist claim not too strict: QLR!!

(culture B f.i science)



Person A
(culture A)

Person B



Person C
(culture c)

"Frame of reference"

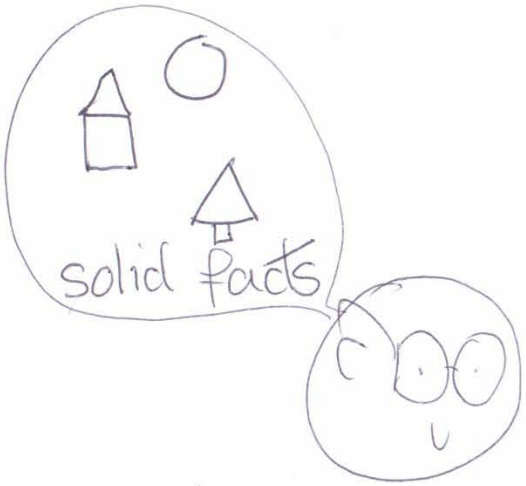
we need 'glasses' to see reality
without them we're blind.
They shape our understanding
our interpretations of reality

→ knowledge is always subjective

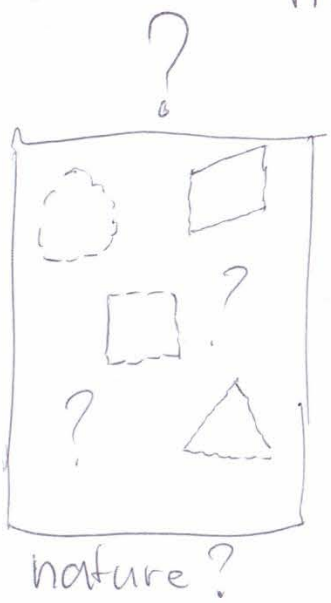
understanding people is understanding their perc.

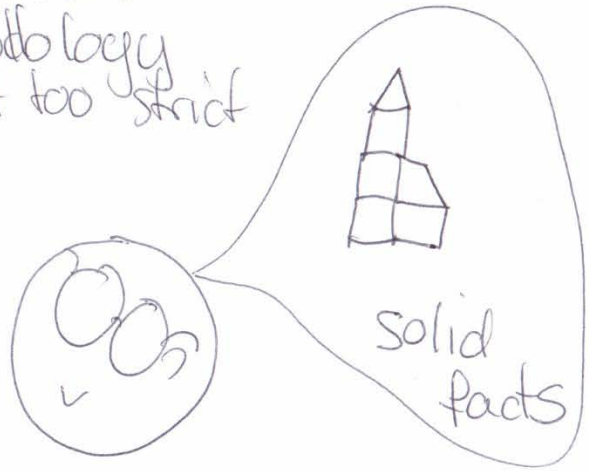
Constructivism

knowledge claim
relativist:
methodology
not too strict



person A
creates solid facts
fact = construction:
mix of reality/norms/values
etc.





person B
scientist: facts
more widely
accepted
but still mix of
reality norms + values

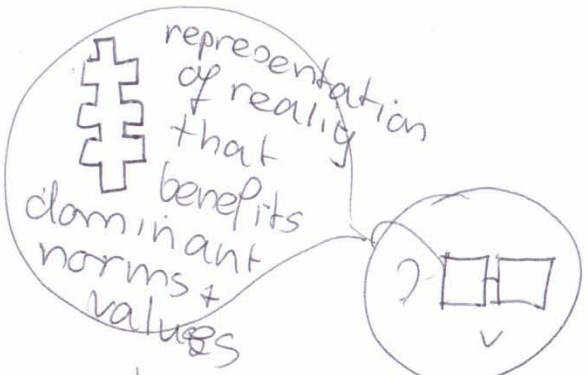
QLR: to deconstruct =
study process of construction
+ implication +

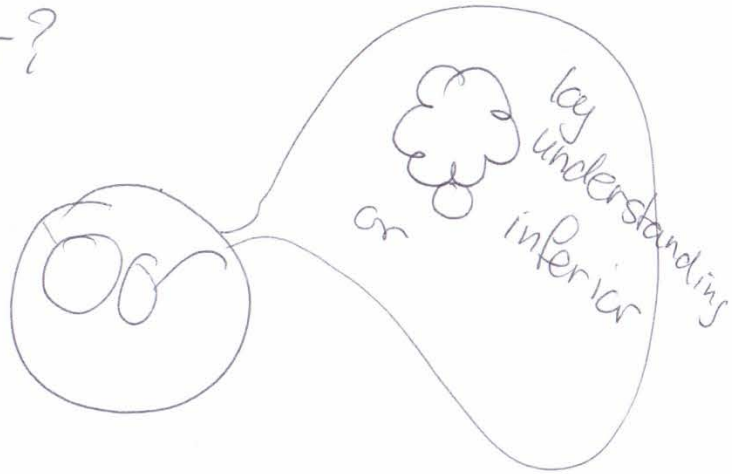
Drawing @ Anja Krumeich

QLR: to ~~research~~ these study processes!

