



Qualitative Research in TB Dx

&

Barriers to POC testing in India (& South Africa)

Nora Engel

n.engel@maastrichtuniversity.nl

Ass. Prof. Global Health
Department of Health, Ethics & Society/ CAPHRI
Faculty of Health, Medicine & Life Sciences
Maastricht University, Netherlands
www.maastrichtuniversity.nl/hes

Outline

1. Short primer in qualitative research
2. Why is qual research important for TB Dx?
3. Qualitative research in TB Dx
4. Results: Qual research on barriers to POCT in India & South Africa

1. Primer in qualitative 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)

*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; photo-
graphy; 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

ethnomethod-
ology; discourse
analysis

semiotics

dialogue (audio/
video recording)

observation;
field notes

(Denzin & Lincoln, 1994)

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



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 is underused, overuse of antimalarials, patients are still being prescribed

Chandler et al. 2012: examined **how** and **treatment is dealt with in practice**

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

Results:

- Divide between parasitebased guidelines (WHO) & 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

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? don't 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



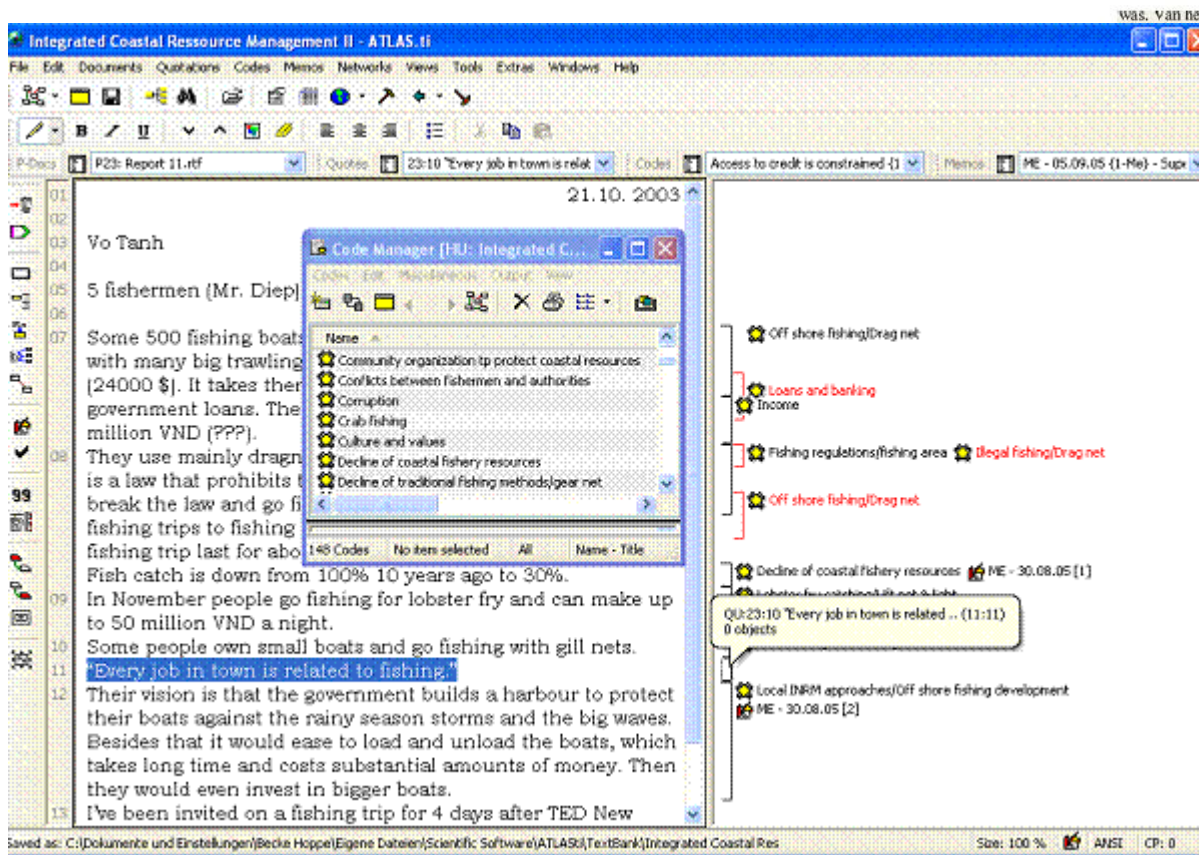
- **Introduction** of participants, general purpose of meeting & ground rules of discussion
- **Predisposition phase:** to establish what particular problems participants experience or define with regard to main topic
 - Introduce topic of discussion
 - Short silence in which participants write down 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)

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

Coding

B. Dierckx de Casterlé et al. / International Journal of Nursing Studies xxx (2011) xxx-xxx



The screenshot shows the ATLAS.ti software interface. The main text area displays a document titled 'P23: Report 11.rtf' with the following text:

21.10.2003

Vo Tanh

5 fishermen (Mr. Diep)

Some 500 fishing boats with many big trawling (24000 \$). It takes them government loans. The million VND (???)

