

Measuring for Meaning: Innovative Qualitative/Mixed Methods

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Intro

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Methods

- Qualitative and mixed methods
- Application to D&I

Content

- Health promotion and chronic disease management in primary care

Agenda – Fast Run Through Lots of Methods!

Qualitative research and methods

- What it is
- Some ideas

Mixed Methods

- What it is
- Some ideas

Brief review – idea generation

- Not describing how to use methods



What is Qualitative Research?

Qualitative research is a process of naturalistic inquiry that seeks in-depth understanding of social phenomena within their natural setting. It focuses on the "why" rather than the "what" of social phenomena and relies on the direct experiences of human beings as meaning-making agents in their every day lives. Qualitative researchers use multiple methods of inquiry such as case study, ethnography, grounded theory and phenomenology.

Said another way

Qualitative observation

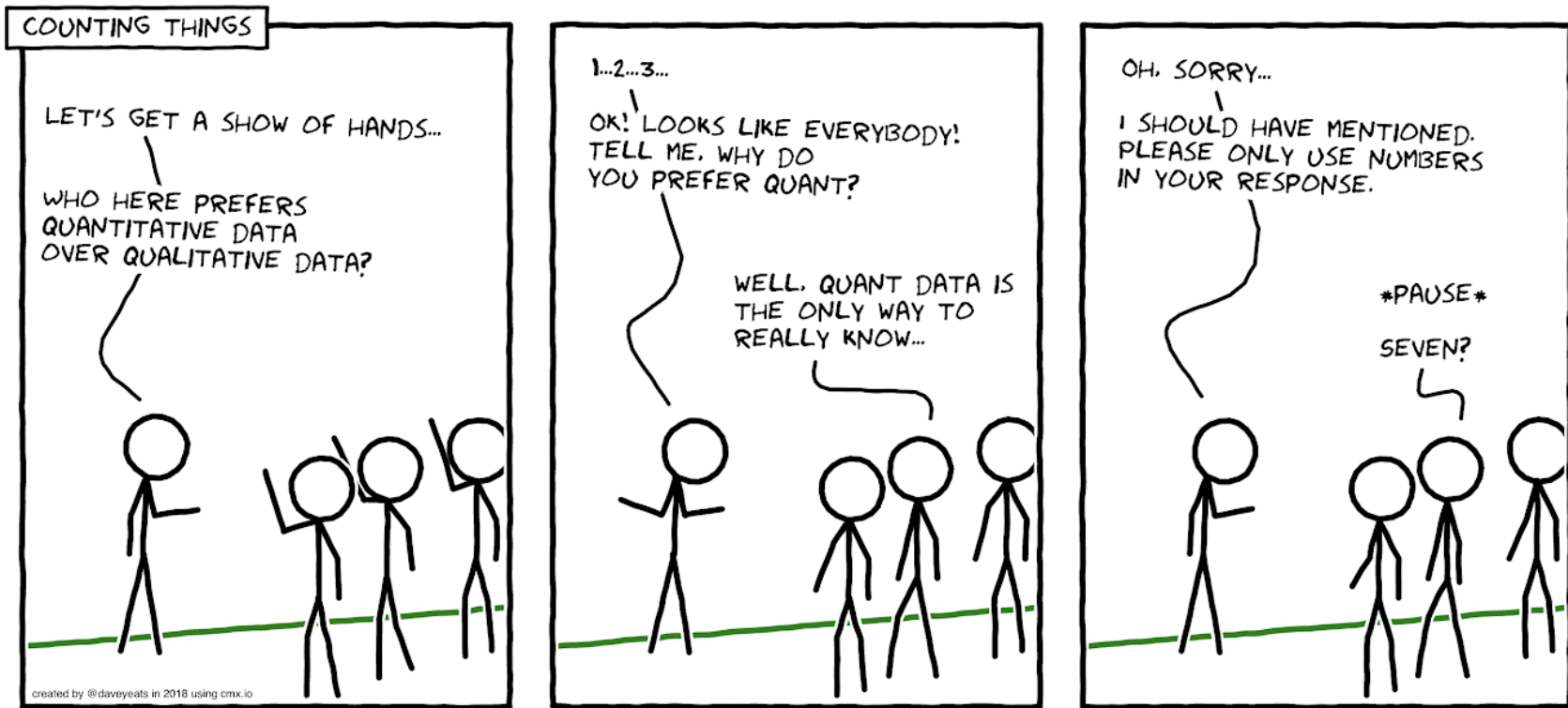
A bunch of beautiful, round and smooth glass marbles.



Quantitative observation

5 marbles of 1.5 cm diameter each.

The Beauty of Qualitative



Qualitative
methods
provide their
own value

**NOT EVERYTHING
THAT CAN BE
COUNTED COUNTS,
AND NOT
EVERYTHING THAT
COUNTS CAN BE
COUNTED.**

• WILLIAM BRUCE CAVEIROX



However, people
question its rigor

Watson, I know what
caused the death



But you have only
administered a few interviews
and gone on two site visits.
Should you not collect
evidence that is more robust?



freshspectrum.com

Hallmarks of High-Quality Qualitative Research

What it's like:

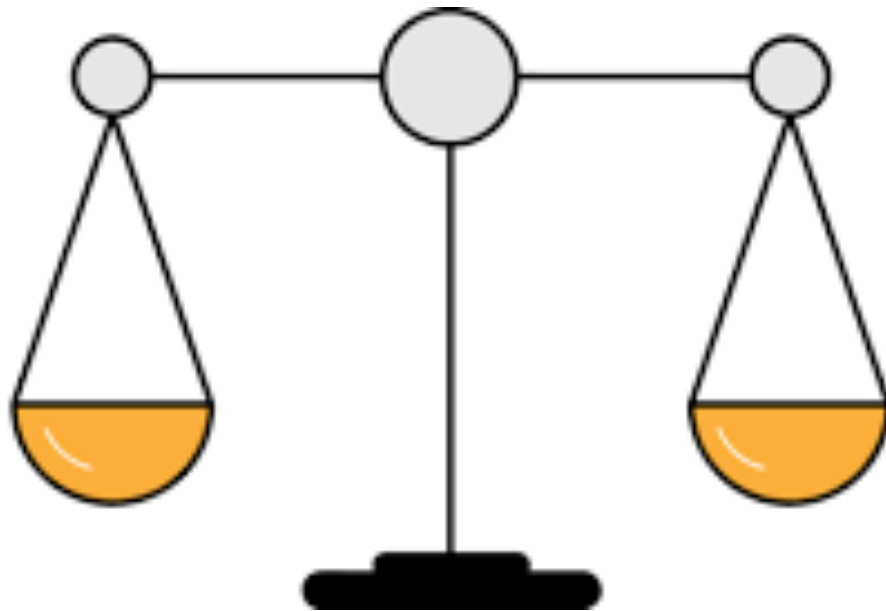
- Open inquiry
- Inductive
- Naturalistic
- Descriptive and interpretive
- Multiple perspectives
- Cyclic
- Attention to context
- Focus on particular

