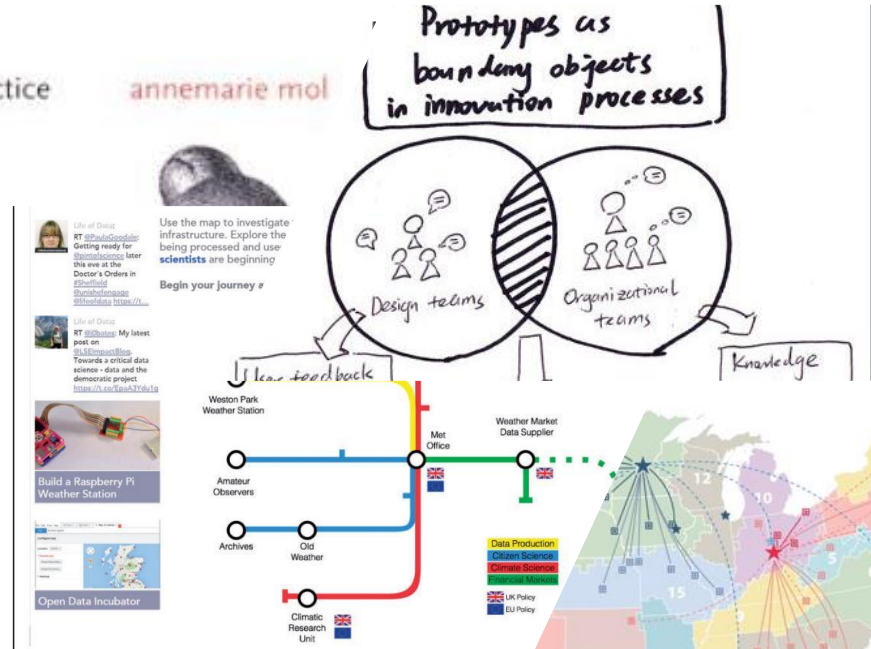
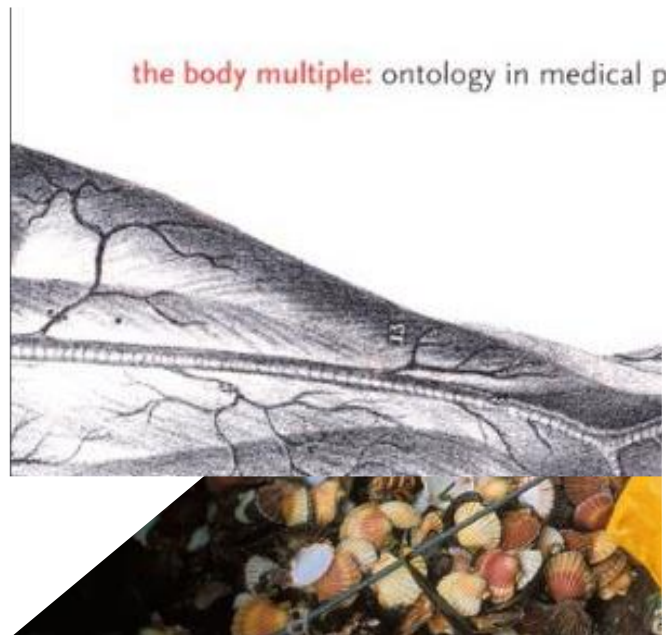


Jen Van Tiem, PhD
Heather Schacht Reisinger, PhD
Jane Moeckli, PhD
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The STS case study:

an analysis method for longitudinal qualitative research for implementation science

Acknowledgments

Van Tiem et al. *BMC Medical Research Methodology* (2021) 21:27
<https://doi.org/10.1186/s12874-021-01215-y>

BMC Medical Research
Methodology

RESEARCH ARTICLE

Open Access

The STS case study: an analysis method for longitudinal qualitative research for implementation science

Jennifer M. Van Tiem^{1,2*}, Heather Schacht Reisinger^{1,2,3,4}, Julia E. Friberg^{1,2}, Jaime R. Wilson^{1,2}, Lynn Fitzwater⁵, Ralph J. Panos⁵ and Jane Moeckli^{1,2}



TeleCritical Care East

ICU Telemedicine
Evaluation Team



VA HSR&D **CYBERSEMINARS**

Upcoming Cyberseminar

Advanced Qualitative Methods hosted by the Qualitative Methods Learning Collaborative

What's at the Core? Intro to the VA Qualitative Methods Learning Collaborative (QMLC) and scoping of Qualitative Cores-how they operate and what resources they offer

February 11, 2021 | 12:00pm-1:00pm ET

Featured Presenter(s):

 **Christine Kowalski, MPH**
Implementation Scientist and Qualitative Analyst Center for Evaluation and Implementation Resources (CEIR), VA Ann Arbor Healthcare System

Related resources:

[Learn more about the QUERI Center for Evaluation and Implementation Resources.](#)

Find out more about the [seven QUERI Implementation Strategy Learning Hubs](#), whose goals are to demystify implementation science by offering opportunities for clinicians and researchers to learn how to deploy effective practices using specific implementation strategies.