They use mainly drag. is a law that prohibits break the law and go fishing trips to fishing fishing trip last for about 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

The Code Manager window shows a list of codes:

- Community organization to 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

The right pane shows a list of codes with their associated text segments:

- 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
- Local INRM approaches/Off shore fishing development

was, van het moment dat ge het onderwerpena probeert

vraag naar euthanasie weg. Maar meestal is
 Nu, het moet geen arts zijn, het
 ie zijn. Het mag ook een verpleging zijn. (Een
 gevalleke vergeten. Dat was ook heel recent.
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 id en hij zei "Ik ben daar niet in beslagen. Wilt
 if gaan uitleggen?" En dat heb ik dan gedaan
 ris. Dat is in de thuisituatie. Maar eum ik zeg
 genlijk nogal zeer strikt wat er volgens de wet
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 e dingen zijn. Dat er iets is tegen de pijn, dat er
 onrustigheid. En dat men heel bewust kan
 n als men bepaalde medicamenten gebruikt. En
 ind verliest enzo want daar hebben heel veel
 van. En als mensen dan toch uiteindelijk bij
 ven naar euthanasie en die is ook terecht gezien
 tand, dan vind ik dat men dat moet volgen of
 lijk moet zijn. Ik heb heel veel respect voor de
 zegt "Nee, ik doe dat niet". Ik heb geen respect
 e zeggen "Ik ga u helpen" en die het
 et doen. Dat vind ik heel erg. Daar heb ik echt
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 vind ook niet dat ge iedereen op dezelfde
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 pe op een lijn krijgen daarvoor. En daar moet
 n praten. En er moet tijd voor genomen
 zien mijn functie en gezien mijn statuut in het
 ik dat. Ik kan mij dat permitteren om daarbij
 twee uren, drie uren als het moet zijn. Maar dat
 ind ik. Ook voor die mensen omdat één of
 sen daarna verder moet. En als ge daar uw tijd
 n en ge hebt heel veel dingen niet aangeraakt
 ken, dan gaat het voor die mensen achteraf zeer
 Dat is mijn persoonlijke visie daarover. Dus, ge
 e tijd nodig voor dat aan te raken. En bepaalde
 n meer als een keer besproken geweest zijn.

info
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 palliat. filter
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 kritisch
 advise
 duidelijkheid!
 is belangrijk
 praten
 tijd nemen
 conel in Hv be
 als in fam. at
 in pt.
 Daal:
 verwerking

Analysis: Developing themes, narratives & descriptions (Rubin & Rubin, 2005)

- **sorting & summarizing:** write a summary of the data units for each code, list main points (no judgment) → what seems to be missing? why? what is present? why?
- **sorting & ranking:** within one code summary, some aspects of a problem/phenomenon might be considered minor other major → why? who is affected how? which ones are addressed?
- **sorting & comparing:** sort again, now by source and see whether different actors highlight concepts, themes, events in different ways → look for differences & commonalities, why?
- **weighing & combining:** combine different views/definitions of the same concepts, or combine explanations of processes from different actors, weigh contrasting versions of same process (back up with additional sources, look for contradictions, credibility)
- **integrate, check, modify:** check summary themes against other coded data, double check if you side with one group, make sure you are able to document every step if you identified causal relations

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



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

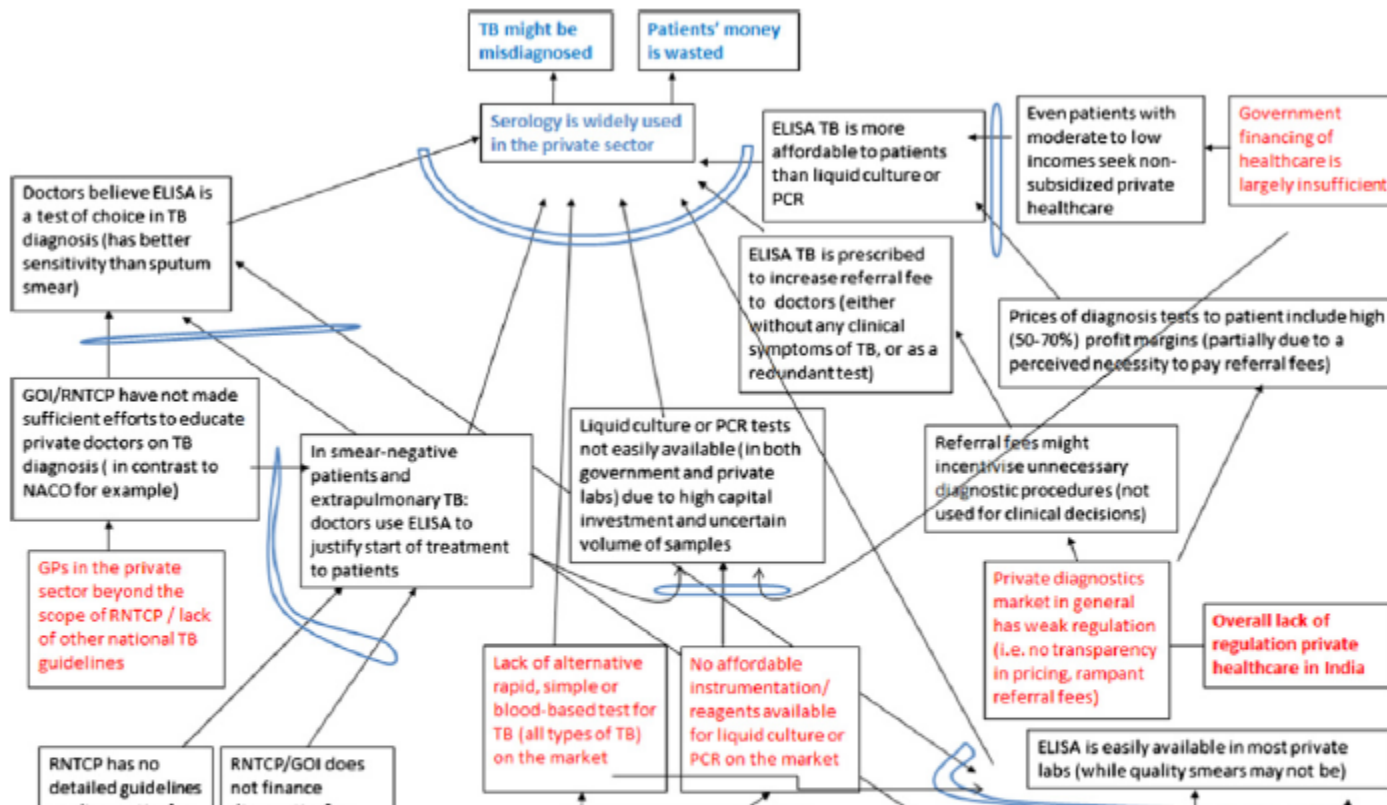
Szymon Jarosławski ^a, Madhukar Pai ^{b,*}