Critical theory

Knowledge is power?





↓

underlies

social difference

↓

science = at the side of the dominant - seen as superior

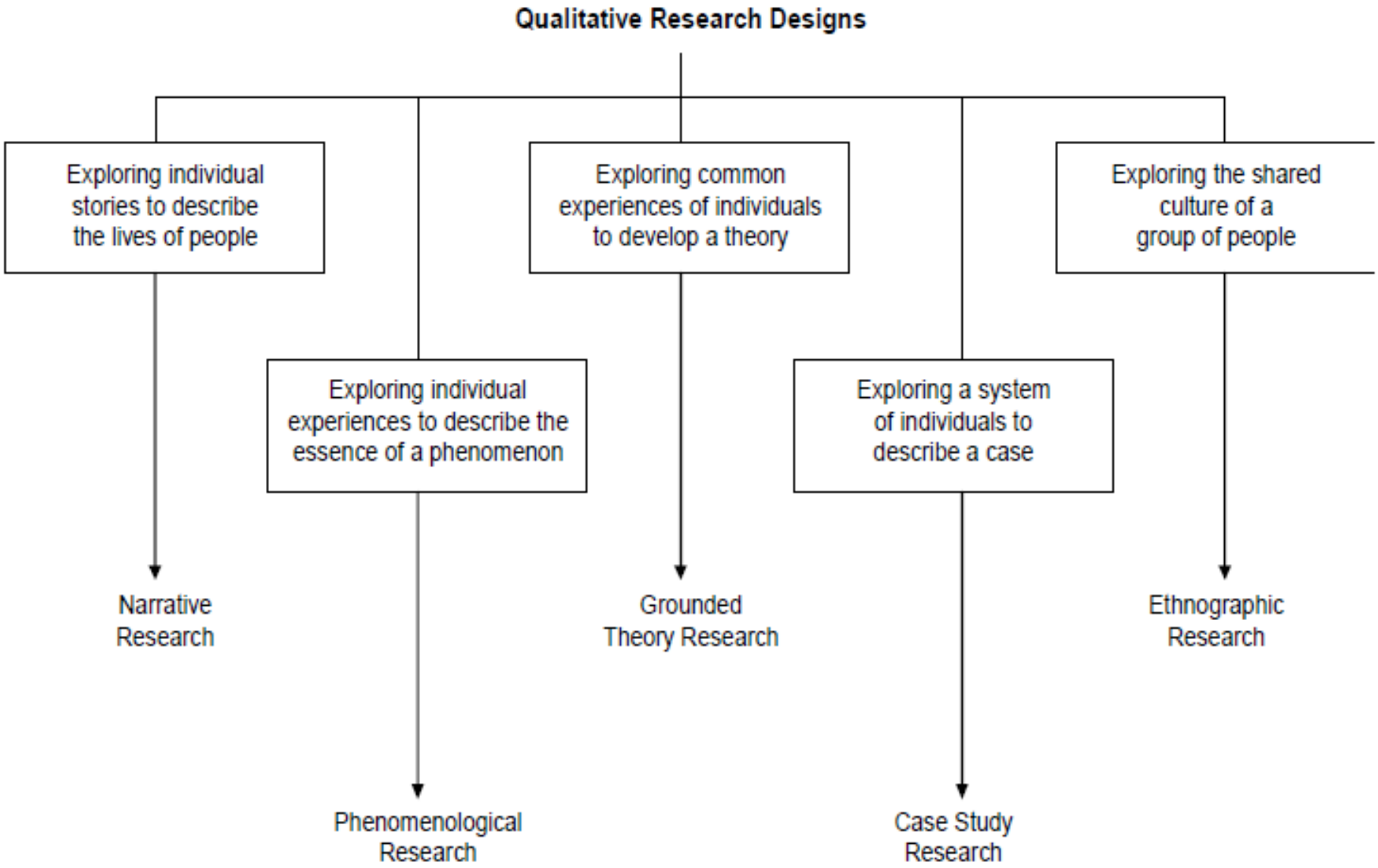
knowledge claim: relativist/ dialogical

determines chances + possibilities of ordinary people

Drawing @ Anja Krumeich

Type of Research Questions	*Strategy*	*Paradigm*	*Method*	*Other Data Sources*
Meaning questions—eliciting the essence of experiences	phenomenology	philosophy (phenomenology)	audiotaped "conversations"; written anecdotes of personal experiences	phenomenological literature; philosophical reflections; poetry; art
Descriptive questions—of values, beliefs, practices of cultural group	ethnography	anthropology (culture)	unstructured interviews; participant observation; field notes	documents; records; photography; maps; genealogies; social network diagrams
"Process" questions—experience over time or change, may have stages and phases	grounded theory	sociology (symbolic interactionism)	interviews (tape-recorded)	participant observation; memoing; diary
Questions regarding verbal interaction and dialogue	ethnomethodology; discourse analysis	semiotics	dialogue (audio/video recording)	observation; field notes

