

# **Qualitative/Mixed Methods (Part 2): Qualitative and Mixed Methods in QUERI and Implementation Research**

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# INTRODUCTION

Susan Zickmund, Ph.D.  
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# Goals for the Qualitative / Mixed Methods Cyber Seminar Series

- To provide information on qualitative and mixed methods in VA research.
- Part 1 (1/10/10) provided a foundation on how to judge qualitative/mixed methods in grants and manuscripts.
  - **HANDOUTS 1, 2 & 3** are uploaded to provide information and references on judging the strengths of qualitative and mixed methods.
  - Archived cyber seminars from the spring of 2009 by Zickmund and Forman also provide general overview materials.

# Goal for Part 2 of the Cyber Seminar Series

- Demonstrate the unique role of qualitative methods within the context of implementation research.
- Clarify with examples of implementation projects that use qualitative methods.

# Why Focus a Qualitative Methods Series on Implementation?

- VA HSR&D is committed to moving the science of implementation forward.
- Implementation science relies on qualitative methods.
- Importantly, the qualitative approach is uniquely shaped by the exigencies inherent in implementation science.

# Why Focus a Qualitative Methods Series on Implementation?

- Therefore, this cyber seminar provides an opportunity to lay the groundwork for describing qualitative research in the context of implementation science.
- Will draw on the experiences of two qualitative researchers who work on team-based implementation projects.

# Organization of the Seminar.

- Introduction (Zickmund).
- Example(s) 1: Qualitative methods and HIV implementation projects (Bokhour).
- Example 2: Qualitative methods and the EQUIP implementation project (Hamilton).
- Conclusion (Zickmund).
- Question and answers.

(**HANDOUT 4** is a reference guide for implementation science and practice.)

# Definitions: Qualitative Research

- Qualitative research “seeks to provide understanding of human experience, perceptions, motivations, intentions, and behaviors based on description and observation, utilizing a naturalistic interpretative approach to a subject and its contextual setting.”

A Dictionary of Nursing. Elizabeth Martin, Oxford University Press. 2008.

# Definitions: Implementation

- “Implementation research consists of scientific investigations that support movement of evidence-based, effective health care approaches (e.g., as embodied in guidelines) from the clinical knowledge base into routine use.”
- “Implementation science consists of a body of knowledge on methods to promote the systematic uptake of new or underused scientific findings...”

Rubenstein & Pugh, JGIM, 2006.

# Definitions: QUERI

- VA HSR&D's Quality Enhancement Research Initiative (QUERI) works to improve the quality of healthcare for veterans by implementing research findings into routine clinical practice.

<http://www.queri.research.va.gov/>

# Why Examine Implementation in the Context of QUERI?

- QUERI was developed by the VA to narrow the gap between research and quality improvement for veterans.
- The VA and QUERI are considered to be at the forefront of implementation science.
  - Focusing on qualitative methods in QUERI may foreshadow the direction NIH and the larger implementation community moves in the future.

## 6 Step QUERI Process

- “...to facilitate the implementation of research findings and evidence-based clinical practices to achieve better health care outcomes for veterans.”

<http://www.queri.research.va.gov/about/default.cfm>

# 6 Step QUERI Process

1. Identify high-risk/high volume diseases or problems.
2. Identify best practices.
3. Define existing practice patterns and outcomes across VA and current variation from best practices.
- 4. Identify, develop or adapt, and implement quality improvement strategies to promote best practices.**
  - **Phase 1: Single site pilot; Phase 2: Small scale, multi-site implementation trial; Phase 3: Large scale, multi-region implementation trial; and Phase 4: System-wide rollout.**
5. Document that best practices improve outcomes.
6. Document that outcomes are associated with improved health-related quality of life.

## Step 4: A Unique Role for Qualitative Research

- Qualitative methods are used to:
  - Discern how effectively an intervention is adopted at a site.
  - Reveal the organizational and interpersonal dynamics that can affect the intervention.
  - Demonstrate the barriers and facilitators that impact the uptake of the intervention.

# Qualitative Methods and Formative Evaluation

- “A rigorous assessment process designed to identify potential and actual influences on the progress and effectiveness of implementation efforts.” Stetler CB, et al. JGIM, 2006.
- Data collection occurs during the **developmental**, **implementation**, and **post-implementation** stages, and is **process-focused** as well as **interpretive**.
- Focus is on capturing the rich contexts of the implementation process; qualitative methods are highly effective for capturing context. (See **HANDOUT 5**)

# QUERI Examples of Qualitative and Mixed Methods Research

- Begin with Barbara Bokhour, Ph.D.,  
Center for Health Quality, Outcomes &  
Economic Research,  
Bedford VA Medical Center.  
Lead Qualitative Core for QUERI  
HIV/Hepatitis.