Doing it well:

- Clear study questions and methods
- Transparency
- Unbiased data collection and analysis
- Skilled and multi-disciplinary team members
- Triangulation
- Many passes through data
- Many data sets
- Immersion in the topic/literature/experience
- Knowing your data and representing it honestly

Qualitative Data Collection Methods

Quantitative:
Tests
Surveys
Codings
Scorings
Biometrics...



Qualitative:
Interviews
Observations
Focus Groups
Field studies
Questionnaires...



Qualitative Methods



Asking People Questions

- In a group = focus group
- 1:1 = interview
- Small group interview
- Online = online focus group or interview



How to Decide? Interview or Focus Group

How much time to collect information?

- One hour with one person versus one hour with a group, get more info from the one person
- Interviews take more time of the interviewer than focus groups, but the same amount of time for the participants

Type of data collected

- Sensitive or personal information more appropriate for interviews
- Need homogeneous groups for focus groups

Triangulating perspectives?

- Groups bias each other with input, interviews do not, can see what each person says, looks for the space in between

Getting to group think?

- Bonus of focus groups, not possible in 1:1 interviews

Logistics

- Interviews easier to schedule than focus groups most often
- Focus groups more difficult to conduct, more planning

Match the Interview Type to Your Research – You don't always have to do semi-structured



Match the Approach to your Research – Try a Different Interview Method

- Critical incident
 - Analyzes a key decision point
(slip when trying to quit smoking)
- Task analysis
 - Analyzes a process in depth
(steps in discharge planning with
methadone referral)
- Appreciative inquiry
 - Analyzes what works (how person was able
to adhere to treatment regimen)



Where to do the Interview – Virtual versus In Person

In person:

More context by being there in the setting

Can see and pick up cues, body language

Important for certain types of studies

May be more expensive (travel, parking, etc.)

Virtual:

More efficient for everyone, esp the interviewer

Need to have and use technology

Easier for participant to be distracted, can be off camera

May be more possible to participate at all

How to do the Interview – Synchronous or Asynchronous?

Synchronous = at
the same time

Ask questions and
get answers right
then

Allows for dialogue

Can do through an
online forum (like
chat) or more like
a video meeting

Asynchronous = at
a different time

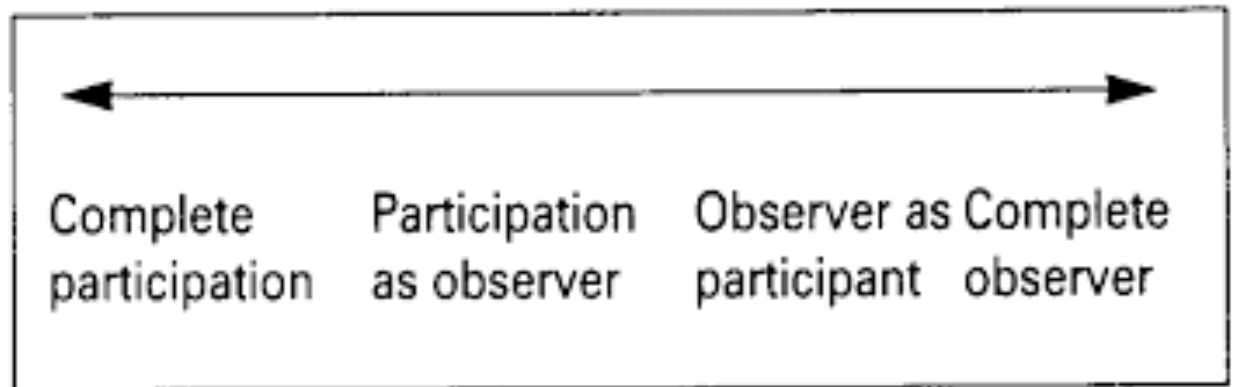
Post questions and
participants
respond by a
deadline

Allow for thinking
about answers

Often done
through a chat or
discussion forum

Observations/Watching People

- Observation
 - Watching something (people in the waiting room)
- Shadowing
 - Following a person (physician perform role)
- Participant immersion
 - Being the person (being the patient in a visit)



Observations - Being there or not?

Being there

- Can introduce the bias of another person (affect processes, interactions, etc.) although often reduces through time
- Takes more time
- Can do the rating, notes at the same time
- Get at those things only being there will get you

Recording

- Have a record to go back later
- May not have to be onsite
- Might be less time (depending on review time)

Try Other Methods



Photovoice

Take pictures and then tell the story of them



Digital storytelling

Take videos and tell the story



Journaling/Freelisting

Writing out thoughts for review later



Document review/artifacts

Internet/websites
Meeting minutes/policies

Photovoice and Digital Story Telling

HOW

- Participants use their smart phones to take pictures or videos of the topic area. Ex: How does pain affect your life?
- Send in the pictures/videos, maybe have them pick the three most salient
- Can do or not – follow-up interview 1:1 or in group to discuss what the pictures/videos mean to them

WHY/WHEN

- Useful for getting at emotional topics that are hard to put into words “a picture is worth a million words”
- Allows participants to interact in a more engaging way
- Helps participants to think at different times about the issue, which might produce richer information