(Denzing & Lincoln, 1994)


Qualitative Research Designs
Exploring individual stories to describe the lives of people
Exploring individual experiences to describe the essence of a phenomenon
Exploring common experiences of individuals to develop a theory
Exploring a system of individuals to describe a case
Exploring the shared culture of a group of people
Narrative Research
Phenomenological Research
Grounded Theory Research
Case Study Research
Ethnographic Research

Data collection techniques

- Interviews (semi-structured, structured),
- Focus group discussions,
- Participant observation,
- Text/discourse analysis,
- Conversation/video analysis

→ Assess data collection: describe context & structure of the situation, record observations of participants, assess quality of the data, evaluate usefulness of questions, acknowledge areas of difficulty

→ → going back & forth between data and questions and theory

Qualitative fieldwork example (9 months)

Over 100 semi-structured interviews practitioners, public health experts, policymakers, members of civil society, microbiologists, WHO, donors, pharmaceuticals, health staff, community workers, patients

Document research government documents, conference proceedings, research articles, news items and the Internet

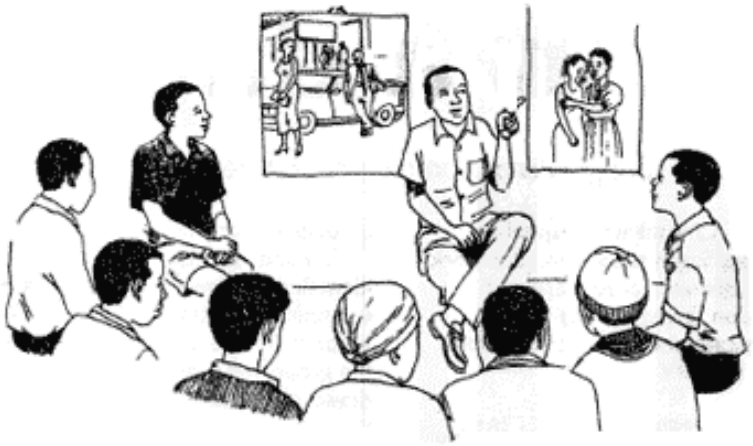
Sites: hospitals, government buildings, research institutes, pilot sites, policy meetings, patients' home, rural & urban health facilities, community projects, conferences

Photos by N. Engel

Data collection questions asked in qual. methods

- Aim: to elicit participants' perspective, experience, meaning, practices, processes and reason for action
- Open-ended
  - Tell me what it was like when you first had symptoms
  - Tell me about getting a diagnosis
- How questions: examples rather than opinions
  - Angotti et al., 2010 how do HIV testing counselors translate global guidelines? dont ask: how do you understand the guidelines, but what are your experiences with counseling/testing → examples, practices, stories, iconic events, keep close to real life
- Follow-up questions: probe (when? where? why?)
- Different questions for different participants, no set order, questions are likely to change throughout the research

Focus group discussion



- Introduction of participants, general purpose of meeting & ground rules of discussion
- Predisposition phase: to establish what particular problems participants experience or define with regard to main topic
  - Introduce topic of discussion
  - Short silence in which participants write down ideas
  - Individuals present ideas
  - Summary of ideas
- Group discussion on the questions you prepared between leader and participants as well as among participants
- Summarize results
- Short survey among participants (do they have comments, anything to add)

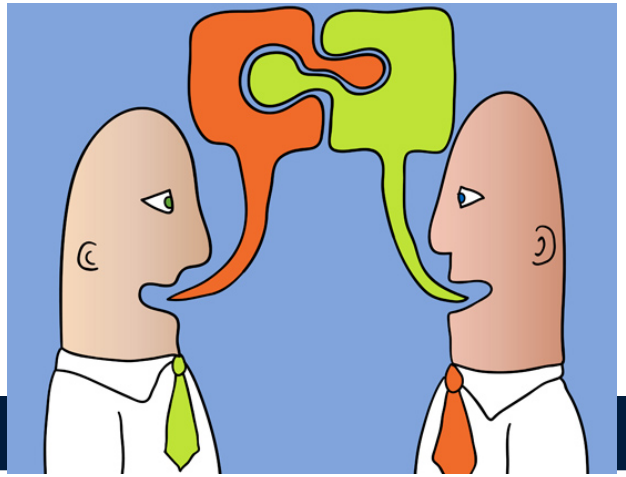
Example focus group study:

- Hsieh et al., 2010: explore the perceptions of the ideal types and characteristics for STI POCTs for use in clinics and other care settings, FGDs with clinicians, opinion leaders, and public health professionals
- Chandler et al., 2012**:** FGDs on how Malaria, its diagnosis and treatment is practiced & contrasts to WHO guidelines on RDTs