# Using Qualitative Methods in QUERI HIV projects

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for QUERI HIV/Hepatitis.

Associate Professor, Health Policy &  
Management, Boston University.

# Qualitative Methods and Implementation

- Implementation is “the use of strategies to adopt and integrate **evidence-based** health interventions and change practice patterns within specific **settings**.”
- Qualitative approaches reveal participants’ (i.e. staff, patients) insider knowledge and perspectives about the **evidence** and the **context** in which implementation is to occur.

# Implementation Research Paradox

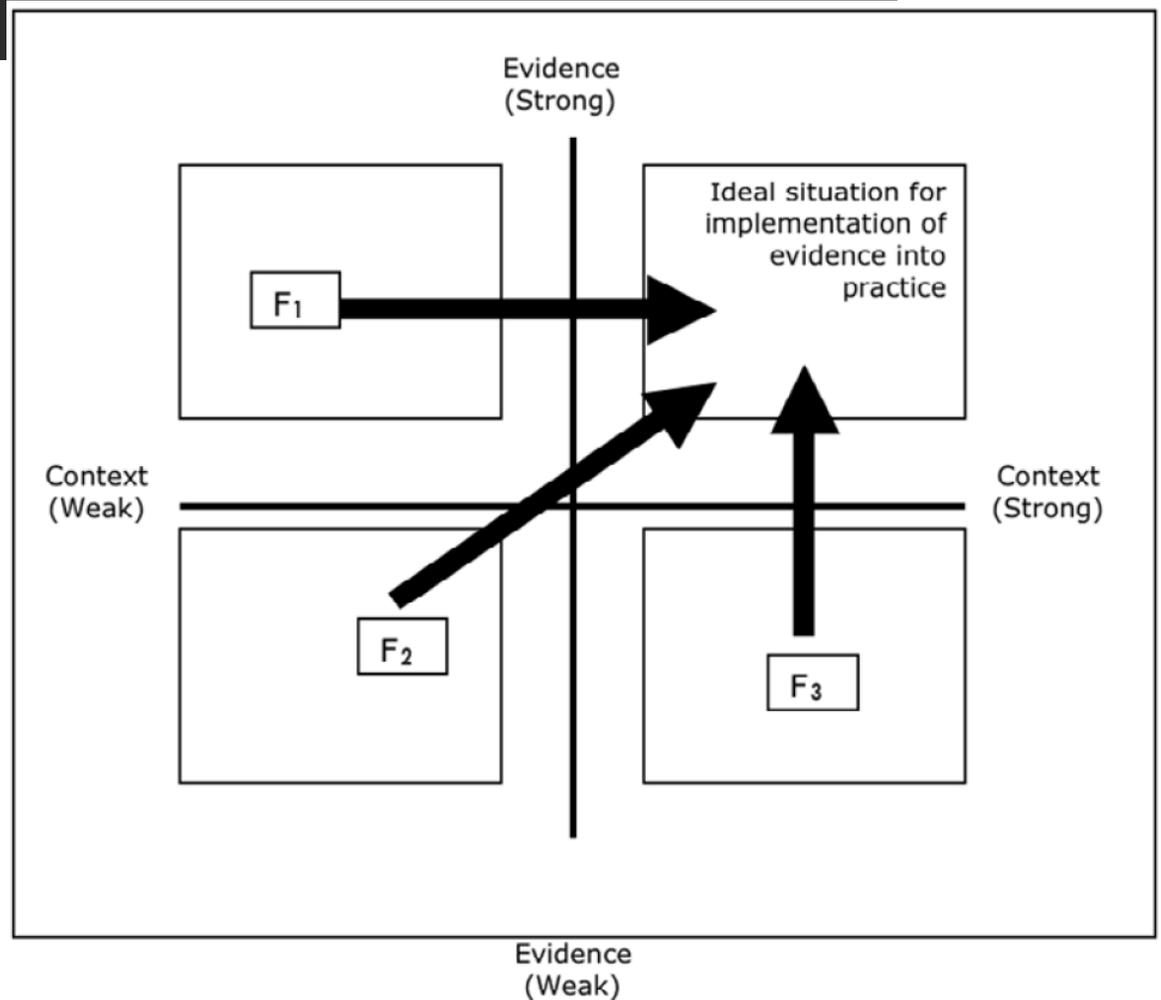
The shifting baseline of context and the multiplicity of confounding variables must be stripped away (“controlled for”) to make the research objective.