Journaling

HOW

- Provide a prompt and set up instructions
- Set up time
- Have participants write out answers to the questions

WHY/WHEN

- Want to get information more “in the moment” or close after
- Does not require a back and forth with the participant – they can work on and submit over time
- Helps to elicit insights, participants can reflect on their experiences

Freelisting

HOW

- Provide a prompt and set up instructions
- Set up time
- Each respondent lists all the words they would use to describe a specific construct (for example, What comes to mind when you think about staying healthy while in school?)
- These responses are combined across all participants in the group to identify all the salient constructs and boundaries of a particular domain for members of the group

WHY/WHEN

- Want to be able to categorize main themes about a topic and then represent in groupings
- Allows to make comparisons among groups
- Can be done rapidly and is qualifiable

Document Review/Artifacts

HOW

- Identify the source of the information (meeting minutes, policies, educational materials, online or website content)
- Identify the parameters of the question(s) and type of information sought
- Select documents or queries and utilize them for analysis

WHY/WHEN

- If there is richness to written or publicly or retrievable information
- Does not involve others/burden
- Do not gain insights from participants perspectives, hard to know who the participants even are sometimes



How to Decide What Methods?

- Do you need to know what people think? Want to focus on perceptions?
- Do you want to have a way to validate what is happening?
- How much time? Money? Other resources like trained personnel?
- Able to go to the site of where it is happening? Are there access issues?
- Do participants want to be involved? Do you not want to bias the information by being involved?

Multiple Qualitative Methods



Good combination: Multiple of the same type

Interviews with focus groups

Document review with observation

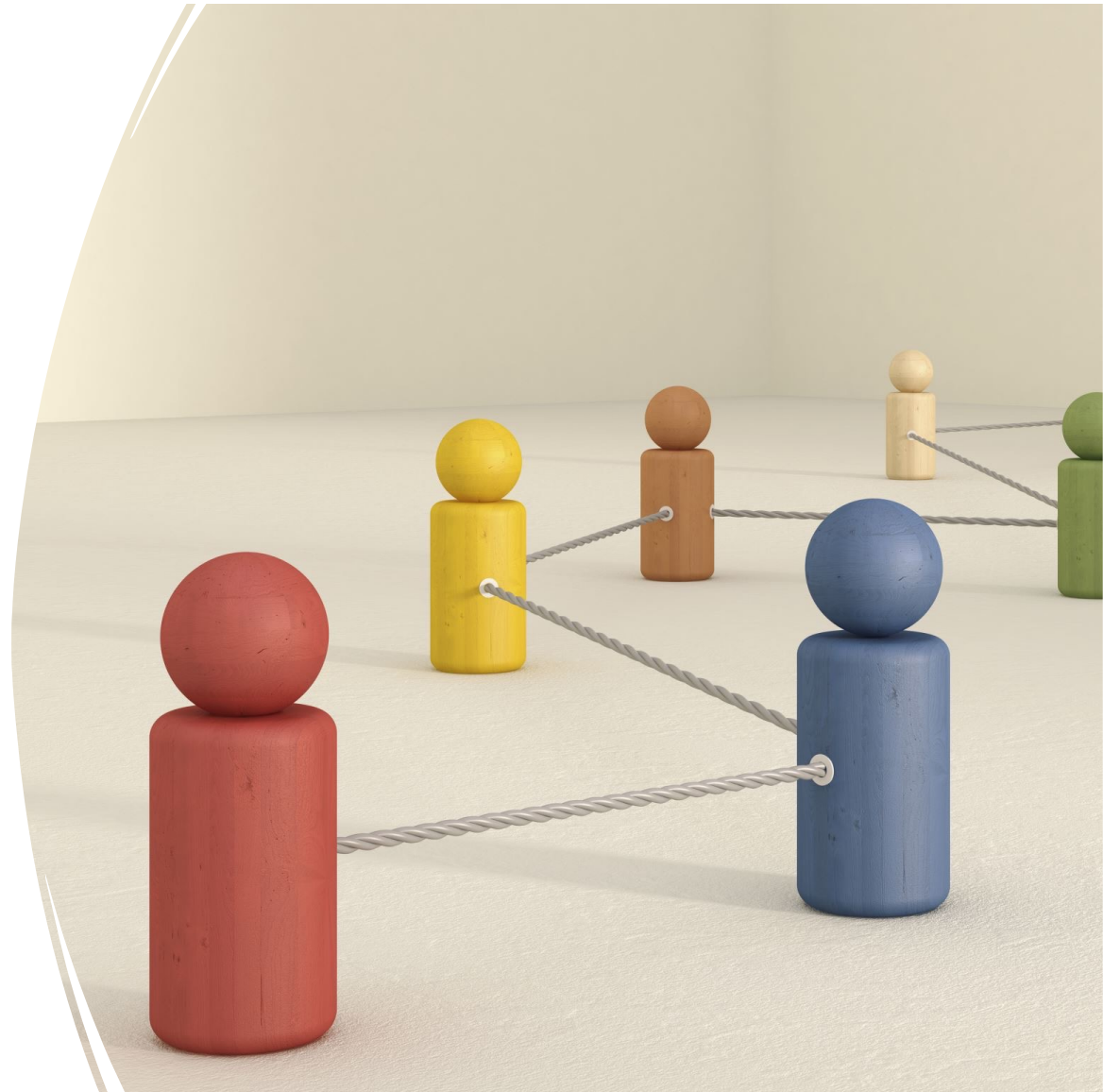


Good combination: Multiple of different types

Interviews with observation

Freelisting with photovoice

Use Theories,
Models or
Frameworks



RESEARCH ARTICLE

Open Access

Qualitative approaches to use of the RE-AIM framework: rationale and methods



Jodi Summers Holtrop^{1*}, Borsika A. Rabin^{1,2} and Russell E. Glasgow¹

Abstract

Background: There have been over 430 publications using the RE-AIM model for planning and evaluation of health programs and policies, as well as numerous applications of the model in grant proposals and national programs. Full use of the model includes use of qualitative methods to understand why and how results were obtained on different RE-AIM dimensions, however, recent reviews have revealed that qualitative methods have been used infrequently. Having quantitative and qualitative methods and results iteratively inform each other should enhance understanding and lessons learned.