For More Information



Ethnography & Implementation Science

Heather Schacht Reisinger, PhD

Core Investigator, VA Center for Access and Delivery Research and Evaluation (CADRE)

Associate Director of Engagement, Integration, and Implementation, Institute for Clinical and Translational Science

Associate Professor, University of Iowa

Veterans Rural Health Resource Center – Iowa City

VA Center for Access and Delivery Research and Evaluation (CADRE)

Institute for Clinical and Translational Science (ICTS), University of Iowa

Department of Internal Medicine, University of Iowa Carver College of Medicine, Iowa City, IA



Growth of Ethnography in Implementation Science

- Joyful observer
- Gertner and colleagues' scoping review in *Implementation Research and Practice* - 73 articles fit their inclusion criteria!
- Joyful observer's bias: Number of anthropologists in VA and in implementation science more broadly
- However, ethnographers aren't just anthropologists
 - e.g., Cultural geography

What is Ethnography?

Methods

- Interacting with people in the context of your research question
 - Talking with them
 - Observing them
- Collecting and reviewing organizational documents

Mindset

- Emic - insider perspective
 - ▣ Inductive
- Holistic/comprehensive understanding
 - ▣ Iterative
- Cultural relativism
 - ▣ Suspend judgement

Fit of Ethnography and Implementation Science

- Accepted importance of context, process, and meaning in IS
- Ethnography as method to understand *how* and *why* (Hamilton and Finley 2019)

What is Ethnography?

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 - ▣ Iterative
- Cultural relativism
 - ▣ Suspend judgement

...and long-term engagement – 14.5 years in VA



TeleCritical Care Research and Evaluation



- Multidisciplinary team affiliated with the Veterans Rural Health Resource Center (VRHRC), Iowa City and CADRE
- Working with VA Tele-CC Programs since 2011
 - ▣ VA HSR&D (IIR 09-336): 2010-2014
 - ▣ Office of Rural Health VRHRC projects: 2014-2016; 2020-present
 - ▣ Office of Rural Health, Evaluation of Rural Expansion: 2016-2020
 - ▣ VA HSR&D (IIR 19-168): 2020-2024

An Ethnographic STS in IS

- Ethnography as a method and mindset has enabled our team to do a science and technology study (STS) with real-world impact
- Importance of long-term relationships and emphasis on rapport
- A doorbell?

Focus of Qualitative Evaluation (2016-2021)

Jane Moeckli, PhD

Director, Ethnographic Methods and Implementation Core (EMIC)

Co-Investigator, VA Center for Access and Delivery Research and Evaluation (CADRE)

VA Center for Access and Delivery Research and Evaluation (CADRE)

Veterans Rural Health Resource Center – Iowa City Iowa City VA Health Care System



Intensive Care in VA



Thanks to <http://anestesiario.org/2010/dosis-eficaz-de-enoxaparina-en-pacientes-criticos/>