- **Participant observation**

- **Text / Discourse analysis**

- **Conversation / video analysis**



Data collection: types of data

Written texts

- Transcripts (interviews, FGDs)
- Summaries (interviews, FGDs)
- Narrative stories (e.g. about events)
- Diaries
- Life histories
- Formal documents (minutes of meetings, reports, articles)
- Local tales
- Social media, websites, online discussion boards

(Audio/) visual materials, e.g. pictures, videos, films, artefacts

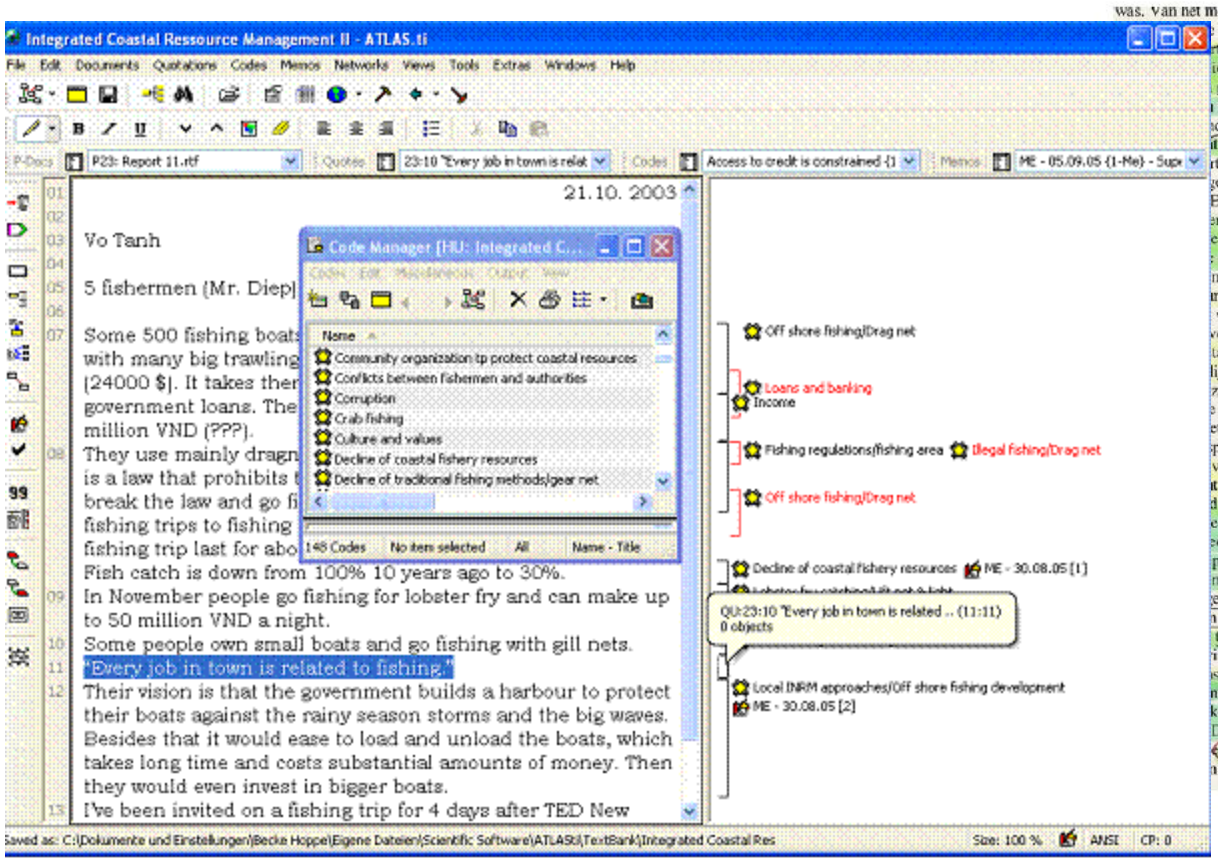
Data analysis

- No ‘ right way’, yet: systematic approach
  - Careful reading of material, make notes, code, reflect (keep framework, questions in mind)
  - Look for patterns, regularities, recurrent themes
  - Label categories, use overarching concepts
  - Look for relations between concepts, comparisons, contrasts
  - Relate back to theoretical framework, adapt theory
- Theory based (deductive) – building theory (inductive)
- Analysis (incl. hypothesis development) and data collection go hand in hand

Data analysis: Software

- Nvivo, Atlas.ti, Ethnograph, Kwalitan
  - Allows to
  - enter texts, audio, video
  - assign codes to sections (referring to concepts)
  - Search & retrieve codes, sections
  - categorize codes
  - Make field notes (memo's)