But herein lies a paradox. Context and “confounders” lie at the very heart of the diffusion, dissemination, and implementation of complex innovations. They are not extraneous. They are an integral part of the object of study.

Greenhalgh et. al. 2004

# Promoting Action on Research Implementation in Health Services (PARIHS)

- Evidence
- Context
- Facilitation



# QUERI HIV Projects to Improve HIV Testing

- Problem: Many HIV infected patients do not know their status.
- Evidence base indicates that both at-risk and routine HIV testing are cost-effective and effective in getting patients into treatment early.
- Two implementation projects to increase rates of HIV testing in VA.
- QUERI step 4 – Identify and implement interventions to promote best practices.

# Multi VISN QI Project (MVQI)

Matthew Goetz, PI

- Increase rates of HIV testing rates through:
  - Facilitating testing by primary care providers.
  - Evidence Based Quality Improvement Strategies:
    - *Decision support*: Electronic clinical reminder to assist providers in recognizing at-risk patients.
    - *Audit-feedback*: Clinic level progress reports.
    - *Provider activation*: Academic detailing, social marketing campaigns.
- Phase 3: Large scale, multi-region implementation trial
  - Assess implementation at 14 facilities with different structural characteristics in 2 VISNs.

# Nurse-Initiated Rapid HIV Testing (NRT)

Henry Anaya, PI

- Evidence (single site pilot) that nurse-initiated routine rapid testing increases testing rates.
- Increase rates of ROUTINE HIV testing through the use of:
  - Nurse initiated Rapid Testing.
  - Clinical Reminders to conduct routine testing.
  - Professional training about how to perform Rapid Testing and how to resolve clinical reminder.
- Phase 2: Assess implementation at two urban VAMCs.

# Use of Qualitative Data

- Can be used at different stages of implementation.
  - Qualitative Developmental formative evaluation informs implementation.
    - Change implementation plan based on information gathered.
  - All qualitative formative evaluation data to understand the outcomes of intervention.
    - What elements of context, perceptions of evidence, may have affected implementation and subsequently outcomes?

# Formative Evaluation: Qualitative Data Collection

	MVQI	NRT
<u>Sample</u> Key Informants at each site	3 - HIV lead clinician; Primary Care Lead; Nurse Manager	30-40 Management, Nursing leadership, front- line nurses, Primary care clinicians
<u>Data</u> Semi-structured telephone interviews Conducted by trained research assistants	Developmental (baseline) Implementation focused (6 weeks)	Developmental (baseline) Implementation focused (6 weeks) Interpretive (6 months)
<u>Data recording</u>	Field notes by 2 <sup>nd</sup> RA	Audiorecording + Field notes
<u>Other qualitative data</u>	Informal note taking at project launch	Implementation tracker through RA observation

# Data Analysis

- Coding of all field notes by 2 trained research assistants.
  - Coding categories generated from the data.
- Summary memos of field notes by qualitative expert.
  - Summaries by site:
    - Incorporate overarching themes.
    - Identify key differences among participant perspectives.
- Iterative data analysis through team meetings.

# Qualitative Aims

- To understand the context in which implementation is to occur.
- To understand stakeholder and participant perceptions of the evidence for the project.
- To describe how implementation was received and implemented.
- To describe barriers and facilitators to implementation.

# Qualitative Aim: Understanding Context

- Readiness to change:
  - What are the perceptions of the key informants regarding staff receptivity to the intervention?
- Perceived ability to increase testing.
- Barriers to implementation:
  - What structural, organizational or attitudinal barriers do key informants identify?
- Facilitators to implementation:
  - What do key informants identify as key to facilitating implementation?

# Qualitative Findings Can Change Implementation (NRT)

- PLAN: Nurses would offer and administer rapid test and then deliver results to patients 20 minutes later.
- Findings from interviews:
  - Nurses were concerned about clinic flow if they needed to deliver a positive result to patients.
  - Some nurses stated that they felt clinically unprepared to deliver a positive result to patients.
  - Some providers stated they'd prefer to give results.
- Changed procedure to allow nurses to give PCP positive test result to deliver to patients.