TeleCritical Care

Sites



Hub



VA TeleCritical Care

Wave I

2011-2012

- VISN 10 Hub>VISN 10 ICUs
- VISN 23 Hub>VISN 23 ICUs

Wave III

2016-2018

- VISN 10 Hub>8 Facilities, subhub
- VISN 23 Hub>DoD

Wave V

2020-present

- VISN programs become one national program
- Rapid national expansion

Wave II

2014

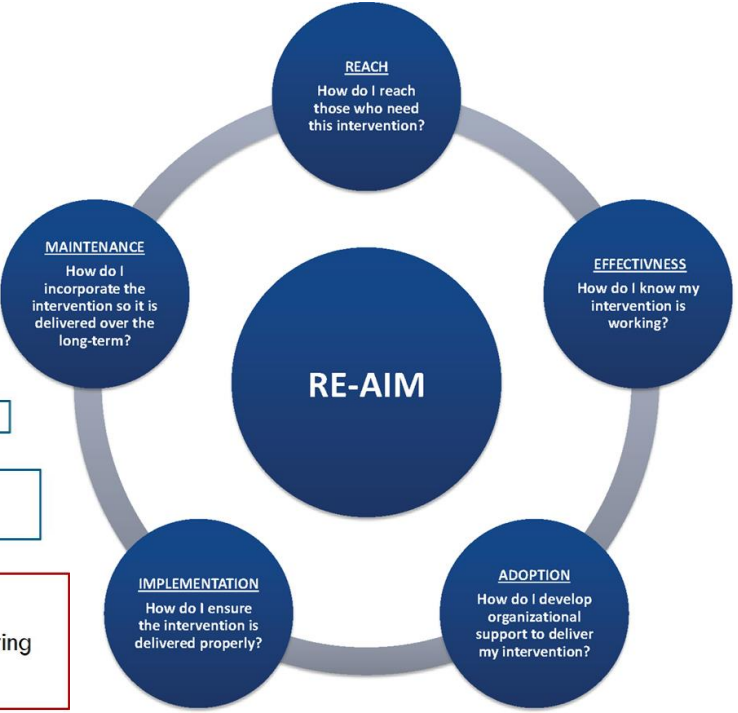
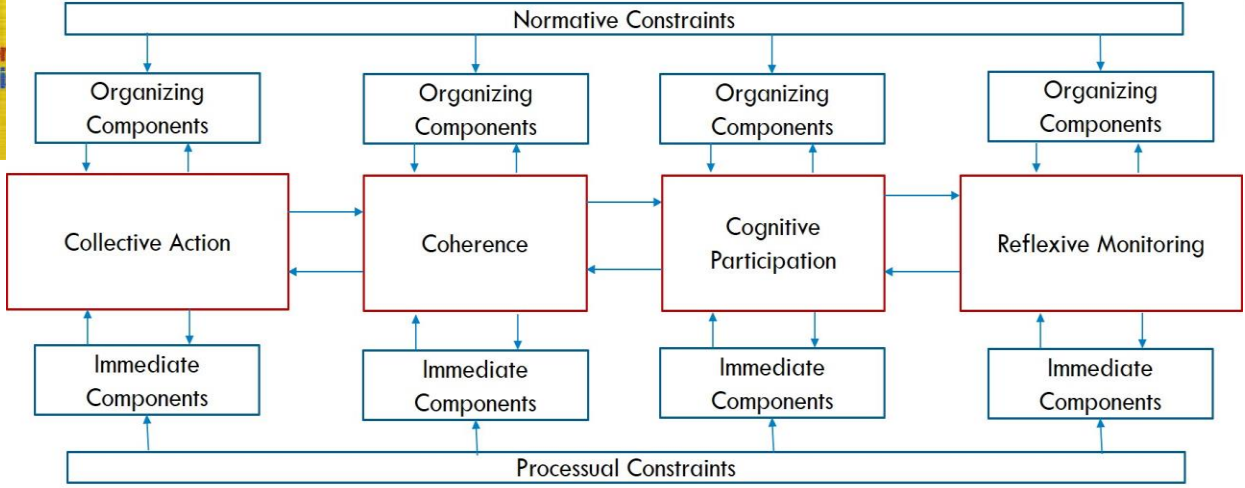
- VISN 10 Hub>VISN 7 ICUs
- VISN 23 Hub>VISN 15 ICUs

Wave IV

2018-2020

- Hubs>Expand Scale, Service
- Sites>Spread within facilities

Theory-Driven Implementation Science Research



Sources:

- <https://sts.univie.ac.at/en/>
- “Perceived utility of the RE-AIM framework for health promotion/disease prevention initiatives for older adults: a case study from the U.S. evidence-based disease prevention initiative” in Front. Public Health ([link](#))



Methods and Case

Jen Van Tiem, PhD

Co-Investigator, VA Center for Access and Delivery Research and Evaluation (CADRE)

VA Center for Access and Delivery Research and Evaluation (CADRE)

Veterans Rural Health Resource Center – Iowa City Iowa City VA Health Care System



Ethnographic Methods in Implementation Science

Data Collection Methods

- Interviews
- Observation
- Fieldnotes
- Document Review
- Focus Groups
- ...

Data Analysis Methods

- Inductive & Deductive Coding
- Analytic Memos
- Templates
- Matrices
- Frameworks
- ...

Data Presentation Methods

- Process Evaluation
- Case Study
- Pen Portrait
- ...

