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Abt Associates Inc.

Qualitative Methods: A Primer for Use in Health IT

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Value to the Customer

- Value: Learn about different qualitative methods
Example: In-depth interviews, focus groups, document review
- Value: Understand how qualitative methods can be used for HIT
Example: Interviews for gathering requirements
- Value: Know key methods for ensuring quality in qualitative methods
Example: Apply systematic approaches to interview probing



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Overview

- What are qualitative methods & data
- Tips for effective qualitative research
- Epistemology and qualitative methods
- Validity and reliability in qualitative research
- Ensuring rigor in qualitative research
- Questions/discussion

What Are Qualitative Methods?

- Research methods that find out what people do, know, think, and feel by *observing, interviewing, and analyzing documents*
- Methods used in needs assessment/requirements analysis, evaluation, action research, policy analysis, and organizational or community development
- It is reflexive, triangulated inquiry that has many different theoretical orientations



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What Are Qualitative Data?

- Verbal data
- Visual data
- Written words

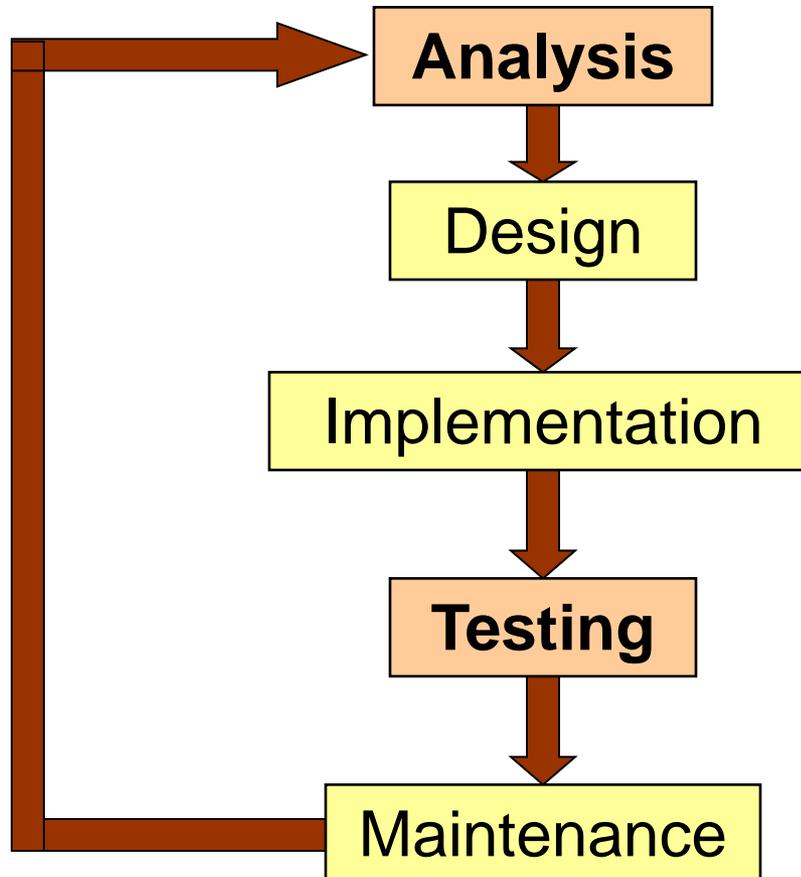
Types of Qualitative Methods/Data

- In-depth open-ended **interviews**
 - Direct quotations from **individuals** about their experiences, opinions, feelings, and knowledge
- **Focus groups** and **group interviews/discussions**
 - Learning about a **group's** experiences, opinions, feelings, knowledge

Types of Qualitative Methods/Data

- Direct **observation**
 - Detailed descriptions of people's activities, behaviors, actions
- Text from written **documents**
 - Excerpts, quotes, records, memoranda/ correspondence, official publications and reports, questionnaire/survey open-ended responses
- Visual **images** from photos, film/video, art, performance

Qualitative Methods for HIT Research



What Determines Research Method?

Review of Research Steps (Qual & Quant)

- Identify research **goals and objectives**
- Develop **research question(s)**
- Review state of knowledge regarding the topic
 - Build a **conceptual framework**
- Identify **indicators and variables**
 - Identify **data source(s)** (may be multiple sources)
- Develop **sampling and recruitment** plans

What Determines Research Method?