Coding


Integrated Coastal Ressource Management II - ATLAS.ti
File Edit Documents Quotations Codes Memos Networks Views Tools Extras Windows Help
P23: Report 11.rtf
21.10. 2003
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5 fishermen (Mr. Diep)
Some 500 fishing boats
with many big trawling
(24000 $). It takes ther
government loans. The
million VND (???).
They use mainly dragn
is a law that prohibits t
break the law and go fi
fishing trips to fishing
fishing trip last for abo
Fish catch is down from 100% 10 years ago to 30%.
In November people go fishing for lobster fry and can make up to 50 million VND a night.
Some people own small boats and go fishing with gill nets.
"Every job in town is related to fishing."
Their vision is that the government builds a harbour to protect their boats against the rainy season storms and the big waves. Besides that it would ease to load and unload the boats, which takes long time and costs substantial amounts of money. Then they would even invest in bigger boats.
I've been invited on a fishing trip for 4 days after TED New
Code Manager [HU: Integrated C...
Name
Community organization tp protect coastal resources
Conflicts between fishermen and authorities
Corruption
Crab fishing
Culture and values
Decline of coastal fishery resources
Decline of traditional fishing methods/gear net
148 Codes No item selected All Name - Title
Off shore fishing/Drag net
Loans and banking
Income
Fishing regulations/fishing area
Illegal fishing/Drag net
Off shore fishing/Drag net
Decline of coastal fishery resources
ME - 30.08.05 [1]
QU: 23:10 "Every job in town is related .. (11:11)
0 objects
Local INRM approaches/Off shore fishing development
ME - 30.08.05 [2]
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Quality assurance

Traditional criteria (quant. research)

- Objectivity
- Validity
- Reliability

Specifically for qual. research

- Triangulation
- Reflexivity
- Credibility & plausibility

Good qual. research = good science

TABLE 8.1 Components of Rigor

Terms	*Verification* →	*Validation* →	*Validity*
Process	Strategies internal to inquiry	Within project evaluation	Outcome
Means	Design Bracketing Saturation Methodological cohesion	Inter-rater reliability Member →checks Audit trail Computer-assisted analysis	Trustworthiness
Source	Investigators	Investigators	External judges and standards

(Meadows & Morse, 2001)

Duration

- Fieldwork duration varies: from 1 month -3 years
- Rule of thumb:
  - 1 day preparation
  - 1 day per interview and transcription
  - 1 day analysis

  (excluding write-up)

4. What qual methods are already being used in areas related to (TB) Dx research?

What qual methods are already being used in areas related to TB Dx research?

1. Sociology of diagnosis
2. Qualitative methods in clinical trials, testing interventions
3. Qualitative methods in medical device design (design ethnographies)
4. Qualitative methods in evaluation of health technology (Health Technology Assessment)

SOCIOLOGY OF HEALTH & ILLNESS

Sociology of Health & Illness Vol. 31 No. 2 2009 ISSN 0141–9889, pp. 278–299
doi: 10.1111/j.1467-9566.2008.01152.x

Review Article

Sociology of diagnosis: a preliminary review

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Abstract Diagnoses are the classification tools of medicine, and are pivotal in the ways medicine exerts its role in society. Their sociological study is commonly subsumed under the rubrics of medicalisation, history of medicine and theory of disease. Diagnosis is, however, a powerful social tool, with unique features and impacts which deserve their own specific analysis. The process of diagnosis provides the framework within which medicine operates, punctuates the values which medicine espouses, and underlines the authoritative role of both medicine and the doctor. Diagnosis takes place at a salient juncture between illness and disease, patient and doctor, complaint and explanation. Despite calls for its establishment, almost two decades ago (Brown 1990), there is not yet a clear sociology of diagnosis. This paper argues that there should be, and, as a first step, draws together a number of threads of medical sociology that potentially contribute to this proposed sociology of diagnosis, including the place of diagnosis in the institution of medicine, the social framing of disease definitions, the means by which diagnosis confers authority to medicine, and how that authority is challenged. Through this preliminary review, I encourage sociology to consider the specific role of diagnosis in view of establishing a specific sub-disciplinary field.

Keywords: medicalisation, diagnosis, history of medicine, classification

1. Sociology of Diagnosis (Jutel, 2009)

- Diagnosis as categorisation, a social process & as a label with consequences (Jutel & Nettleton, 2011) (= a category & a process)

- Sociological scholars have researched how diseases are identified and classified (categorisation),
- they have researched how diagnosis is reshaped by different factors, the experience of diagnosis and illness and
- the consequences of diagnosis on people´s life, social movements around contested diagnosis,,lay epidemiology, sociology of science and technology, and medicalisation