STS Case Study as a Method

Data Collection Methods

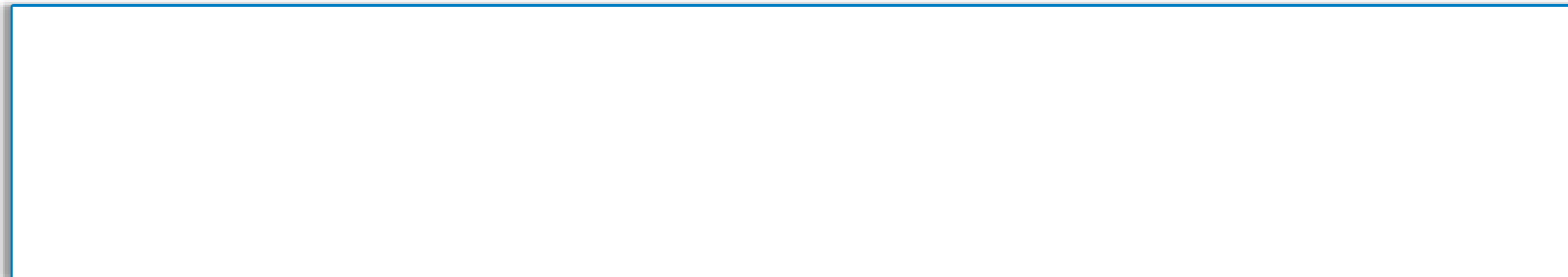
- Interviews
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- ...

Data Analysis Methods

- Inductive & Deductive Coding
- Analytic Memos
- Templates
- Matrices
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- ...

Data Presentation Methods

- Process Evaluation
- Case Study
- Pen Portrait
- ...



STS Case Study as a Way of Thinking

Mol & Law “Embodied Action, Enacted Bodies: the Example of Hypoglycaemia” in *Body and Society* ([Link](#))

Putting it in this way, we may seem to suggest that medicine’s self-reflections should take an ethnographic turn. And so we do.²¹ Interestingly, ethnographic methods that foreground practices and draw together disparate entities in a single story aren’t new to medicine. In the *materials and methods* section of research articles, practicalities of all kinds (the setting of the intervention in question, the technology mobilized, patient characteristics and so on) are scrupulously made explicit. It is only in the conclusion that they tend to be forgotten. And listen to the *clinical interview*: a doctor asks ‘How are you?’ or ‘What can I do for you?’ and expects the patient to tell a story about daily-life events in which entities of all kinds (beans, blood, table companions, cars, needles, sugar) coexist and interfere with one another. A good *case history*, finally, talks about a patient’s situation in a language that moves from blood sugar levels to work ambitions to the doses of insulin prescribed to love life to previous operations to saturated fat uptake to temper and, if need be, back again. Why not tell stories about medicine in a similar way?

THE FIELD

Cameras and Video Monitor

Video Assessment is performed in the patient’s room for:

- New admissions
- Routine patient rounds
- At the request of the bedside clinicians
- In response to eLert notifications
- Significant changes in patient VS or ECG

The Tele ICU is a part of the care team and reinforces the professional relationship between the bedside and the patient

Bedside ICU clinicians are encouraged to notify the Tele-ICU of patient privacy concerns. Tele-ICU staff regularly review the patient census for privacy indicators and communicate with the bedside to determine an ongoing need.

Microphones and cameras “go to sleep” when not in use. Camera’s are off 99% of the time. There are no visual or auditory recording capabilities.

The collage features several elements: a hand-drawn flowchart with sticky notes detailing patient flow and clinical decisions; a video monitor displaying a patient; a camera on a stand; a patient lying in a hospital bed; and two informational posters. One poster lists 'When to Call the Tele-ICU' with criteria like 'Change of Shift (sign off)', 'With New Admissions', and 'Code Blue'. The other poster provides 'TELE-ICU MD ORIENTATION' and 'TELE-ICU DOCTOR COVERAGE' information, including contact numbers and hours of service.