^a *Institute of Bioinformatics and Applied Biotechnology, Bangalore, India*

^b *McGill University, Montreal, Canada*

Example

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

RNTCP is underfinanced / focused only on the control of smear+ve TB

TB is not listed as a "critical disease" by CDSCO/DCGI

(Jaroslowski & Pai, 2011)

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)

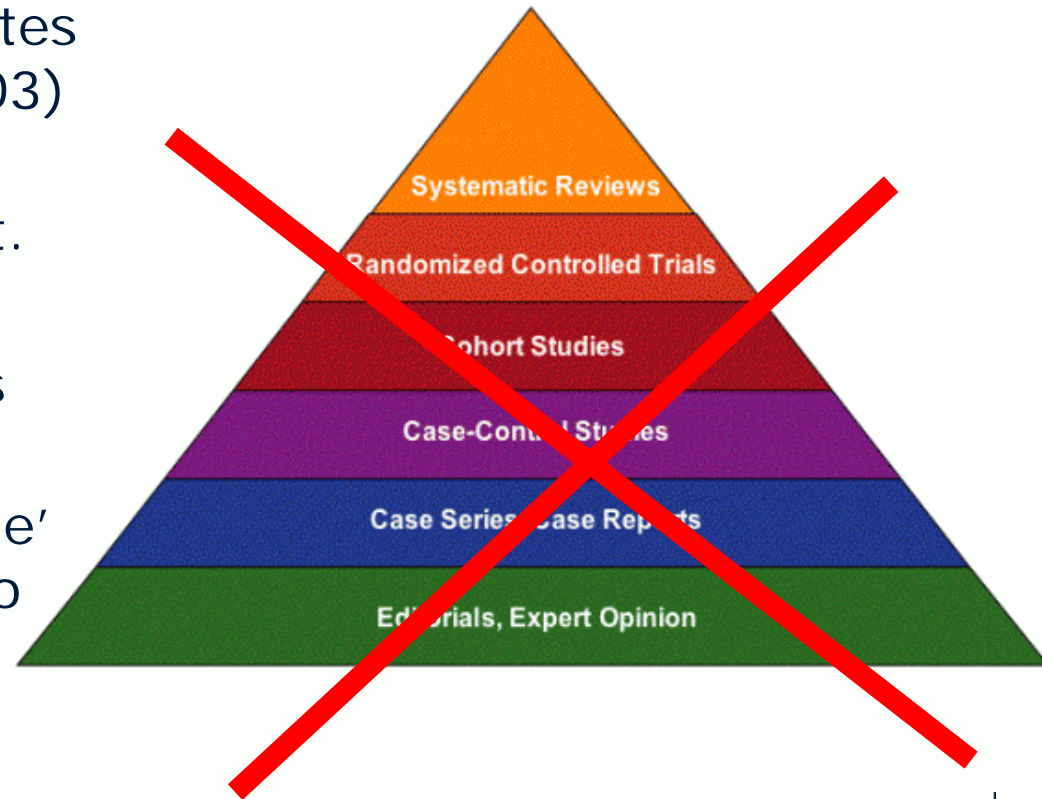


Quant vs. Qual:

- 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'.



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 quantitative 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** & **how** questions in **evaluation of interventions** (combined with RCT and quantitative methods)
- ..support **design process** of medical device
- ..answer questions about **technology-in-use**

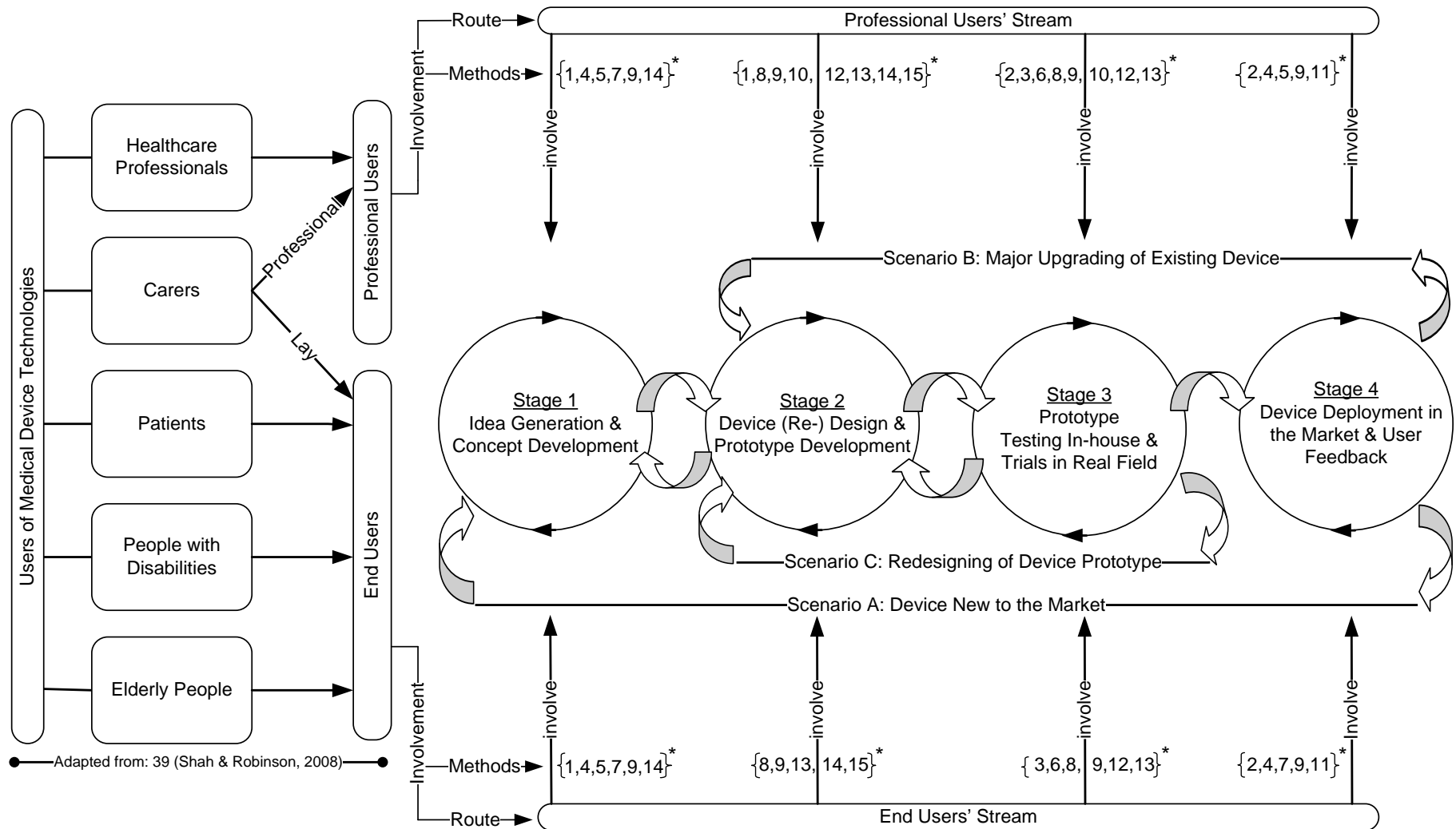
Qualitative methods in medical device design (Shah et al 2009)