Methods: Because there have been few published examples of qualitative approaches and methods using RE-AIM for planning or assessment and no guidance on how qualitative approaches can inform these processes, we provide guidance on qualitative methods to address the RE-AIM model and its various dimensions. The intended audience is researchers interested in applying RE-AIM or similar implementation models, but the methods discussed should also be relevant to those in community or clinical settings.

Key Evaluation Questions with RE-AIM

RE-AIM Component	Quantitative	Qualitative
Example data collection methods	EMR, Study tracking/records, surveys, measurements, claims	Interviews, focus groups, observations, document review
Reach – number and representativeness of patients in intervention	# of patients participating/#eligible Frequency of patients with certain characteristics	Factors about patients that influenced participation in total and by certain types of patients
Effectiveness – results of the health impacts on the patients	Change in health outcomes in participating patients	Factors about the influence of the intervention on the outcomes
Adoption – uptake by the settings or intervention agents (providers)	# of settings that tried the intervention; # of providers who provided the intervention	Reasons why sites or providers initiated the intervention
Implementation – way the intervention was implemented that affect the outcomes	% adherence to core components; cost to implement; # drop out of implementation; # types of unintended consequences	Factors that allowed or facilitated the intervention to go well (or not); factors that interfered
Maintenance – sustainment of the intervention past the study period	# of sites that continued intervention past the study	Factors that affected continuation and/or adaption of the intervention
Key Questions	<i>What happened?</i>	<i>Why did it happen? What influenced it happening (or not)?</i>



Qualitative Data Analysis Methods



Data Analysis Methods – Lots of Choices

- Thematic Analysis (identify themes across data)
- Matrix (patterns of meaning across units)
- Case studies (in-depth understanding of a case or several cases)
- Grounded Theory (emerges from the data, “from the ground up”)
- Phenomenology (understanding a lived experience or phenomenon)
- Ethnography (importance of context and culture)
- Immersion/crystalization

Rapid Qualitative Assessment Protocol (RAP)

- Qualitative can take a long time
- In some instances, doing the qual work on a faster timeline is needed. Rapid is not rushed
- What it is: “intensive, team-based *qualitative inquiry* using triangulation, iterative data analysis and additional data collection to quickly develop a *preliminary understanding* of a situation from the insider’s perspective” (Beebe 2001)

Beebe, J. *Rapid Assessment Process: An Introduction*. AltaMira Press, 2001

Hamilton, A. Qualitative methods in rapid turn-around health services research. VA HSR&D National Cyberseminar Series: Spotlight on Women’s Health. December 2013. Available at:
https://www.hsr.d.research.va.gov/for_researchers/cyber_seminars/archives/video_archive.cfm?SessionID=780

What is Unique about RAP?

- Approach is “telescoped” and action-oriented
- A pragmatic need for qualitative data exists, e.g., to describe:
 - The environment where an intervention, educational practice, social policy will be implemented
 - The process that occurs while the intervention is underway
 - “Usual” services, practices, everyday experience
- Typically and preferably conducted by teams
- Typically need to draw data quickly from multiple sources; often triangulate with quantitative data
- Potentially less time to critique, reflect, synthesize

When Might you Need a Rapid Approach?



Specific timeframe

Project period is for a short period of time
Deliverables are due on a certain date



Need for products/progress, e.g.

Competition/pressure to publish
Need data for preliminary studies section of a proposal
Need to provide partners (operations, community, **policy makers**, etc.) with rapid feedback



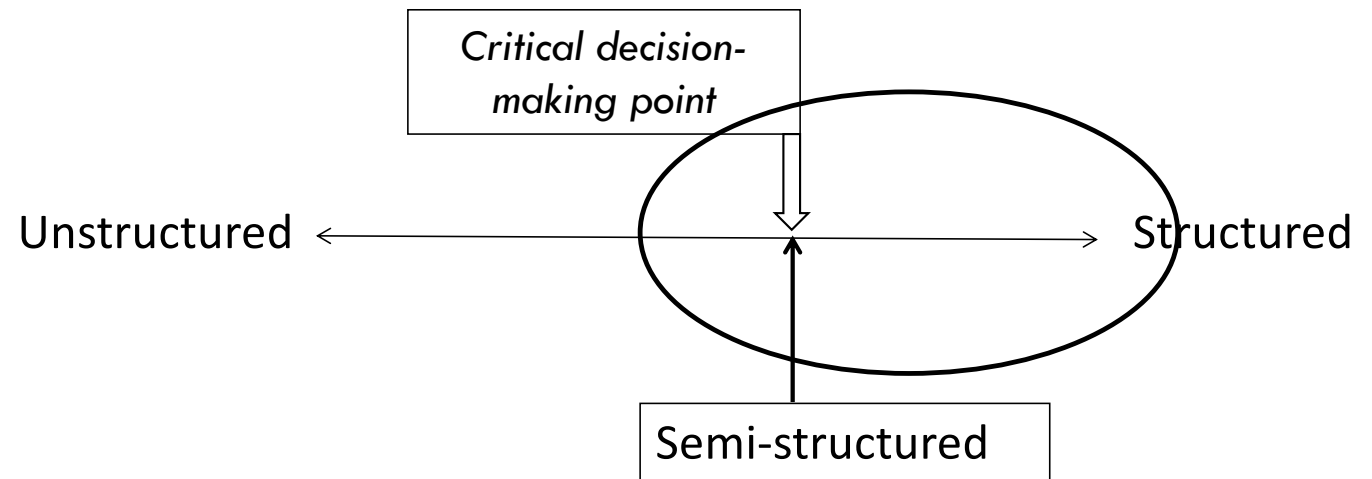
Use of qualitative data for other aspects of study/project

Inform each phase of data collection
Need to make real-time modifications to an implementation strategy
Need qualitative data to inform quantitative measures/instruments
Need to understand unexpected discoveries/findings



Striking while iron is hot (time-sensitive issues/developments)