Context: Implementation of TeleCritical Care

VSN 3D Tele ICU and ORH Expansion
Clinical Implementation Committee
Department of Veterans Affairs Medical Center
April 4, 2017

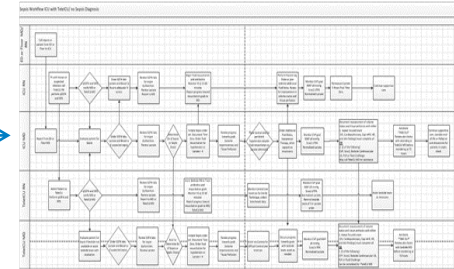
SaTTY, April 4, 2017
TIME MEETING ROOM: 4400
MEETING CHAIRPERSON: Michael Tusk
RECORDERS: Janet Parillo

| Agenda Items | Data Analysis, Discussion and Issues Identified | Actions/Assigned Outcomes | Questions/Comments |
|-----------------------------|---|---|--------------------|
| Introduction & Housekeeping | 1. Introduce the ICU, ORH, & expansion of the team members, general roll call and the team lead for formal attendance 2. Meeting dates and times, regular attendees and guests | Actions: | |
| Technical Update | 1. VSNICU 2. Multisite 3. Telepresence | Actions: | |
| Attendee Members | 1. VSNICU Let's look place | Actions: 1. Change Order was sent to OASIS 2. Request for decision by OASIS | |
| Train the Trainers | 1. Identify train the trainers for Multisite and Tele. Will cover someone able to educate and anticipate needs for different departments. | Actions: 1. Multisite and Tele. Training dates April 20th come to the department | |
| CRS Year Out Minutes | 1. Attached Document Need signed documents. | Actions: 1. MCHS, Regals, and Multisite 2. Review questions from OASIS | |
| Workflows | 1. Via Web link | | |