# Qualitative Findings

## Can Identify Impact of Change in External Context (MVQI)

- Initially, VA policy included the need for written informed consent for all HIV testing.
  - Key informants identified written consent procedure as too time consuming and a major barrier to testing.
- Half-way through baseline interviewing, VA policy changed, withdrawing the requirement for written consent.
  - Key informants identified new guideline as facilitating testing as testing was now less time consuming.

# **Qualitative Aim: Understanding the Perceptions of Evidence**

- How is the evidence perceived?
  - What do key informants think of the evidence?
  - What evidence do they rely on that may guide practice and impact on the effectiveness of implementation?

# Qualitative Findings: The Role of Evidence in Implementation

- Some sites in MVQI state that the prevalence of HIV is so low in their communities that HIV testing is a low priority for their patient population.
- Evidence outweighed by concerns about patient response to testing requests.
  - some sites stated that patients would refuse testing (possibly due to higher stigma in that region?)
  - others stated that patients rarely refuse testing (possibly due to higher awareness of HIV in that region?)

# Other Data Collection Opportunities

- Take field notes during training or implementation presentations:
  - How was the presentation received?
  - What kinds of questions were asked?
  - Was there any ‘active’ resistance to the plan?
  - Were there suggestions made to change the plan?

# Other Data Collection Opportunities

- Observing Implementation Process:
  - Research assistant to keep log or diary of observed processes during implementation.
    - What responses did the RA get when asking for interview participants?
    - How receptive were staff to participating in the new procedures?
    - How did the implementation of the NRT affect clinic flow and what did the nurses do in response?

# **Conclusion: What are the Results?**

- A story of implementation.
- Based on PERCEPTIONS of staff members and observations by researchers.
- Barriers and facilitators:
  - Structural
  - Attitudinal
  - Perceptions
- Inform future implementation at other sites.

# Acknowledgements

## MVQI team

Matthew Goetz, MD – PI  
Steven Asch, MD – co-PI  
Allen Gifford, MD  
Randal Henry, PhD  
Herschel Knapp, PhD  
Gemmae Fix, PhD  
Tuyen Hoang, PhD  
Henry Anaya, PhD  
Hemen Saifu  
Erin Connors  
Michael Fletcher  
Anne Taylor

## Funding

VA HSR&D (SDP 08-002)

## NRT team

Henry Anaya, PhD – PI  
Herschel Knapp, PhD  
Jeffrey Solomon, PhD  
Tuyen Hoang, PhD  
Jaimi Butler, MA  
Joya Golden, MSW

## Funding

VA HSR&D (SDP 07-318-3 )

# Using Qualitative Methods in a QUERI Project: Enhancing Quality of Care in Psychosis (EQUIP)

Alison Hamilton, Ph.D., M.P.H.

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VA Greater Los Angeles Healthcare  
System

Assistant Research Anthropologist  
UCLA Department of Psychiatry  
Integrated Substance Abuse Programs

# QUERI: Improving Quality of Care through Phased Implementation of Evidence-Based Practices

- QUERI projects designed to be “action-oriented.”
  - Data collected during implementation is utilized concurrently with implementation.
- EQUIP was 1<sup>st</sup> QUERI project designed to improve quality of care in severe mental illness (SMI).

# Evidence-Based Practices in Severe Mental Illness (SMI)

- Problem in SMI services: Evidence-based practices are not widely or consistently utilized.
- 8 evidence-based psychosocial practices in SMI, including supported employment, weight management, family-based services, and others.
- EQUIP: Step 4, Phase 2-3 evidence-based quality improvement project in 4 VISNs.

# Evidence-Based Quality Improvement (EBQI)

- Implementation efforts should be supported by evidence-based quality improvement strategies (e.g., opinion leaders, performance feedback, informatics support, provider/patient education).
- Growing evidence base of strategies that are particularly effective in promoting successful implementation.
- Strategies that are not evidence-based should be used sparingly or not at all.
- Should assess effectiveness of strategies.

## EQUIP: Specific Aim 3

Using mixed methods, evaluate processes of and variations in care model implementation and effectiveness to strengthen the intervention and to:

- assess acceptability of the care model, and barriers and facilitators to its implementation.
- understand how the project's strategies and tools affect care model implementation.
- analyze the impact of individual care model components on treatment appropriateness.