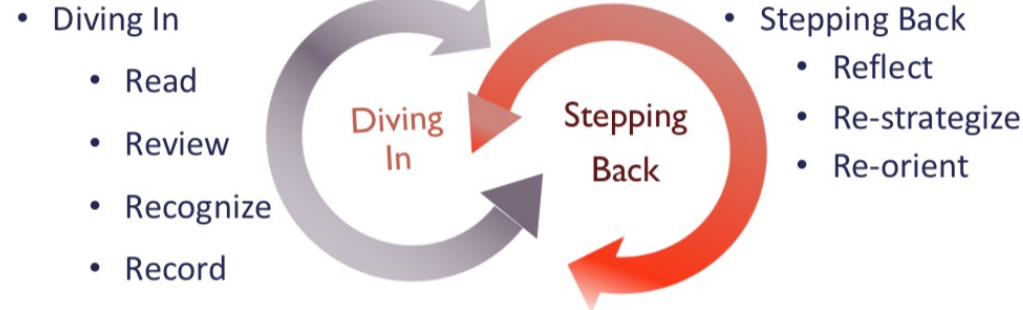
Choosing your Qualitative Method



- Focus groups
 - Could use activities
- Semi-structured interviews
 - Could contain rating/ranking questions
 - Could limit sample to key informants, key stakeholders (e.g., purposeful sampling)
- Observations
 - Could use templates

Analytic context for rapid approach: Sort and Sift, Think and Shift (Maietta, Hamilton, et al.)

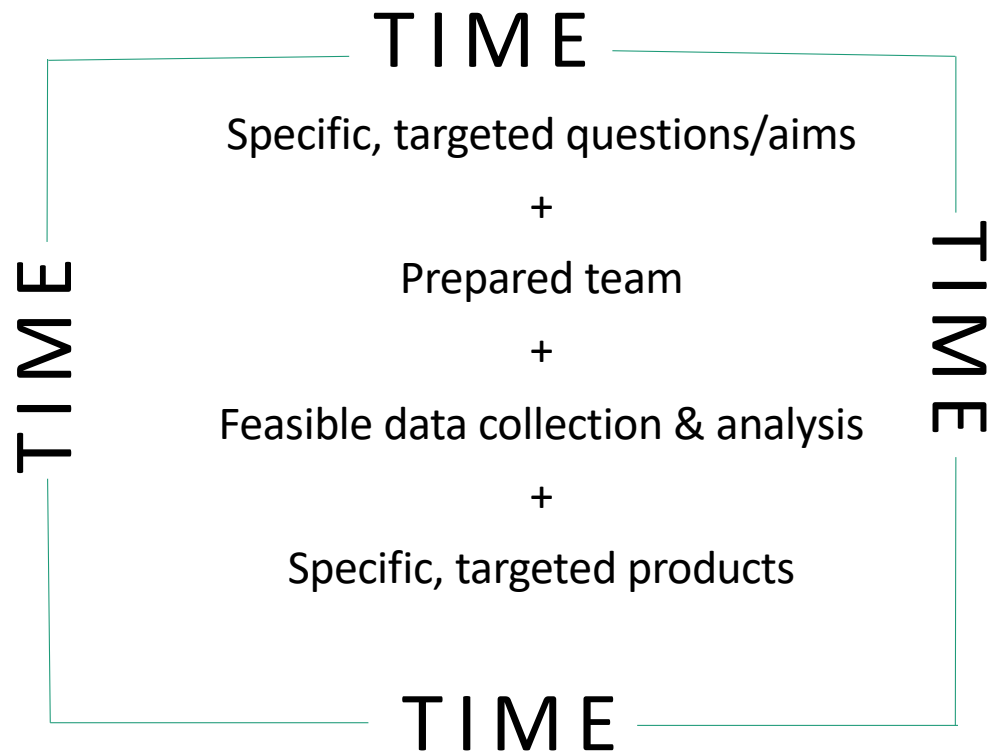
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The “diving in” and “stepping back” phases of the Sort and Sift method are necessarily interdependent and synergistic.

See: Fryer CS, Passmore SR, Maietta RC, Petruzzelli J, Casper E, Brown NA, Butler J 3rd, Garza MA, Thomas SB, Quinn SC. The Symbolic Value and Limitations of Racial Concordance in Minority Research Engagement. Qual Health Res. 2016 May;26(6):830-41.

Designing a Rapid Qualitative study: Matching up the Pieces



Rapid Analysis Steps at a Glance**

- Step 1: Create a neutral domain name that corresponds with each interview question
- Step 2: Create a summary template for use by the team
- Step 3: Take the summary template for a “test drive” and assess its usability, relevance, etc.
- Step 4: After consistency has been established across the team of summarizers, divide up the transcripts across the team and summarize
- Step 5: Transfer summaries into a matrix (respondent x domain)

***Tailor this process to meet your team’s needs/styles and the goals of your project*

Rapid Data Analysis: Some Considerations

- NOT FOR EVERY PROJECT! Consider when rapid is the trade-off you want to make
- Rapid analysis may need to be supported by individuals with limited/no qualitative methods background
- Data analysis is driven by a multifaceted approach
 - Rapid data analysis necessitates use of several different qualitative analysis tools
- Data consolidation/condensation is needed to turn *preliminary* analyses around quickly
- ***Rapid data analysis does not and should not preclude other types of engagement with your data!***

Mixed Methods Research

Research in which the investigator:

- collects and analyzes data,
- integrates the findings, and
- draws inferences using both qualitative and quantitative approaches or methods in a single study or a program of inquiry.

Source: Tashakkori & Creswell (2007)



Mixed versus Multi Methods

Multi Methods

- Uses more than one method
- Can be two qualitative or two quantitative or some quantitative and some qualitative



Mixed Methods

- Uses both qualitative and quantitative
- Involves mixing and integration of the data so that one type of data informs another



What is Integration?