Weekly Calls



Workshops



Workflow Refinement

Training Videoconferences



Go-Live Trainings



Go-Live Celebrations

Tele-ICU
ICUs
EDs
Facilities

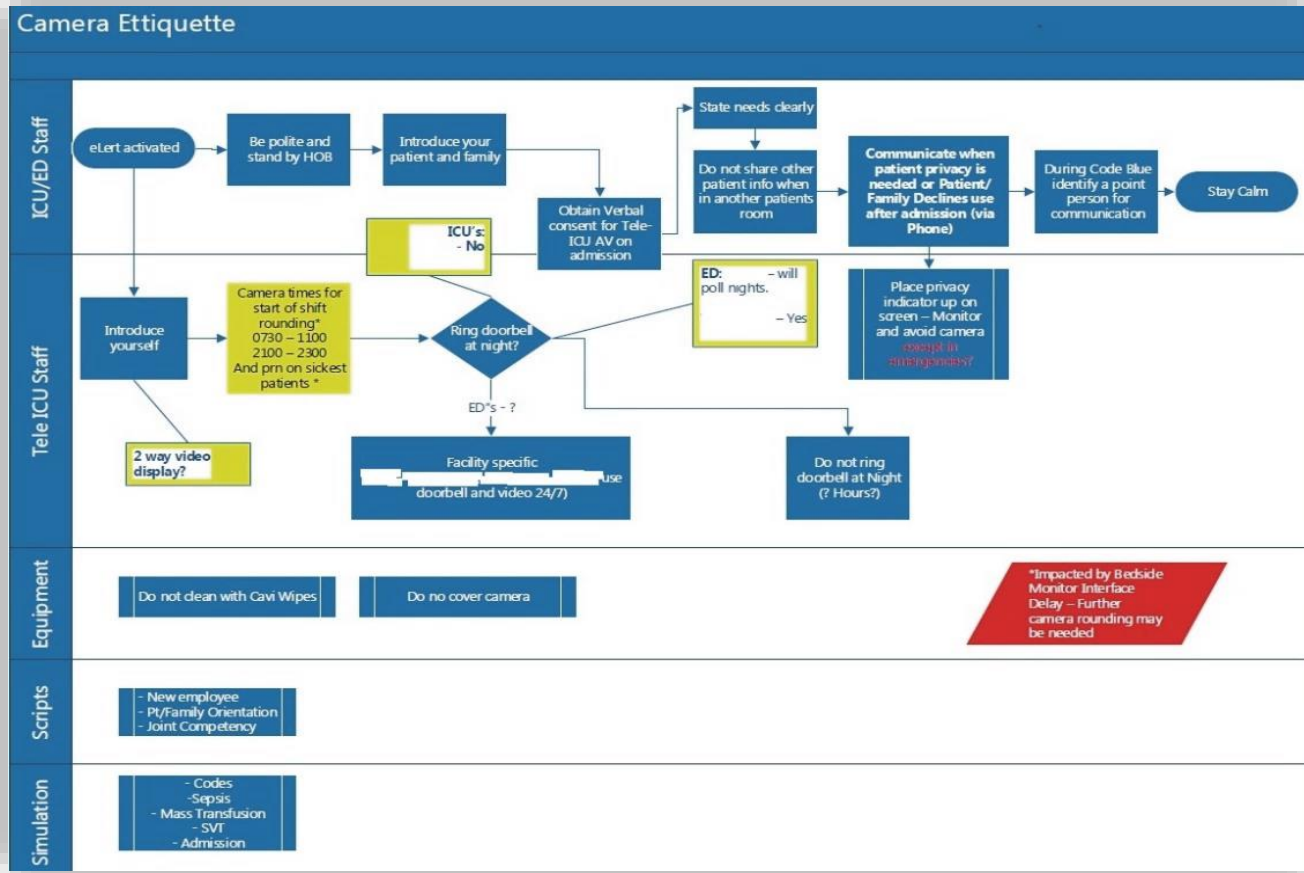


Research Presence during Implementation

| Normalization Work | Implementation Process | Number of Participants | | | | Implementation Role | Location | Ethnographic Presence |
|---|---|------------------------|--------------|--------------|--------------|-----------------------|-----------------------------------|---|
| | | Hub | Site 1 | Site 2 | Site 3 | | | |
| | | | Jan-Jun 2017 | Jan-Jun 2017 | Jul-Nov 2017 | | | |
| Planning, Enrolment | Clinical Information Calls | | 1-5/ call | 1-5/ call | 1-5/ call | External Facilitators | Virtual | Observation Fieldnotes Document retrieval |
| | | | 2-4/ call | 2-4/ call | 2-4/ call | Internal Facilitators | | |
| | | | 0 | 0 | 0 | ICU Staff | | |
| Planning, Initiation | Clinical Process Design Workshop (CPDW) | | Feb 2017 | Feb 2017 | Sept 2017 | | In-person at the Tele-CC Hub | Participant Observation Fieldnotes |
| | | | 3 | 3 | 4 | External Facilitators | | |
| | | | 6 | 6 | 6 | Internal Facilitators | | |
| Education, Legitimation | Train the Trainer | | 0 | 0 | 0 | ICU Staff | Virtual | Observation Fieldnotes Document retrieval |
| | | | 2 | 2 | 3 | External Facilitators | | |
| | | | 8 | 8 | n/a | Internal Facilitators | | |
| Education, Activation | Go-Live | | Jun 2017 | Aug 2017 | Nov 2017 | | In-person at the ICU site | Participant Observation Interviews |
| | | | 5 | 5 | 4 | External Facilitators | | |
| | | | 2 | 4 | 3 | Internal Facilitators | | |
| | | | 27 | 14 | 15 | ICU Staff | | |
| | | Sept 2017 | Dec 2017 | Jan 2018 | Jun 2018 | | In-person at the ICU site and Hub | Interviews |
| 6-months post implementation site visit | | 16 | | | | Tele-CC Staff | | |
| | | 2 | 2 | 2 | | Internal facilitators | | |
| | | | 14 | 13 | 18 | ICU Staff | | |

Collecting Data

Organizational Documents



Fieldnotes

after [an external facilitator] explained that the doorbell would sound after the Tele-CC nurse was in the process of camera-ing in, and that bedside staff wouldn't have direct decision making about whether or not to permit this access...the major concern she [Patricia] mentioned was privacy for patients. [Her colleague from Site 3] replied that it would probably be similar to how people walk in and out of rooms at the hospital when rounding on patients, potentially walking in on them in moments when privacy would have been preferred. Patricia responded to this by saying in a flat tone, "Not in my ICU." (Fieldnote CPDW, September 2017)

Interview Transcripts

"they [the Tele-CC staff] don't like to ring the doorbell, middle of the night to check on the patient. I want them to and they went back and forth about this...it's like I kept saying to them, when I go into a patient's room, I knock on the door. So that's why I want you to ring the doorbell...you know, if I'm going into a patient's room just with the curtains drawn, I'm gonna knock, I'm gonna say, 'This is the nurse...[okay] if I stick my head in?' You know? And they'll say yes or no...but that's the same thing I want the courtesy of the, of the doorbell." (Site 3 T1, RN ICU)

Keep in mind -

1) This analysis was part of a larger process evaluation.

SO: We had already been engaging with this data for other reports, manuscripts, and team debriefs. We had been in the field for 16 months, engaging in implementation activities, doing site visits, and conducting interviews. We had already deductively coded all interview data by a framework: RE-AIM, and a theory: NPT.

2) We started this analysis with the intention of privileging fieldnotes and documents.

CHALLENGE: Could we tell a story about the implementation of Tele-CC that started with a piece of data that was not a quote from an interview?