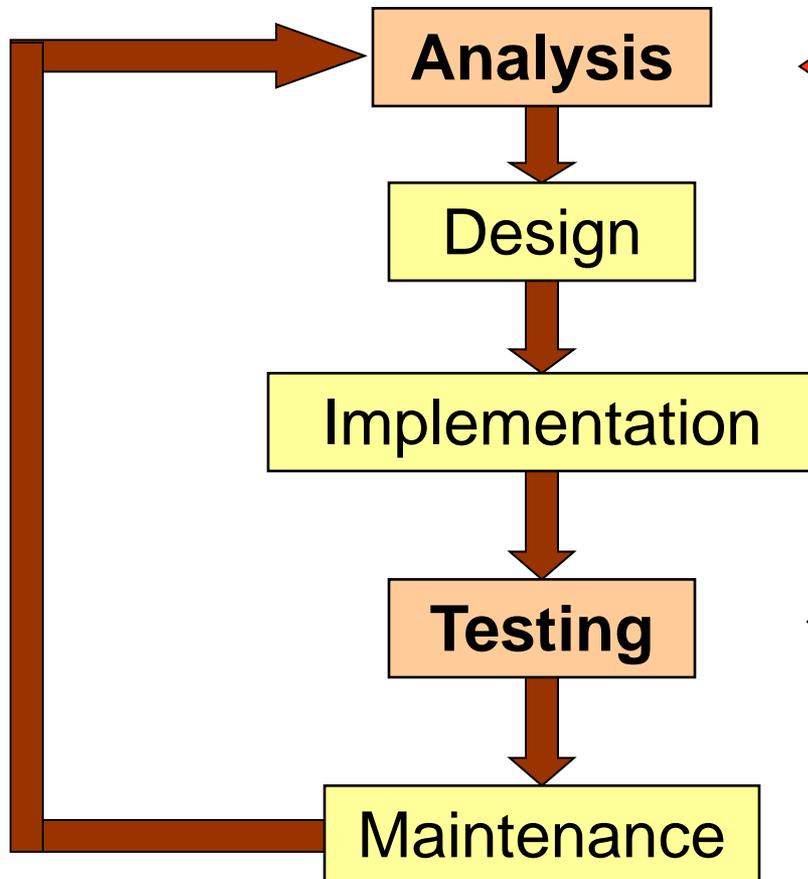
Review of Research Steps (Qual & Quant)

- Develop data collection and analysis **plans**
 - Determine mix of qualitative & quantitative methods
- Design data collection **protocols** and instruments
- Implement **data collection**
- Conduct **analysis** and synthesis
 - Triangulate qualitative & quantitative data results
- Identify and present **findings**

What Determines Research Method?

- Research (or evaluation) questions: What kind of **data** can shed light on the question?
- **State of knowledge** (qualitative methods for early stages of inquiry or to explore quantitative findings)
- **Purpose** of research: to develop/test hypotheses, explain phenomenon, gain insight, develop typology
- **Audience** (e.g., client) that will use, assess, judge, or take action on results
- **Resources** available to support inquiry (i.e., timeframe, funding)

Qualitative Methods for HIT Research



Gathering requirements

- Who are stakeholders & users?
- What are user needs?
- How do users want to receive information?

Usability testing

- What are perceptions of system content?
- How is user using the system?
- What are facilitators/barriers to using the system?

Good Interviewing Methods

- Quality of information dependent on **interviewer**
- Use **interview guide** for consistency across interviews
- Order the questions appropriately
 - Start with **non-controversial** behavior and activities in the present
 - Then ask about the **past**
 - Then solicit **opinions, feelings** or **knowledge**
 - Then ask about **background**
 - End with a **closing question**

Good Interviewing Methods

- Ask **open-ended questions**
- Ask clear, singular, neutral questions – **be careful of “why”**
- Capture the **actual words** of the person being interviewed
- Use **probes** to elicit more detail (e.g. “tell me more...,” “tell me how...”)
- Take **notes**
- Use **tape recorder** if interviewee agrees

Good Qualitative Analysis Methods

- Content analysis
 - Data **reduction**
 - Making sense of the data
- Inductive analysis
 - Identify **patterns** (descriptive findings)
 - Discover **themes** (topics)
 - **Findings emerge** from the data

Good Qualitative Analysis Methods

➤ Iterative process

- Carefully review data
- Identify themes and assign codes
- Re-review data
- Identify new themes/modify codes
- Recode data as needed

Epistemology and Qualitative Methods

- Positivism/Empiricism
 - Knowledge deducted from experience
- Critical Emancipation Theory
 - Reality produced by exploitative systems
- Constructivism/Interpretivism
 - Focus on how people interpret their world
- Postmodernism
 - Reality is multiply constructed and transitional
- Post structuralism
 - Deconstructive; language is crucial