- Where qualitative and quantitative data come together
- **Synergy - inferences beyond what either alone could generate**
 - Ex. Intervention benefits + participant experiences
 - Ex. Program outcomes + process
- Distinguishes mixed methods - “cornerstone”
- Consider based on your design



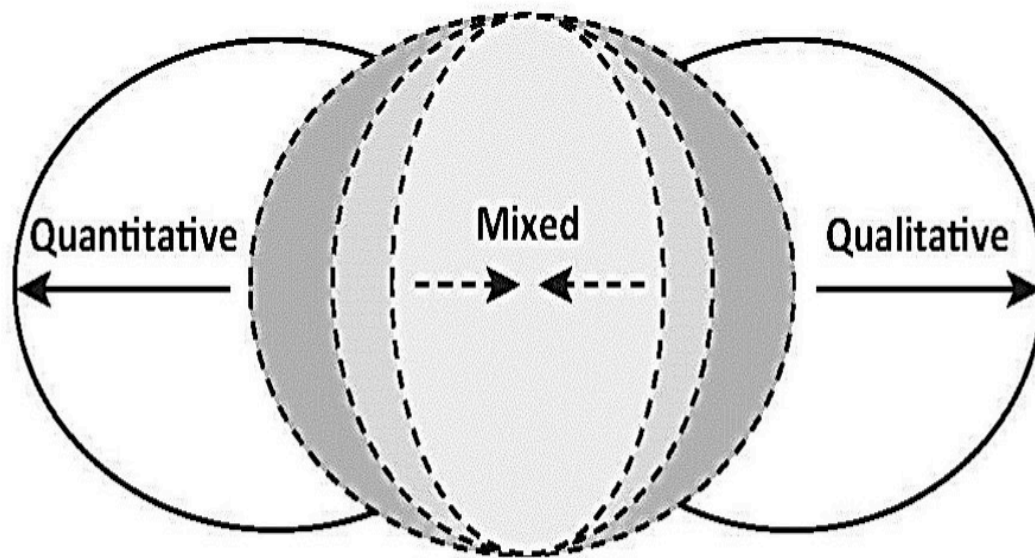
When to use Mixed Methods?



- Gain multiple perspectives to enhance the meaning of the results
- Need contextual information
- Gain a more complex understanding of a problem
- Compare, validate or triangulate results
- Examine processes and experiences with the outcome of the study

- Consider mixed methods for any study in which you are studying people in their own settings (not a controlled “lab” setting)

Essence of Mixed Methods Research



Goal –
Identify meta-themes
that cut across the
findings from different
methods (Farmer and
colleagues)

Source: Plano Clark & Ivankova (2016)

Main Mixed Methods Designs



EXPLORATORY
SEQUENTIAL

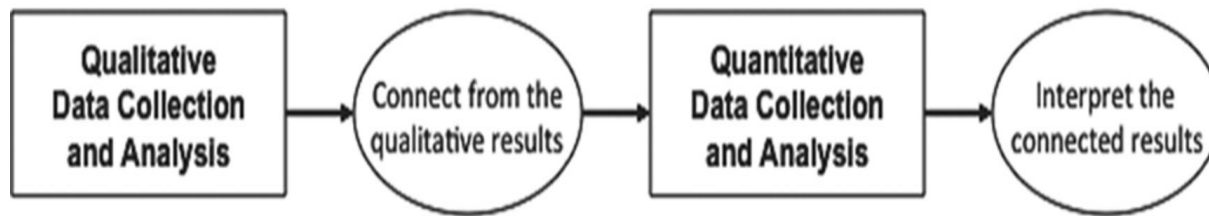


EXPLANATORY
SEQUENTIAL



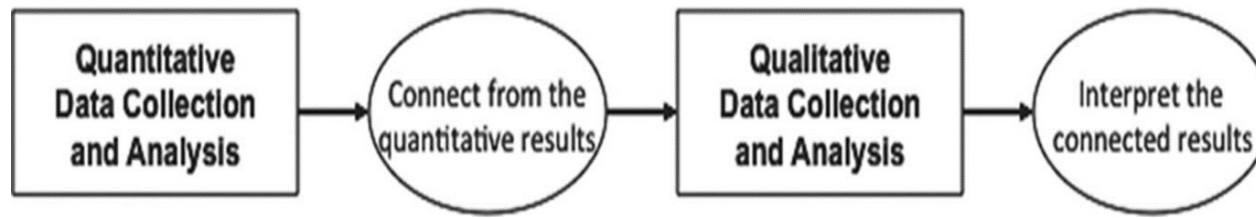
CONVERGENT OR
CONCURRENT

Exploratory Sequential



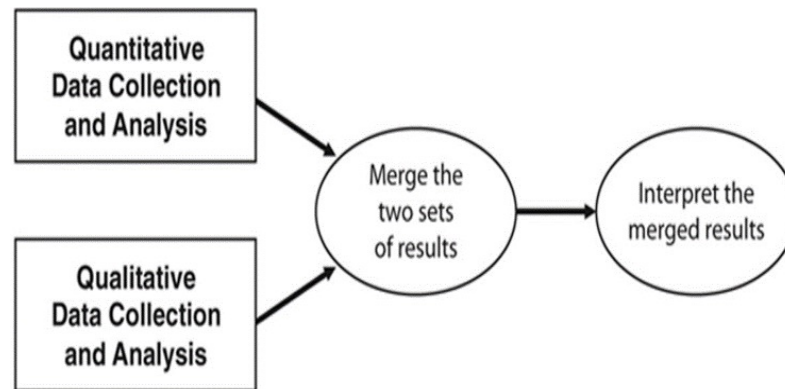
- Goal: Explore a problem through qualitative methods and analysis, and then use the results to develop or refine a quantitative instrument or intervention that will be implemented

Explanatory Sequential



- Goal: Use qualitative methods to explain the results of the quantitative results
- Questions to consider when collecting the qualitative data
 - What results need further explanation?
 - What qualitative questions arose from the quantitative results?