3) This analysis depended upon an iterative process of conversation and writing.

We, for lack of a better word, interviewed ourselves about our fieldnotes and applying the STS framework. We used qualitative interviewing techniques designed to promote reflexivity: “the reflecting team” ([Link](#))

Doing the Analysis: Our process

- 1) Noticed that we had a rich set of documents about “Camera Etiquette.”
- 2) Also noticed that we had diverse types of data around that concept of camera etiquette. We knew from reading our fieldnotes and coding our interviews that it came up in both places.
- 3) Conducted lexical searches across fieldnotes and interviews for “workflow” “camera.”
- 4) Organized these identified segments chronologically.
- 5) Noticed (and remembered) a potent interaction between two facilitators around the idea of the “doorbell.”
- 6) Conducted lexical search across fieldnotes and interviews for “doorbell.”
- 7) Started to write and build out the different sections of the paper. Because we had been engaging with the field for so long, we used moments across time (at one site) and moments at one time (across multiple sites) to organize our results and help us show an element of change.
- 8) Took our draft to our operational partners in the Tele-CC for feedback, points of clarification, and to add in a clinical perspective.

Findings

- What we took to our operational partners:
 - ▣ Concerns about surveillance are a barrier to staff acceptance of TeleCritical Care services
 - Surveillance? More specifically, surveillance that potentially disrupted the privacy of the relationship between nurse and patient

- How did we learn this?
 - ▣ Following conversations about the “doorbell” through our archival documents, fieldnotes, and interviews

How TeleCritical Care Implemented Findings

Lynn Fitzwater, APRN

TeleCritical Care East External Educator

VISN 10 Cincinnati, OH



Barriers to Virtual Communication

- Remote communication barriers
- Doorbell implications for the bedside teams – sometimes negative
- Perception of the “doorbell” in connection to TeleCritical Care



“Tele-Tone”

PR

Panos, Ralph, VHACIN

Van Tiem, Jennifer M.; Reisinger, Heather S.; Friberg, Julia E.; Wilson, Jaime; Fitzwater, Lynn, VHACIN; Moeckli, Jane; + 3

12/20/2019

RE: STS Case Study Paper with changes

TICU

Hi All

Would it be ok to circulate this manuscript within the TeleICU?

I would like to have a “Rename the Doorbell” contest in January! Something a little different and a fun project for the winter for all our staff (you too). I’ve asked Romano about changing the doorbell ring tone and he will be looking into whether we can easily do that also! (There might be a second part to the contest-pick a ring tone!!!!)

Letting everyone read the manuscript would set the “tone” for the contest (sorry couldn’t resist that one--)

You are changing how we do things in the TeleICU-we really appreciate your insights and perspectives and look forward to learning even more about how we can move forward and provide the best care.