- 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

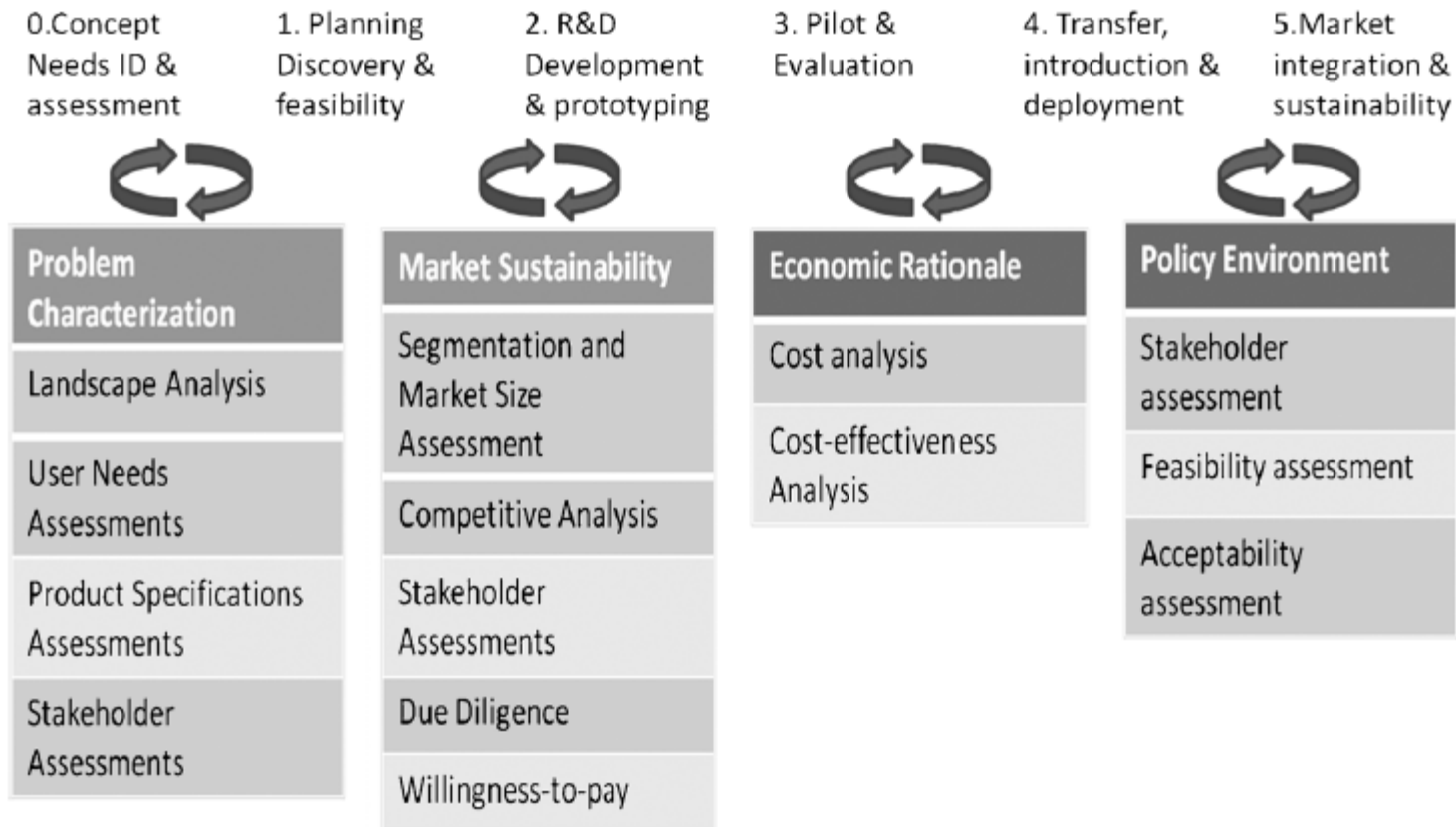
6. First human use 7. Focus groups 8. In vitro tests 9. Interviews 10. Observations 11. Surveys 12. Think aloud method

13. Usability tests 14. Users - producers seminars 15. User feedback

Clinical Needs Assessment for POC R&D

(Weigl et al., 2012)

CNA-Guided Product Development



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



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)
- → 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: answer how & why questions (f.ex. goal-free evaluation, responsive evaluation, illuminative evaluation, pluralistic evaluation, fourth generation evaluation) (Murphy et al 1998)

Why is qual research important for you?