Concurrent or Convergent Parallel



- Goal: Use qualitative and quantitative results to provide insights from multiple angles and perspectives
- Consider how the qualitative and quantitative results are informing each other



Data Transformation



Data Transformation: Quantitizing

Quantitizing – converting qualitative data into quantitative data

- Why would you want to do this?
 - Represent your data in numbers to establish patterns or analyze for relationships through statistical analysis
 - Opportunity to enhance the quantitative data
- How do you do this?
 1. Conversion of analyzed qualitative data into numbers or groups (nominal, ordinal, interval, ratio)
 2. Analyze with other quantitative data
- Example
 - Frequency of a theme within a sample by converting it to percentages
 - Count of time, length and number of behaviors per hour during observations and interviews

Data Transformation: Qualitizing

Qualitizing – converting quantitative data into qualitative data

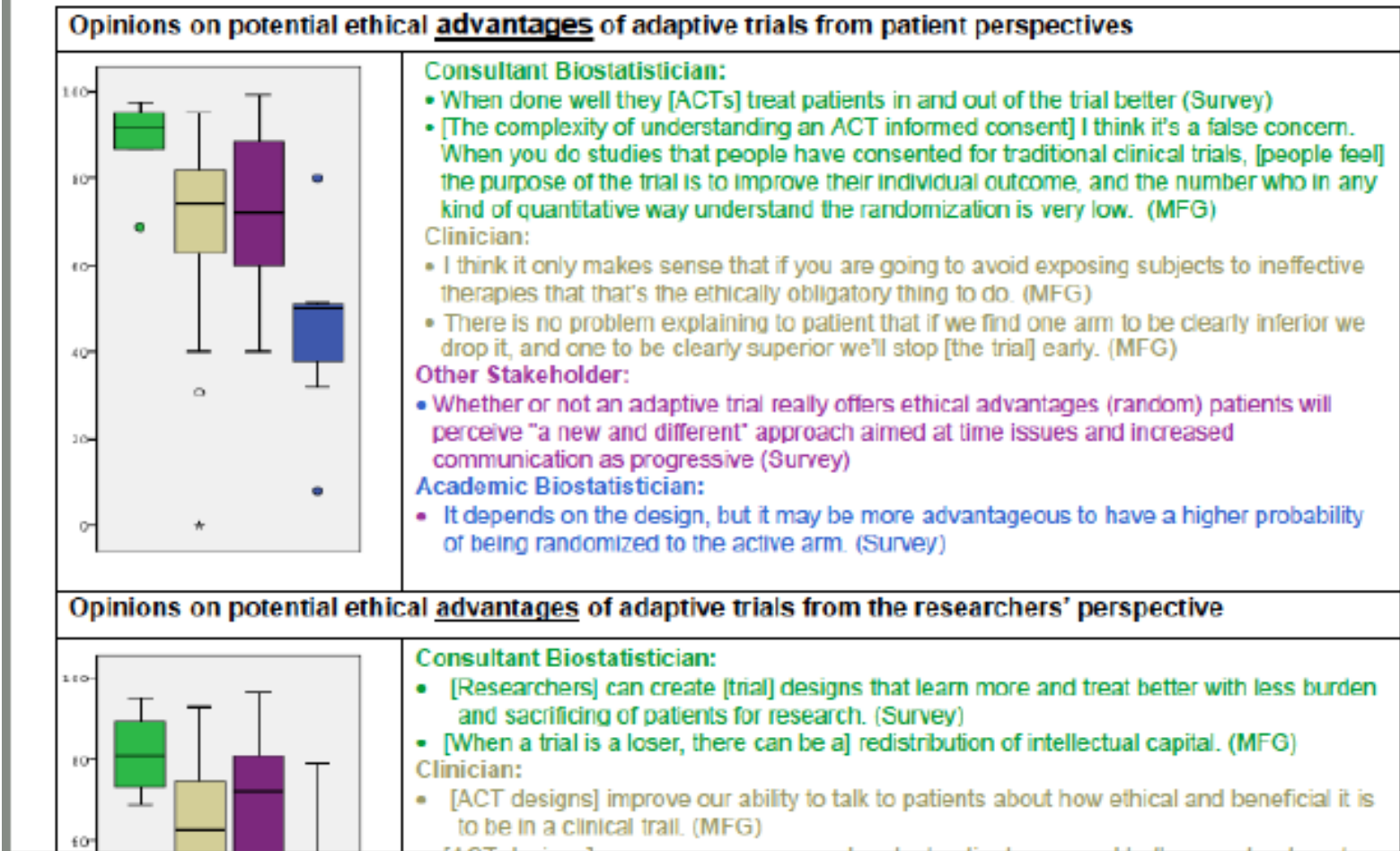
- Why would you want to do this?
 - Represent complex statistical data in more thematic ways to enhance understanding
 - Opportunity to enhance the qualitative data
- How do you do this?
 1. Conversion of analyzed quantitative data into qualitative text data (codes, themes, descriptions)
 2. Analyze with other qualitative data
- Examples
 - Summarizing trends as increasing or decreasing
 - Percentages of answers around core constructs into an overall “theme”
 - Groupings of categories clustered into descriptive typologies



Analyzing Mixed Methods Data

Joint Display analysis - Examples

Figure 1. Clinical trial expert opinions on ethical advantages to adaptive clinical trials



Fetters MD, Curry LA, Creswell JW. Achieving integration in mixed methods designs – principles and practices. Health Serv Res, 48(6 Pt 2): 2134-56, 2013

Figure 5. A joint display from a mixed methods intervention design organized by 4 categories of patient treatment benefits.

Table 4 Joint display of patient experiences per treatment benefits

Treatment benefits	Change in music therapy ^a	Change in music medicine ^a	Patient experiences
↑MT, ↓ MM	0.65 to 1.88	-0.11 to 0.38	<ul style="list-style-type: none"> • Emphasize the importance of therapeutic relationship and support by therapist • Enjoy the creative aspect of music making • Are hopeful for the future
↑MM, ↓ MT	-0.46 to 0.59	0.33 to 1.63	<ul style="list-style-type: none"> • Apprehensive about active music making • Prefer familiarity of pre-recorded music • Hesitant about exploring feelings related to cancer
↑MT, ↑ MM	0.61 to 1.07	0.73 to 1.37	<ul style="list-style-type: none"> • Strong conviction about the power of music to support and give hope • Use music for mental escape • Use music for emotional exploration and value processing of emotions with therapist
↓ MT, ↓ MM	-0.67 to -1.03	-0.52 to -1.06	<ul style="list-style-type: none"> • Hold little hope for the future • Music evokes sad and traumatic memories • Feel inadequate regarding music making and singing • Prefer aesthetics of original recordings

↑ great improvement, ↓ less improvement or worsening

^a Range of z -scores (average of z -scores for mood, anxiety, and pain)

Reprinted with permission from Support Care Cancer. 2015;23(5):1261-1271.²⁸

Table 3. Results of Convergent Parallel Design.