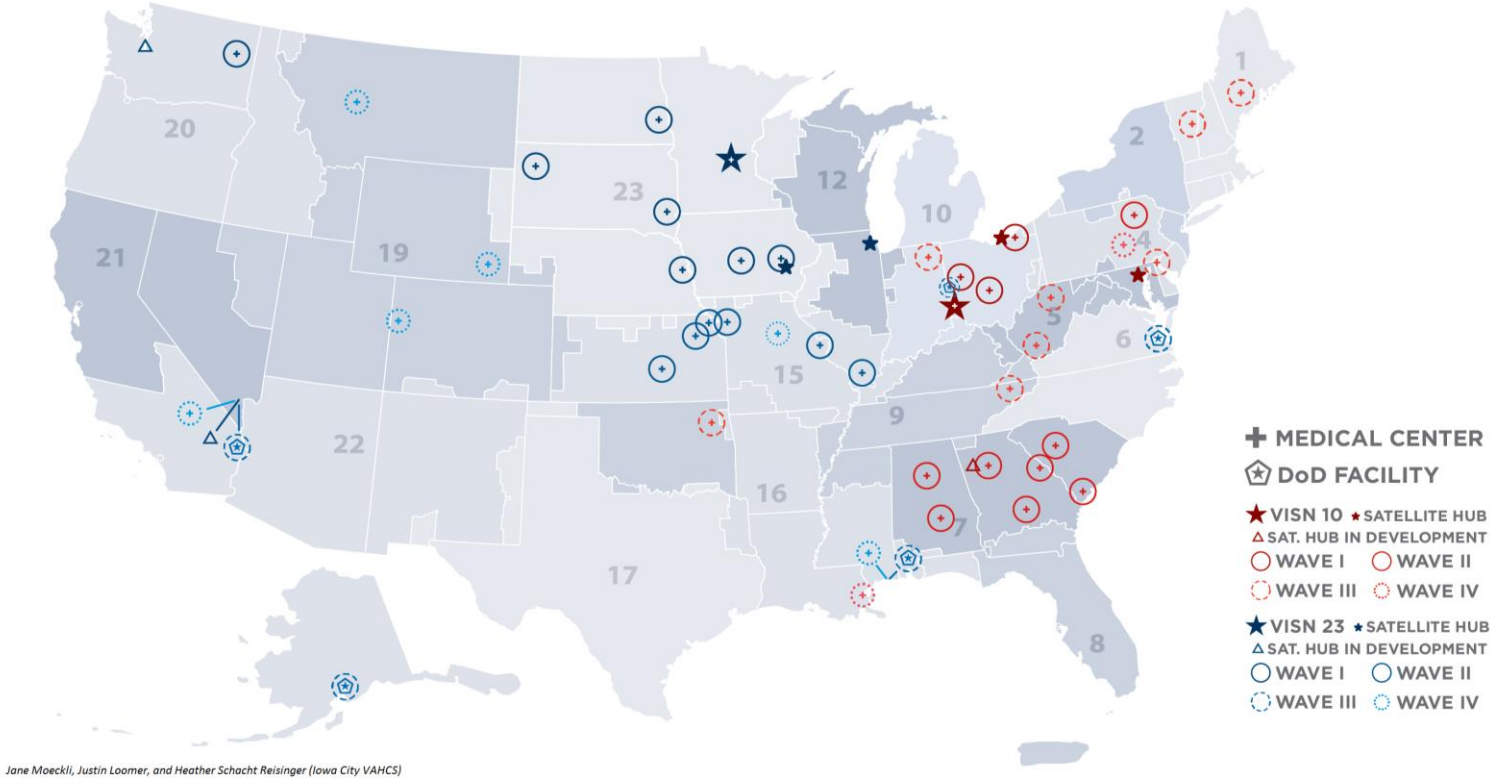
Best wishes for a happy holiday season and a healthy happy and productive new decade!

Ralph

Best wishes for a happy holiday season and a healthy happy and productive new decade!
provide the best care!

TeleCritical Care Now

- Growth of TeleCritical Care program nationally
- How tele-health has come to the forefront, especially with the COVID pandemic and the changes in how we engage with patients



Wrap Up

Re-cap and Moving Forward

- Using ethnography to study implementation
- Applying theory to organize, analyze and interpret qualitative data
- Operationally partnered research with impact
- Ongoing work:
 - ORH-funded project: *Optimizing Coordination of Multidisciplinary Critical Care Management with TeleCritical Care* (Moeckli)
 - HSR&D IIR: *Building a Learning Healthcare System to Understand and Improve Sepsis Outcomes in the VA TeleICU Network* (Blum & Reisinger)

Additional Resources (not exhaustive)

□ Data Collection

- Barbour (2018) Doing Focus Groups ([Link](#))
- Sayre and Young (2018) “Beyond Open-Ended Questions: Purposeful Interview Guide Development to Elicit Rich, Trustworthy Data” ([Link](#))
- Wolfinger (2002) “On writing fieldnotes: collection strategies and background expectancies” ([Link](#))

□ Data Analysis

- Abraham, TH et al (2020) “A Method for Developing Trustworthiness and Preserving Richness of Qualitative Data During Team-Based Analysis of Large Data Sets” ([Link](#))
- Hamilton, A (2020) “Rapid Qualitative Analysis: Updates/Developments” ([Link](#))
- Hemmler, VL et al (2020) “Beyond a coefficient: an interactive process for achieving inter-rater consistency in qualitative coding” ([Link](#))

□ Data Presentation

- Bunce et al (2014) “Ethnographic process evaluation in primary care: explaining the complexity of implementation” ([Link](#))
- McCullough et al (2015) “The interplay of contextual elements in implementation: an ethnographic case study” ([Link](#))

Questions?

- STS Case Study
 - ▣ Jennifer.VanTiem@va.gov
- Implementation Science & Ethnography
 - ▣ Heather.Reisinger@va.gov
- Ethnographic Methods and Implementation Core (EMIC) @ CADRE
 - ▣ Jane.Moeckli@va.gov
- TeleCritical Care
 - ▣ Lynn.Fitzwater@va.gov
- Qualitative Methods Learning Collaborative
 - ▣ Christine.Kowalski@va.gov