Some examples from the field of TB Dx

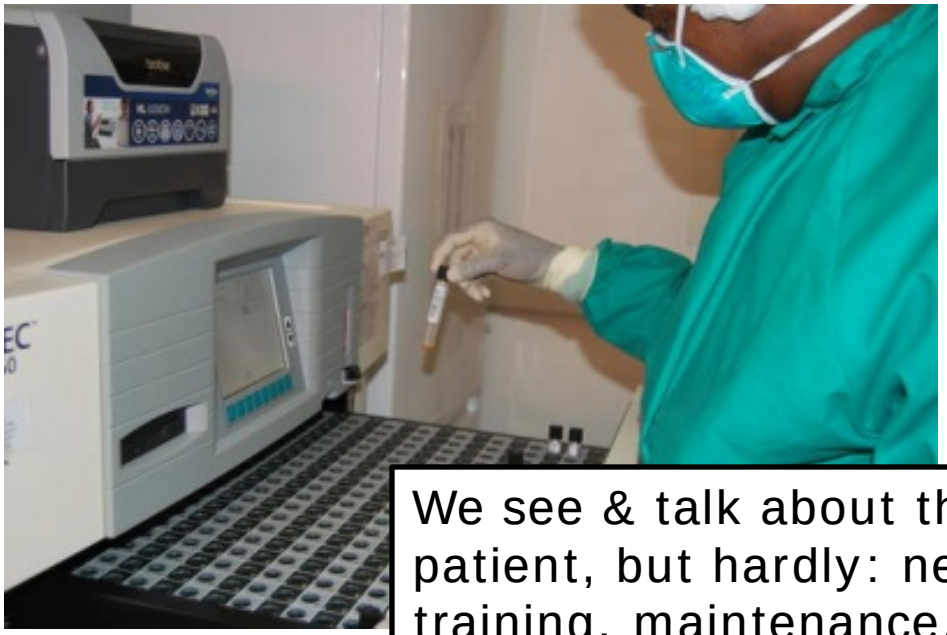
- Diagnosis as categoriza
  - Nichter, M. 1994. Illne
    weak lungs/TB comple
  - Bennstam, A.L., et al 2
    Democratic Republic o
- Social process of diagnc
  - Watkins, R. E. & Plant,
    Tuberculosis in Bali
  - Rintiswati, et al. 2009.
    Jogikarta
  - Sagbakken, M., et al. 2008. Perception and Management of Tuberculosis Symptoms in Addis Ababa, Ethiopia
  - Sagbakken, M., et al. 2010. Experiences of being diagnosed with TB among immigrants in Norway - diagnostic delay

Sagbakken et al, 2008: how symptoms of TB are perceived and managed → explain diagnostic delay,
Interviews & focus groups at different treatment stages to examine (a) symptom identification and interpretation; (b) interaction with health personnel; (c) social support factors; and (d) financial and structural barriers
→ Health personnel confirms health beliefs (sin,punishment) to interact with patients
→→ reinforce stigma & blaming

Some examples from the field of TB cont.

- Consequences of diagnosis
  - Ngamvithayapong-Yanai, J., et al. 2005. “If We Have to Die, We Just Die”: Challenges and Opportunities for TB and HIV/AIDS Prevention and Care in Northern Thailand

Sociology of diagnostic technology (Science and Technology Studies´ view)



We see & talk about the device, healthworker & patient, but hardly: necessary infrastructure, training, maintenance, regulation, monitoring, quality assessment, etc.

STS accounts make all those things and the work around them visible (and with it the uncertainties & responsibilities involved (de Vries, 2008))

Sociology of diagnostic technology (Science and Technology Studies´ view)

- shows that diagnostic instruments do not exist independently of practitioners but they are a central part of and transformed through their application (Jutel & Nettleton, 2011)

→ society & technology influence each other

- Study technology-in-use & innovation processes
  - Pasveer, B. 1989. Knowledge of shadows: the introduction of X-ray images in medicine
  - Mueller-Rockstroh, B. 2007. Ultrasound Travels: The Politics of a Medical Technology in Ghana and Tanzania
  - Engel, N. 2012. New diagnostics for multi-drug resistant Tuberculosis in India

Some important concepts

- Local explanatory models, different perspectives on disease & diagnosis
- „Culturalism“ (Lock & Nguyen) in health services turns attention away from the socio-economic & political aspects
- „Structural violence“ (Farmer): relationship between poverty, marginalisation & disease
- Examining disease (control) in practice (Nichter, Mol)
- Technology & society co-evolve, mutual shaping (Jasanoff, Bijker)