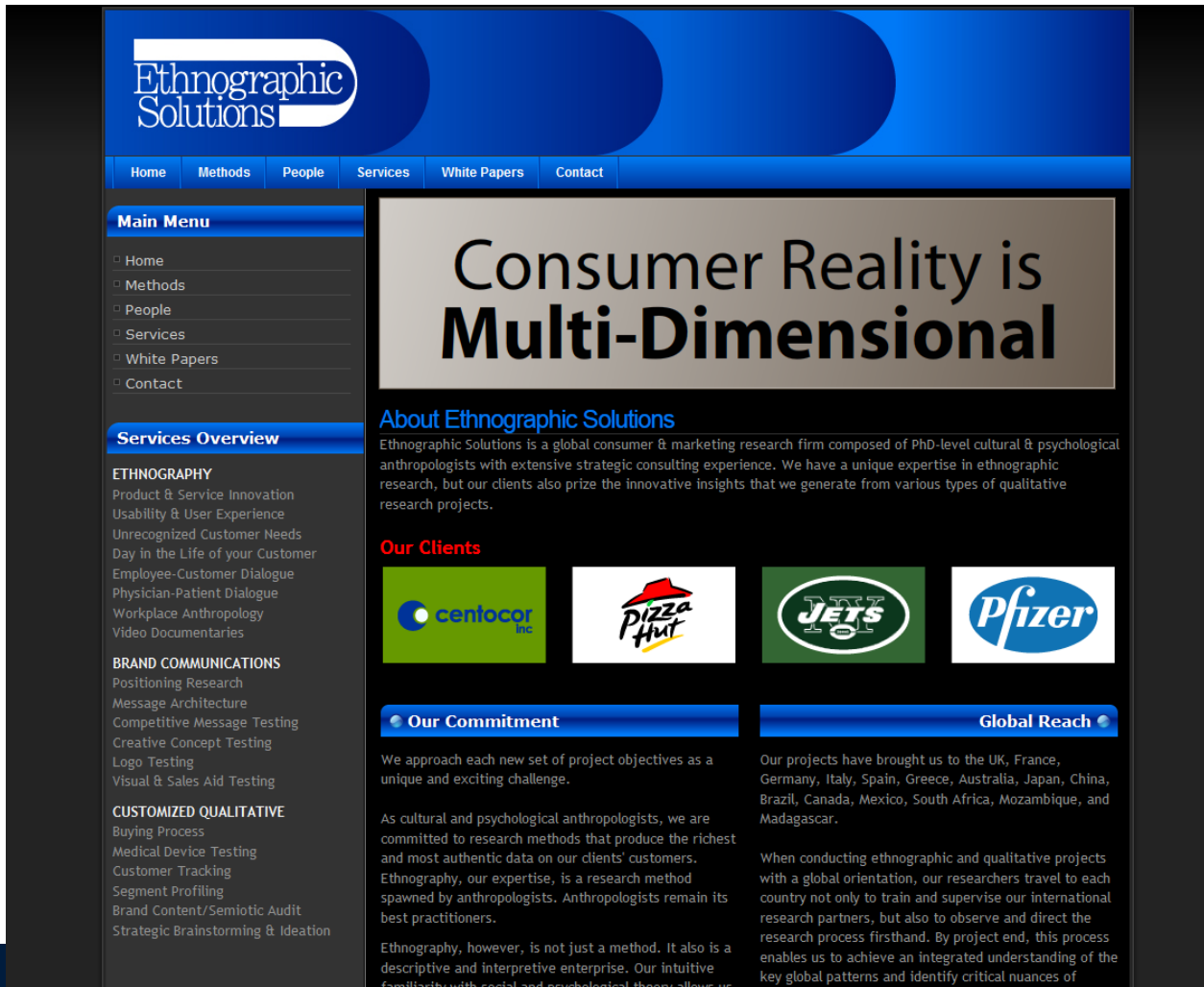
Qualitative research will..

- ..help you to **develop better products**: create better fit with local contexts, user needs and support scale-up to different contexts,
- ..support **scale-up & 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...



The screenshot shows the website for Ethnographic Solutions. The header features the company logo and a navigation menu with links to Home, Methods, People, Services, White Papers, and Contact. A main menu on the left lists these same categories. The central content area has a large heading "Consumer Reality is Multi-Dimensional" and a section titled "About Ethnographic Solutions" which describes the firm as a global consumer & marketing research firm. Below this, a section titled "Our Clients" displays logos for Centocor, Pizza Hut, the New York Jets, and Pfizer. Further down, there are sections for "Our Commitment" and "Global Reach", both detailing the firm's approach to research and its international presence.

Ethnographic Solutions

Home Methods People Services White Papers Contact

Main Menu

- Home
- Methods
- People
- Services
- White Papers
- Contact

Services Overview

ETHNOGRAPHY

- Product & Service Innovation
- Usability & User Experience
- Unrecognized Customer Needs
- Day in the Life of your Customer
- Employee-Customer Dialogue
- Physician-Patient Dialogue
- Workplace Anthropology
- Video Documentaries

BRAND COMMUNICATIONS

- Positioning Research
- Message Architecture
- Competitive Message Testing
- Creative Concept Testing
- Logo Testing
- Visual & Sales Aid Testing

CUSTOMIZED QUALITATIVE

- Buying Process
- Medical Device Testing
- Customer Tracking
- Segment Profiling
- Brand Content/Semiotic Audit
- Strategic Brainstorming & Ideation

Consumer Reality is Multi-Dimensional

About Ethnographic Solutions

Ethnographic Solutions is a global consumer & marketing research firm composed of PhD-level cultural & psychological anthropologists with extensive strategic consulting experience. We have a unique expertise in ethnographic research, but our clients also prize the innovative insights that we generate from various types of qualitative research projects.