# EQUIP Leadership Team: 4 VISN- Study

## VISN 3

Eran Chemerinski, MD (PI: Bronx)  
Charlene Thomesen, MD (PI: Northport)  
Deborah Kayman, PhD

## VISN 17

Max Shubert, MD (PI: Central Texas)  
Wendell Jones, MD  
Staley Justice, MSW

## VISN 16

Anna Teague, MD (PI: Houston)  
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Larry Albers, MD  
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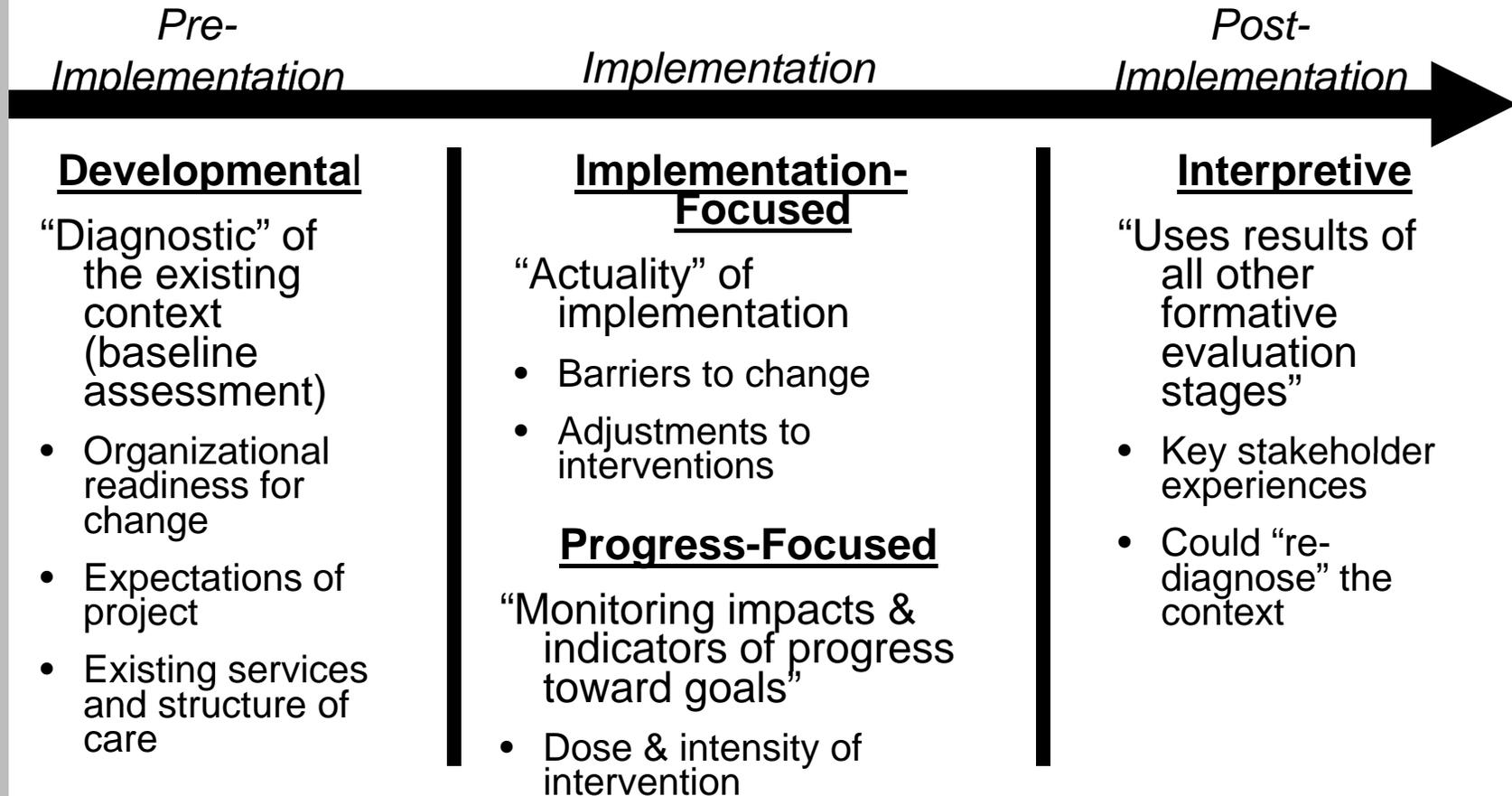
### **Amy N. Cohen, PhD (co-PI)**

Alison Hamilton, PhD, MPH  
Katy Oksas, MFT  
Stone Shih

# EQUIP: Conceptual Framework

- Important to have a theory of organizational change driving the design of implementation research.
- We used the Simpson Transfer Model:
  - Stages of organizational change.
  - Validated survey measures for use in each stage.
  - Not specific to VA settings; needed to adapt measures.
  - Compatible with formative evaluation stages.