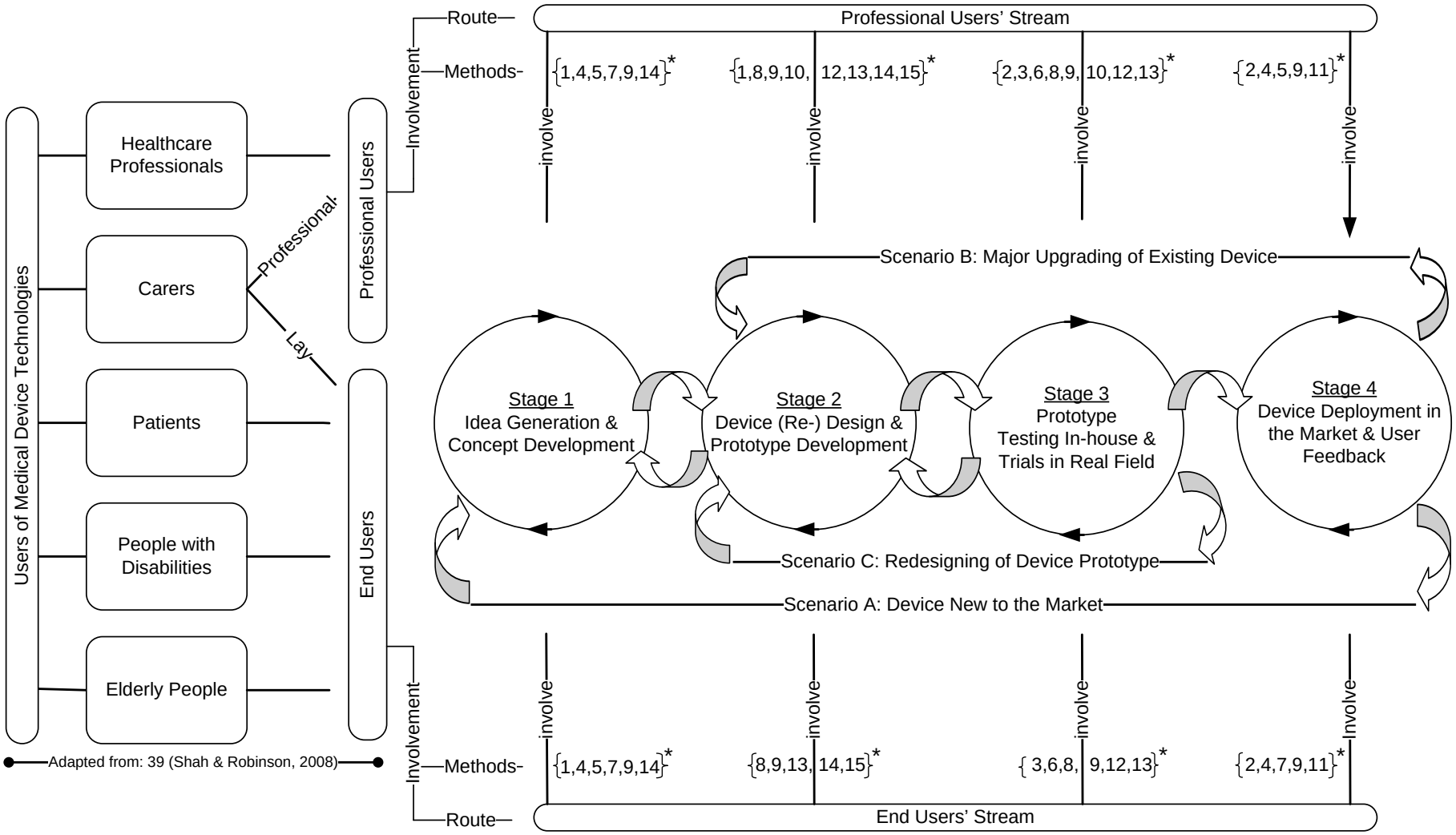
3. Qualitative methods in medical device design (Shah et al 2009)

- End-users discard devices that do not fulfill their personal expectations
- Competing perspectives of developers, users, manufacturers, regulators

User involvement necessary:

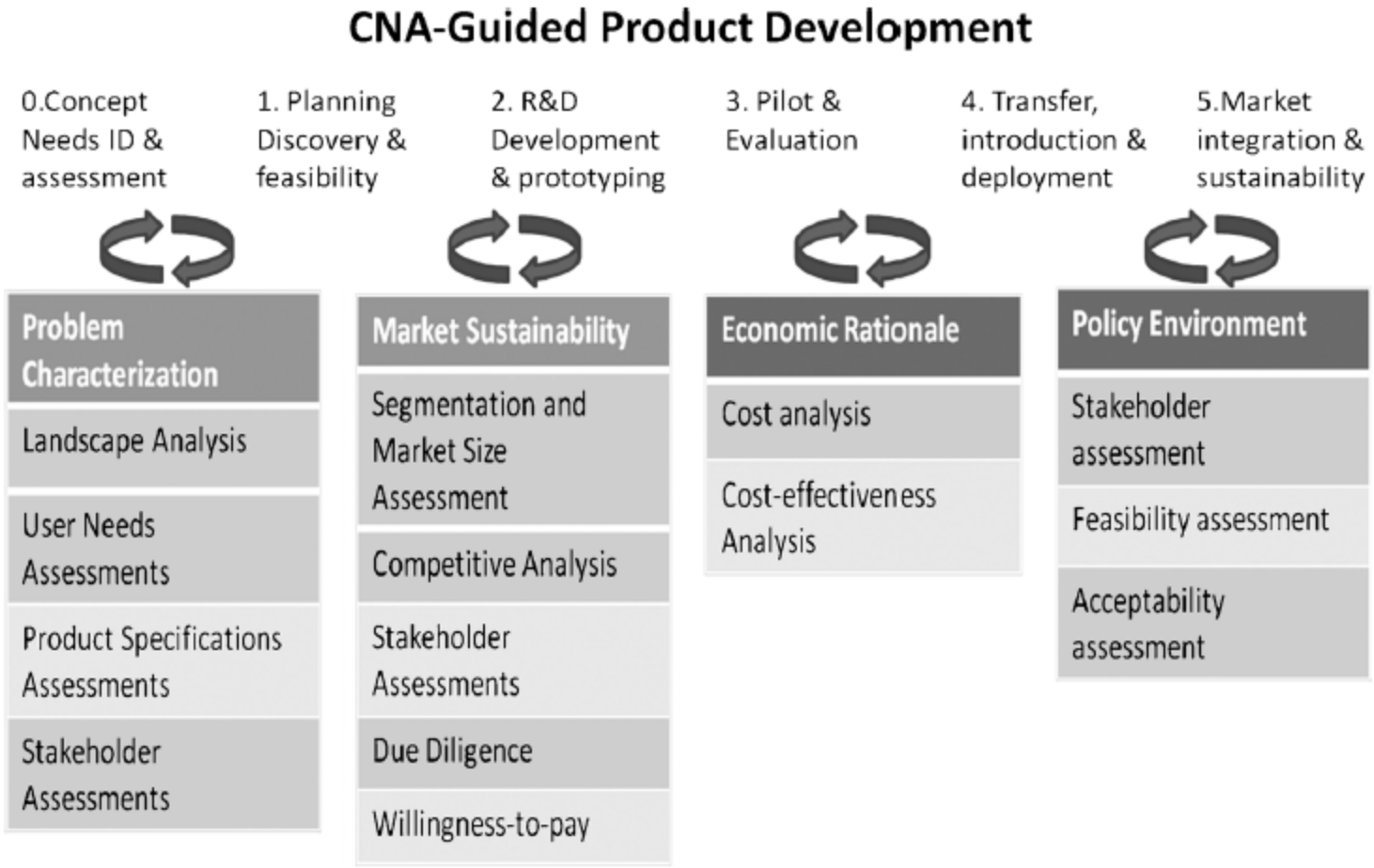
- Concept stage: interviews, focus groups, brainstorming sessions & users-producers seminars
- Design stage: interviews, usability tests, & users' feedback
- Trials stage: usability tests, interviews, & discussion at testing
- Deployment stage: ethnography, interviews & surveys

User involvement in medical device design (Shah et al., 2009)



*{User Involvement Methods ⇨ 1. Brainstorming sessions 2. Cognitive walkthrough 3. Discussion with users 4. Ethnography 5. Expert users meetings 6. First human use 7. Focus groups 8. In vitro tests 9. Interviews 10. Observations 11. Surveys 12. Think aloud method 13. Usability tests 14. Users - producers seminars 15. User feedback}

Clinical Needs Assessment for POC R&D
(Weigl et al., 2012)



Design ethnography

- Observation of device in use
- identify challenges, discover latent needs, document usability, workflow, collect design criteria inputs, time metrics, personnel interaction, and emotional state (Hägen, 2012; Ball & Omerod, 2000)
- Challenge: to translate observational analysis into actionable design criteria (Kjeldskov & Stage, 2012)

Source: www.farmpd.com

4. Qualitative methods in Health Technology Assessment (Reuzel & van der Wilt, 2000)

- 'Is this diagnostic technology better than the technology currently used?'
  - usually with accuracy studies
  - some argue experience and clinical judgment should also be evaluated (decision analysis) and impact on patient outcome (Mrus, 2004)
- Main users of HTA: policymakers & practitioners
- → strong focus on cost-effectiveness & effects (does the technology live up to my expectations?)
- → less attention to legal, ethical, psychological, societal aspects or programmes, organizational & support systems
- →→qual methods can help (f.ex. goal-free evaluation, responsive evaluation, illuminative evaluation, pluralistic evaluation, fourth generation evaluation)

Why is qual research important for you?

- As a lab scientist you might not think in these terms

But qualitative research will..

- ..help you to develop better products: create better fit with local contexts, user needs and support scale-up to different contexts,
- ..support introduction of existing products (implementation)
- ..evaluate what products do to the context

→ **reach out to social scientists & qualitative researchers!!**

(medical anthropologists & sociologists, design ethnographers, science & technology studies scholars)

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Thank You!

Questions?

Suggestions?

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