Our Clients

centocor Pizza Hut JETS Pfizer

Our Commitment

We approach each new set of project objectives as a unique and exciting challenge.

As cultural and psychological anthropologists, we are committed to research methods that produce the richest and most authentic data on our clients' customers. Ethnography, our expertise, is a research method spawned by anthropologists. Anthropologists remain its best practitioners.

Ethnography, however, is not just a method. It also is a descriptive and interpretive enterprise. Our intuitive familiarity with social and psychological theory allows us

Global Reach

Our projects have brought us to the UK, France, Germany, Italy, Spain, Greece, Australia, Japan, China, Brazil, Canada, Mexico, South Africa, Mozambique, and Madagascar.

When conducting ethnographic and qualitative projects with a global orientation, our researchers travel to each country not only to train and supervise our international research partners, but also to observe and direct the research process firsthand. By project end, this process enables us to achieve an integrated understanding of the key global patterns and identify critical nuances of

3. Qualitative research on TB Dx

1. Sociology of Diagnosis (Jutel, 2009)

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

Some examples from the field of TB Dx

- Diagnosis as **categorization**:
 - Nichter, M. 1994. Illness sense and the social complex in the Philippines
 - Bennstam, A.L., et al 2004. Illness sense in Congo
- **Social process** of diagnosis:
 - Watkins, R. E. & Plant, A. J. 2000. Social process of diagnosis in Addis Ababa, Ethiopia
 - Rintiswati, et al. 2009. Journey to diagnosis in Addis Ababa, Ethiopia
 - Sagbakken, M., 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
 - Murray, E. J., et al. 2013. High level of stigma: the impetus for tuberculosis diagnosis
- **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

Pressing questions of the TB Dx community (Engel & Pai, 2013)

1. How to take into account **complex diagnostic ecosystems**?
2. How to **scale-up and combine** new and existing diagnostic tests in routine programs?
3. How to actively **manage and foster innovation** for POC diagnostics at the country level?
4. How to **assess tests and evaluate** their impact?

→ Potential of qualitative research to find answers to these questions is underused!

4. Qualitative research on barriers to POC testing in India & South Africa

Qual research on barriers to POCT - ongoing

Aim:

Identify the biggest barriers to successful implementation of point-of-care test (POCT) programs in different settings (South Africa & India)

- Home, Community, Clinic, Peripheral Laboratory & Hospital
- Focus on major infectious diseases (HIV, TB, Malaria, Syphilis, Hep.)

*Where in public/private, urban/rural settings is POCT happening?
if not, why is it not done?*

Team India (IPH):

Mamata Patil

Vijayashree

Gayatri Ghanesh, Devadasan

Team South Africa:

Malika Davids (Keertan Deda's team, UCT)

Nadine Blankvoort (UM)

Diversity of target product profiles, users, and settings (Pai et al., 2012)

TPP1: HOME



Self-testing (home-based)

User: Lay person
Device: RDT (pregnancy-type) or dipstick
Purpose: Selfassessment and referral

TPP2: COMMUNITY



Testing in the community by health workers (e.g. village workers, paramedics)

User: Minimally trained health worker
Device: RDT
Purpose: Triage and referral

TPP3: CLINIC / HEALTH POST (Out-patient)



Testing in the clinic by healthcare providers (e.g. doctors, nurses)

User: Clinic staff
Device: RDT, handheld instruments
Purpose: Diagnosis and treatment

TPP4: PERIPHERAL LAB



Testing in the peripheral laboratory

User: Lab tech
Device: RDT, molecular tests, ELISA, microscopy, etc
Purpose: Diagnosis treatment monitoring

TPP5: HOSPITAL (In-patient)



Testing of in-patients in hospitals (e.g. ER, OR, ICU)

User: Hospital staff
Device: RDT, molecular, smears, etc.
Purpose: Diagnosis treatment monitoring