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Epistemology and Qualitative Methods

- Qualitative methods gained credence in the movement away from positivism
- Beliefs about what constitutes reality and legitimate ways of measuring “truth” drive choice of methods

Perspectives on Qualitative Research (Marshall and Rossman)

- Traditional qualitative research assumes:
 - Knowledge is not objective Truth, but is produced **intersubjectively**
 - Researcher **learns from participants** to understand meaning of their lives, but maintains neutrality
 - Society is **reasonably structured** and is **orderly**

Perspectives on Qualitative Research (Marshall and Rossman)

- Newer perspectives challenge traditional approaches:
 - Research fundamentally involves issues of **power**
 - Research report is authored by a raced, gendered, classed and politically oriented individual
 - **Race, class and gender** are crucial for understanding experience
 - Historically traditional research has silenced members of oppressed and marginalized groups

Strengths and Weaknesses of Qualitative Methods

- Certain questions lend themselves to qualitative methods
- Facilitate study of issues in detail and depth
- Not constrained by pre-determined measures and categories of analysis
- Add nuance and complexity to quantitative results.
 - E.g., Study shows elective c-sections <40 weeks associated with adverse outcomes (NEJM)
 - Use qualitative research to find out *why* elective c-sections done <40 weeks

Strengths and Weaknesses of Qualitative Methods

- Often involve a small number of cases; ***not generalizable***
- Researchers do utilize qualitative methods in large scale projects
 - E.g., CMS study (Hassol et al.) of new prescription drug benefit involved 60 focus groups including 480 participants who also took a survey



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Validity & Reliability in Qualitative Methods

- If social reality is constructed—i.e., there is not one social reality or truth, then...
 - Can any method attain reliability and validity?
 - Where does that lead us?

Validity & Reliability in Qualitative Methods

- **Validity:** Extent to which research produces accurate version of the world
 - Internal validity
 - External validity
- **Reliability:** Extent to which research produces the same result when replicated

Validity & Reliability in Qualitative Methods

- **Sampling** is the crux of the “problem” in qualitative research because most qualitative samples are not representative.
 - Random Probability Sampling - generalizeable
 - Purposeful Sampling – not generalizeable



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Validity & Reliability in Qualitative Methods

- **Recruitment** methods depend on research question and the unit of analysis
 - Recruitment can be most difficult part of research
 - For certain studies, recruitment can require more skill than administering data collection tool

Alternative Constructs of Reliability and Validity (Lincoln & Guba 1985)

- Credibility
 - Topic appropriately identified & described
- Transferability
 - Findings useful to others
- Dependability
 - Researcher accounts for changing conditions in subject and changes in methods
- Confirmability
 - Logical inferences & interpretations make sense to others

How do we improve the rigor of qualitative research? *Research Planning*

- **Choose appropriate methods** to answer research questions
 - Know the trade-offs with any method
- Apply strategies to **improve reliability**
 - Maintain meticulous fieldwork records
 - Document process of analysis
 - Document respondent statement vs. researcher interpretation

How do we improve the rigor of qualitative research? *Research Planning*

➤ **Triangulation**

- Collect or use data from multiple sources
- Multiple researchers, methods, analysts

➤ **Test interview protocols**

➤ **Train interviewers and observers**

- Skill of data collectors impacts quality of data
- Improve comparability of data across collectors

How do we improve the rigor of qualitative research? *Implementation*

- Develop protocols for **probing**, **standardize** answers to respondent questions
- Stress **neutrality** in interviewing
- **Check data** regularly and **retrain** data collectors
- Implement **QA procedures**
 - Check whether protocol “working”
 - Revise protocol as necessary

How do we improve the rigor of qualitative research? *Analysis*

- Develop **conventions for transcribing** data
- **Document** in detail process of developing analytical themes or codes
- **Train** coders or analysts on coding structure, create well-defined themes
 - Refine again and again
- Check **inter-rater reliability** of analysis

How do we improve the rigor of qualitative research? *Analysis*

- **Self-reflection** of research team
 - What biases do I bring to the study?
 - How do I feel about the respondents? What are my preconceived notions?
 - Who is left out of the study? Why?
 - How can we mitigate power imbalances?
 - When am I observing? Recording? Interpreting?

How do we improve the rigor of qualitative research? *Analysis*

- Federal requirements to **maintain databases** so that findings can be replicated
- Some common qualitative research packages
 - NVivo
 - ATLAS.ti



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Thank you!

Questions?