# Types of Formative Evaluation



# Multiple Qualitative Data Sources

Source	EQUIP	Domains
Semi-structured interviews: leaders, clinicians, staff (pre-, mid-, post-implementation)	✓	Expectations, experiences, feedback, criticisms, desired changes
Field journals (during implementation)	✓	Group-level dynamics, implementation details
Notes on project-related activities (calls, etc.; during implementation)	✓	Interpersonal dynamics, ongoing observations of staff
Activity logs (during implementation)	✓	Time spent on aspects of study, clinical observations
Patient feedback on project (post-implementation)	✓	Likes, dislikes, perceived changes in self

# EQUIP Semi-Structured Interviews

Pre-implementation: n=38 (intervention sites only).

Mid-implementation: n=22 (intervention sites only).

Post-implementation: n=47 (intervention & control sites; ongoing).

- In-person recorded interviews at intervention sites.
- Post-implementation phone interviews with key providers from control sites.
- Project staff were also interviewed.
- All recordings are professionally transcribed.
- Interview data is analyzed after each round, using Atlas.ti.

# Field Journals

- Primary method of capturing data from participant observation.
- Asked the 4 site coordinators to observe and document events in their clinics, impressions of implementation processes, concerns/problems, successes.
- Collected field journals once a month for approx. 9 months.
- Variable quality & depth of journals across site coordinators.

# Findings from Developmental Evaluation: Organizational Readiness

- Triangulated organizational survey data with interview and observational data.
- Identified sites that were more or less ready to change.
- Identified organizational strengths and weaknesses; differences in perceptions between administrators and staff.
- Made adjustments to implementation accordingly.

# Interview Findings: Perceptions of Organizational Change

## Example: Site C

- “We try to make changes slowly.” (admin)
- “We want to make changes but go at a pace that is tolerable by everybody.” (admin)
- “We are constantly in flux around here.” (clinician)
- “We’ve been very turbulent.” (clinician)
- “Recently there have been many changes.” (clinician)
- “Certainly we don’t want to be static.” (clinician)

# Implementation Response for Site C

After analyzing our developmental evaluation data, we:

- Encouraged clinicians to collaborate in implementation of the interventions in order to strengthen sense of involvement in organizational change.
- Enlisted opinion leaders to heighten awareness of gaps in care.
- Asked site experts to provide educational programs to increase knowledge about care targets.
- Maintained as much of the team as possible, but the PI did change.
- Reinforced aims of EQUIP to maintain emphasis on mission of quality improvement.