Simplest



HIV self-testing



Malaria, HIV,
dengue



HIV, malaria, syphilis,
dengue, Strep A

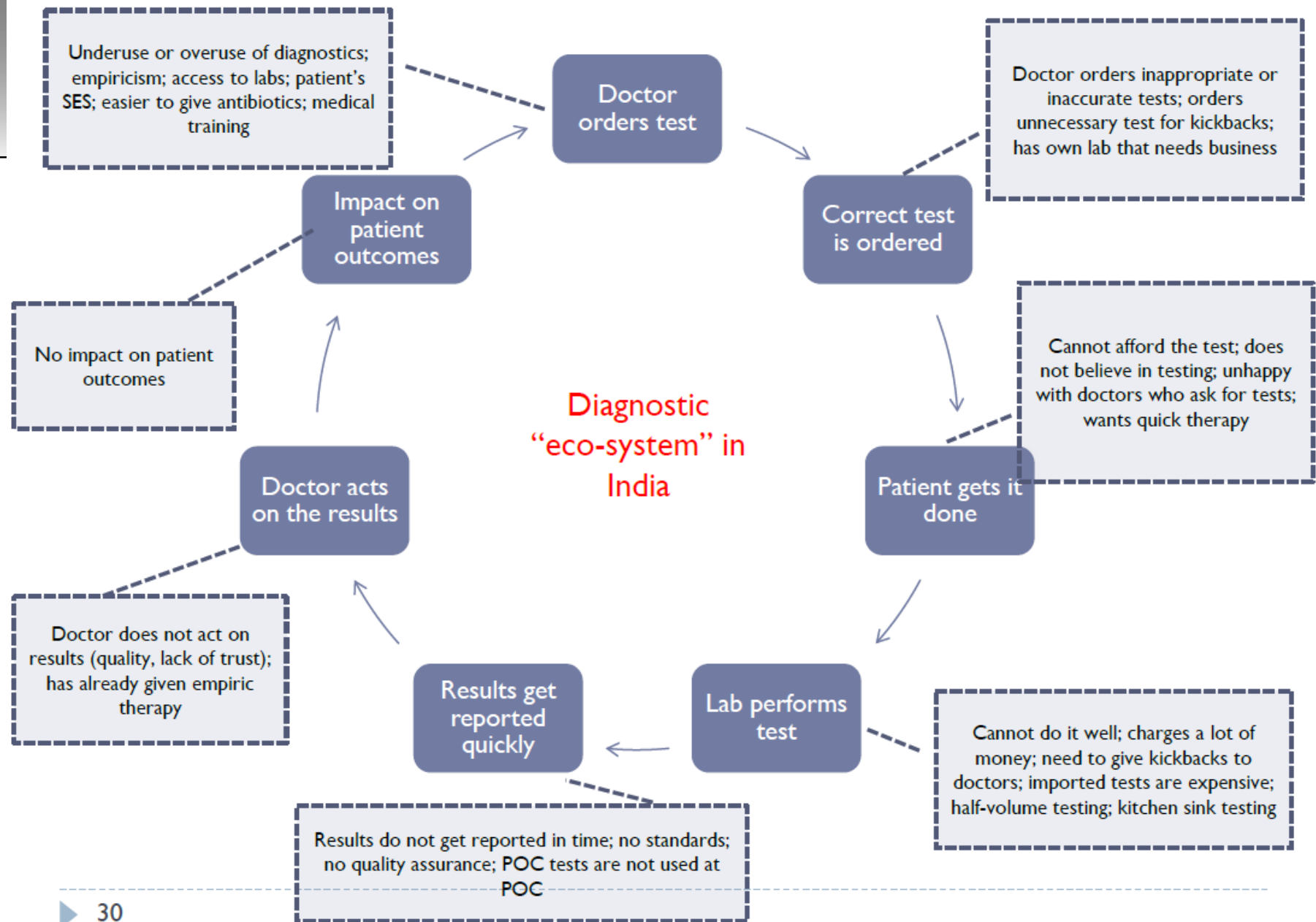


TB, HIV, malaria, HBV, C.diff,
CD4, HCV, MRSA, flu,
UTI, viral loads, etc.



TB, HIV, malaria, HBV,
HCV, flu, MRSA CD4,
Strep A, C.diff, etc.

Relatively sophisticated



Study Design

Semi-structured interviews with healthcare providers (doctors, nurses, specialists, trad. healers, informal providers), patients, community health workers, test manufacturers, laboratory technicians, managers, policy-makers

FGDs with groups of patients, CHWs, nurses, laboratory technicians on major challenges in diagnosing in their specific setting

- **South Africa: 100+ interviews, 7 FGDs** in Cape Town, Durban & Eastern Cape
- **India: 74 interviews, 13 FGDs** in Bangalore & a rural district in Karnataka

Topics explored: diagnostic processes & challenges therein, understanding of diagnosis, visions of an ideal test

Major difference in diagnostic process

South Africa:

samples/reports/materials/communication travel between laboratories and providers via courier, fax, internet, telephone, paper record, SMS

India:

patients travel between laboratories and providers as carriers of samples, of reports, communication between providers, history, results

→ **Major challenges to POC are linked to this difference**

→ → **private sector** responds to these challenges:

SA: optimize transportation of samples & communication between providers

India: optimize coordination between providers (opening hours, kick-backs/tie-ups, settings nearby)





Major difference in diagnostic process

South Africa:

samples/reports/materials/communication travel between laboratories and providers via courier, fax, internet, telephone, paper record, SMS

India:

patients travel between laboratories and providers for samples, reports, communication

→ Qual research helps you to understand the context, meaning and materiality of complex diagnostic eco-system

→ Major challenges to POC are linked to this difference

→ → private sector responds to these challenges:

SA: optimize transportation of samples & communication between providers

India: optimize coordination between providers (opening hours, kick-backs/tie-ups, settings nearby)

Where does POC testing happen in **India**?

- successful POC testing **hardly** occurs in any of the five settings
- Available rapid tests currently **not translated into rapid treatment decisions**
- Most of the rapid tests are used in clinic and hospital labs → too long TAT
→→ patients have to come back next day
- In settings with shorter TAT, rapid tests are **unavailable** (public) or their **cost is too high** (small private labs)
- Private providers find **alternative measures** to ensure the POC continuum with older testing methods (coordination, kick-backs)

Tests in use & POCT at 5 different settings **India**



- **Home:** diabetes monitoring in affluent areas
- **Community:** symptom screening, Malaria slide & sputum sample, and referrals by CHWs; ANMs: pregnancy, glucometer/urine albumine & sugar, HB with Sahli's haemoglobinometer (Malaria RDT if endemic) → follow up at clinic?
- **Clinic:** small PHC labs: Malaria smears, BP, HBsAg card, Dengue NS1 card, Syphilis card, (AFB), glucometer, urine dipstick, pregnancy, HIV, urine sugar (Benedict) → TAT challenges POCT
GPs: pregnancy, glucometer → POCT with lab nearby
- **Peripheral lab:** urine dipstick, sugar, typhoid slide, blood grouping, Malaria smear, HB; some Dengue, Syphilis, HEP, Mantoux, renal & lipid function (exp), most don't do AFB, often older & cheaper methods than rapid tests → TAT: same day
- **Hospital:** wards: glucometer, urine dipstick, pregnancy, HIV, ECG; hospital labs use many rapid card tests (Malaria, Dengue, HBsAG, Syphilis, pregnancy, HIV (separate labs)) → TAT challenges POCT

Diagnosing in the community



CHWs: symptom screening, Malaria slide & sputum sample, and referrals;

ANMs: pregnancy, glucometer/urine albumine & sugar, HB with Sahli's haemoglobinometer (Malaria RDT if endemic)

- ❖ Stock-outs and shortages of funds
- ❖ Referrals to clinic?: onus is on patient
- ❖ CHWs struggle to convince & support patients → manpower, transportation, safety constraints



Diagnosing at public clinics



small PHC labs: Malaria smears, BP, HBsAg card, Dengue NS1 card, Syphilis card, (AFB), glucometer, urine dipstick , pregnancy, HIV, urine sugar (Benedict)

- ❖ Limited funds for rapid tests
- ❖ Available rapid tests done in small labs
- ❖ → too long TAT (docs & labtechs have workload, manpower & infrastructure constraints)



Diagnosing at private clinics



GPs: pregnancy, glucometer

- ❖ Ensure POC with lab nearby (adjusted opening hours, kick-backs)
- ❖ Prefer older methods over rapid tests (too expensive for patients, doubt accuracy)
- ❖ → Different strategies to avoid losing patients



Diagnosing at private labs



Small labs: urine dipstick, sugar, typhoid slide, blood grouping, Malaria smear, HB; some Dengue, Syphilis, HEP, Mantoux, renal & lipid function (exp), most don't do AFB

- ❖ Small labs cannot afford rapid kits and their reagents
- ❖ Small volumes → ensure quick TAT with older, cheaper methods



Diagnosing in hospitals



Wards: glucometer, urine dipstick, pregnancy, HIV, ECG;

Hospital labs: use many rapid card tests (Malaria, Dengue, HBsAG, Syphilis, pregnancy, HIV (separate labs))

- ❖ Majority of rapid tests in labs → too long TAT (half a day/next day)
- ❖ HIV & TB testing in different locations → potential for loss to follow-up
- ❖ lack of manpower to interact with lab & to act on results (OPD) → delay



Major barriers to POCT in India

1. Infrastructure: Material, money & manpower
2. Relationships: Interaction, coordination & patient-initiative
3. Adapting behavior & practices: emp. treatment vs. investigation

Infrastructure: Material, money & manpower

Material:

- Poorly equipped lab facilities, lack of tests & consumables, inadequate space & insufficient transport infrastructure for samples & staff
- Poor sample quality (targets)
 - delays or send patients away

Money:

- Cost of rapid tests (>2USD is too much)
- Cost to patients to get tested (transport, fees, loss of income, assoc. costs)
 - Long TATs raise costs further

Manpower:

- does not match workload, lack of training
- CHWs: irregular & low wages, no transport
 - backlogs, frustrations, discourages ordering investigations

Often *we do not get those [test] materials*, [so] we have to send them [the patients] away, refer them to another hospital or they go to private. (medical officer 1)

They send samples because they are *target oriented*. So at the end of each month, (...) doctors, staff, field workers, they refer lots of cases, even if it's not a good [valid] case (program officer 3)

They [medical officers] are loaded with programs, financial work, administrative work, that training, this training, so they will *not have time [for testing patients]*... (program officer 3)

Relationships: Interaction, coordination & patient-initiative

- More interaction/coordination/cooperation → more likely POCT
- Onus always on patient to get tested & follow-through

Private sector: tie-ups/kick backs → ensure POCT, but incentivize malpractice

Public sector: lack of cooperation & manpower shortage → culture of blame,
Dysfunctional referrals between centres → delays, loss to follow-up

Patient-provider: lack of counseling and explaining, neg. results not communicated → patients roam around, lose trust, opt out

*... it is not as if we are one group, the ANMs [auxiliary nurse midwives] are separate, staff nurses are separate, lab separate, everybody is separate. If we request somebody to help us when they are free they say “we are not lab technicians.” There are so many people working but **nobody is ready to support us.**” (Participant 3, FGD 9 lab technicians)*

*In case of such type of patients [where HIV test is required] we will not disclose them you are affected by this. If the patient is illiterate, he does not understand what we do.. there is no meaning in explaining them. Unless it is positive, we do not disclose. **We will do the test, we will not tell the patient.**”(Private practitioner 5)*

Adapting behavior & practices: emp. treatment vs. investigation

Lack of infrastructure drives emp. treatment (no time, no privacy, no lab)

No functioning referral system/too long TATs favor emp. treatment (avoid losing patient)

System relies on patient: providers **make it more attractive to patients:**
no tests/fast results, instant relief (strong medication), secretly conduct HIV tests

Why does POC testing hardly occur in India?

onus is often on the patient to ensure completion of test and treat cycles across homes, clinics, labs and hospitals,
amidst a multitude of uncoordinated providers
with divergent and often competing practices
in settings lacking material, money and manpower.

Barriers don't act in isolation!

material aspects, socio-cultural relations between actors and diagnostic practices are inseparably related

Implications for POCT

- ❖ Currently: limits to material/money/manpower new tests can rely on
- ❖ Successful POCT assumes functioning relationships!
- ❖ Tests can harm/support these relationships

How to take such complexity into account when designing POCT programmes?

- Through such studies!
- Examine dynamics as a whole including each actor's rationale

Thank You!
Questions?
Suggestions?

n.engel@maastrichtuniversity.nl

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Basics of coding: <http://www.youtube.com/watch?v=O9eTvP3E5TE>

Tutorials from NVivo directly:

http://www.qsrinternational.com/support_tutorials.aspx?productid=18

NVivo Getting Started guide

<http://download.qsrinternational.com/Document/NVivo9/NVivo9-Getting-Started-Guide.pdf> NVivo 9

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