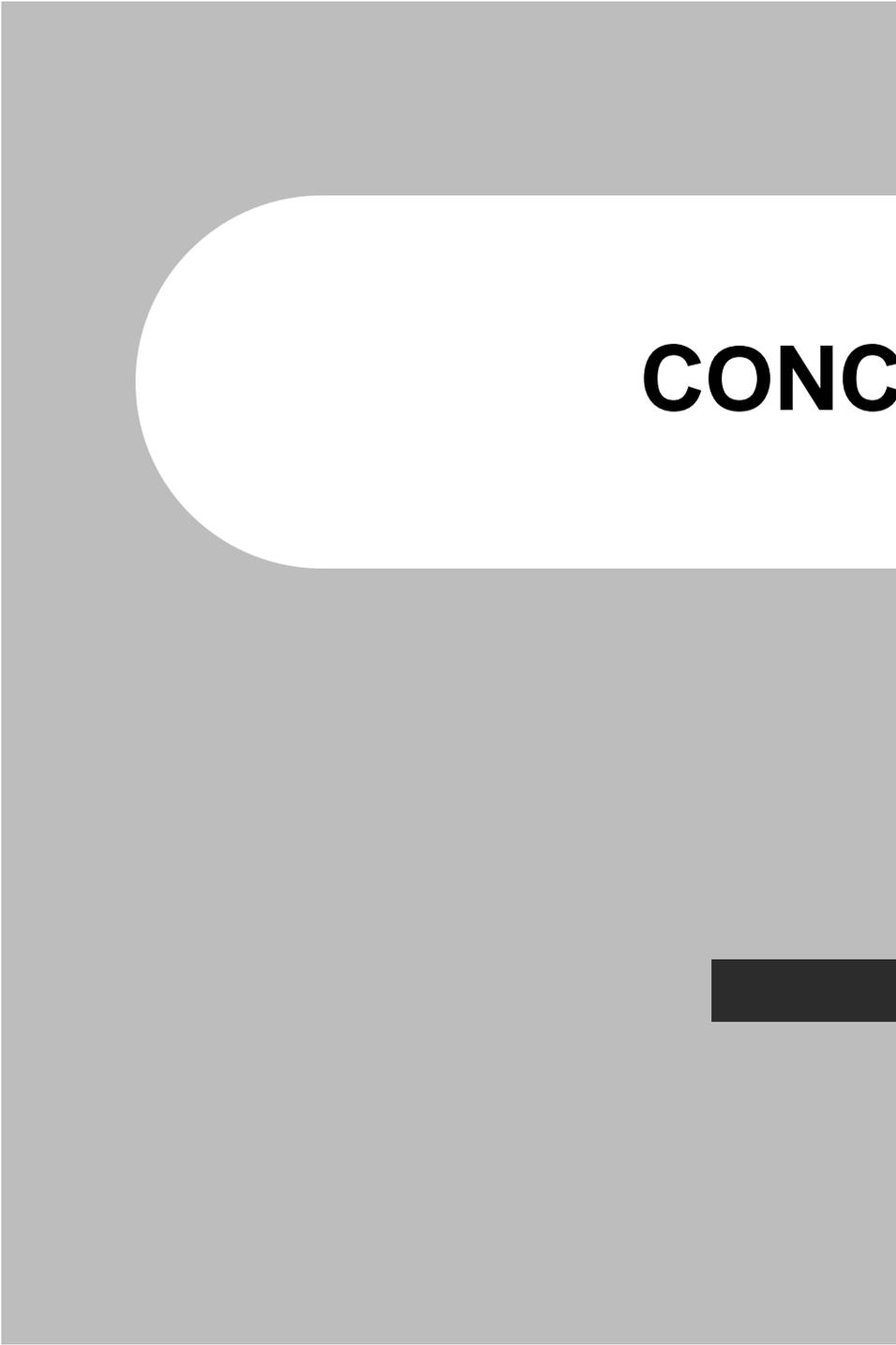
# The Value of Formative Evaluation

Our developmental formative evaluation:

- Provided the research team with an multi-level understanding of the structure and functionality of implementation sites.
- Prepared the research team and the sites for the quality improvement efforts.
- Provided an opportunity for the research team to give positive feedback on strengths and thereby increase motivation toward improvement efforts.
- Allowed for development of strategies that remediated or prevented problems that might have interfered with quality improvement efforts.

# Acknowledgements

- VA HSR&D and QUERI (MNT 03-213).
- VA Desert Pacific Mental Illness Research, Education and Clinical Program (MIRECC).
- VA HSRD Center of Excellence, Study of Healthcare Provider Behavior.
- UCLA-RAND NIMH Partnered Research Center for Quality Care (MH082760).

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# CONCLUSION

Susan Zickmund, Ph.D.

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# Characterize Qualitative Methods in the Context of Implementation

- Qualitative methods can be used at all stages of formative evaluation: pre-implementation, implementation, post-implementation.
- Pre-implementation qualitative data collection can affect the way an intervention is implemented.
  - Qualitative research, thus, extends beyond its traditional descriptive role to one that is action oriented.

# Characterize Qualitative Methods in the Context of Implementation

- Qualitative methods are quite task oriented.
  - Task is to understand how **context** affects the uptake of the intervention.
- That orientation impacts **data collection**: who specifically to collect data from changes as the implementation process evolves.
- That orientation also impacts **data analysis**: a quick turn-around of results is needed to map-out and alter the implementation process.

# Characterize Qualitative Methods in the Context of Implementation

- Multiple qualitative methods are used: interviews, field notes, observation of participants (etc).
- Multiple & often non-traditional discourse is used: notes from meetings, e-mails (etc).
- **Result: implementation moves qualitative methods to a more central place in the research activity; provides a pragmatic, means-to-an-end orientation.**

# QUESTIONS?

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