Quantitative findings	Qualitative findings	Merged findings outcome
Inconsistent change in social networks; some networks contracted while others expanded.	Participants engaged in a process of distancing themselves from negative network members and of attempting to engage in new positive relationships.	Confirmatory: Convergent and complementarity
Majority of participants reported having fewer formal providers in their network and having fewer people whom they could go to for advice.	In housing, participants now regarded themselves as being able to provide rather than receive advice.	Confirmatory: Expansion
Many participants reported having an increased proportion of network members who drank or used drugs.	Participants attempted to help those (both new and old network members) who struggle with similar substance use issues—that is peer support.	Confirmatory: Convergent and complementarity
Participants either had more or fewer social network members who were employed.	Overall increased social capital across the sample.	Discrepant

Table 5. Nonspousal Family Support Joint Data Display of Qualitative and Quantitative Findings.

Qualitative subthemes (from Churches study)	Quantitative variables (from NSAL items)	<i>p</i>	Mixed methods interpretation
Men reported that family members (siblings/sons/daughters) help frequently.	How often do people in your family—including children, grandparents, aunts, uncles, in-laws, and so on—help you out? Would you say <i>very often, fairly often, not too often, or never?</i>	<.001	Help: Not only was it socially and culturally (QUAL) relevant, but it was also found to be statistically significant (QUAN) for older, Church-going African American men in the study.
Men reported that they communicate with family members often, and reach out to family whenever they need help.	How often do you see, write or talk on the telephone with family or relatives who do not live with you? Would you say <i>nearly every day, at least once a week, a few times a month, at least once a month, a few times a year, hardly ever or never?</i>	<.001	Communication: Not only was it socially and culturally (QUAL) relevant, but it was also found to be statistically significant (QUAN) for older, Church-going African American men in the study.
Men reported that they feel close enough to family members to go to them with their mental health problems.	How close do you feel toward your family members? Would you say <i>very close, fairly close, not too close, or not close at all?</i>	<.001	Closeness: Not only was it socially and culturally (QUAL) relevant, but it was also found to be statistically significant (QUAN) for older, Church-going African American men in the study.
Men reported that they feel emotionally supported by family members regarding their mental health needs.	Other than your (spouse/partner), how often do your family members make you feel loved and cared for? Would you say <i>very often, fairly often, not too often, or never?</i>	<.001	Feel Loved: Not only was it socially and culturally (QUAL) relevant, but it was also found to be statistically significant (QUAN) for older, Church-going African American men in the study.
Men reported how well their family members listen to them, how they feel connected to family members.	Other than your (spouse/partner), how often do your family member listen to you talk about your private problems and concerns? Would you say <i>very often, fairly often, not too often, or never?</i>	<.001	Listen: Not only was it socially and culturally (QUAL) relevant, but it was also found to be statistically significant (QUAN) for older, Church-going African American men in the study.
Men reported that their family members appear interested in their mental health needs and overall well-being.	Other than your (spouse/partner), how often does your family member express interest and concern in your well-being? Would you say <i>very often, fairly often, not too often, or never?</i>	<.001	Interested/Concerned: Not only was it socially and culturally (QUAL) relevant, but it was also found to be statistically significant (QUAN) for older, Church-going African American men in the study.

Note. NSAL = National Survey of American Life; QUAL = qualitative; QUAN = quantitative.

Figure 2. A joint display from an explanatory sequential design that is organized by a theoretical framework and relates categorical scores to quotes.

Table 4. Quotes Related to Lanham et al's Relationship Characteristics in Clinics with High and Low WRS Scores

Rich communication

Communication through face-to-face conversation; most effective when messages are unclear or ambiguous

Low WRS score clinics "I think that some days we should just sit down and say, 'Okay, this is what's going on. What do you know—how do you perceive this is supposed to be done?' ...[S]ometimes the hurdles that we run into are just, they could have been easily avoided if there had been a little bit better communication."

High WRS score clinics "Well, you know we have what's called huddle every morning and any problems from the day before are discussed in huddle with all the team members and the clerical staff, social workers, the pharmacist. So we all get to know anything that's going on at that time."

Heedful interrelating

Individuals are attentive to their work tasks and sensitive to how their roles and actions affect and intersect with those around them

Low WRS score clinics "...[T]here's a whole lot of tension and a lot of it has to do with, 'That ain't my job and you're messing in my area and you don't belong in my area and you need to back out and just stay in your own business.'"

High WRS score clinics "I think the teamwork here is just excellent. You know we really pitch in and try and help. Everyone's attitude basically is that if one person's working hard, we're all working hard."

Trust

Individuals feel safe in making themselves vulnerable to others

Low WRS score clinics "Some people are probably not going to verbalize a lot, because they're afraid it might get back to their boss or... because they don't want to rock the boat."

High WRS score clinics "So, I have learned so much about medicine itself from these people; not afraid to ask them for whatever."



Advanced Methods



Configurational Comparative
Methods



Social Network Analysis



User Centered Design

Configurational Comparative Methods (CCM)

CCM is a family of methods that allows considering program features and contextual conditions to examine relationships in groups or sets with outcomes.

**NOT statistics

Linear Additive Model	CCMs
Assumes normality and linear relationships	Applicable to non-normal, non-linear data
Assumes a single explanatory model	Allows for multiple explanatory models
Assumes factor independence	Allows for factor independence
Mid-large number subjects needed	Sample size independent-all sizes

CCM

- Moving from variables to conditions
- Groups of cases with an outcome condition
- Another group of cases without the outcome condition
- Additional information about each case is expressed in the form of conditions
- What uniquely distinguishes group A from group B

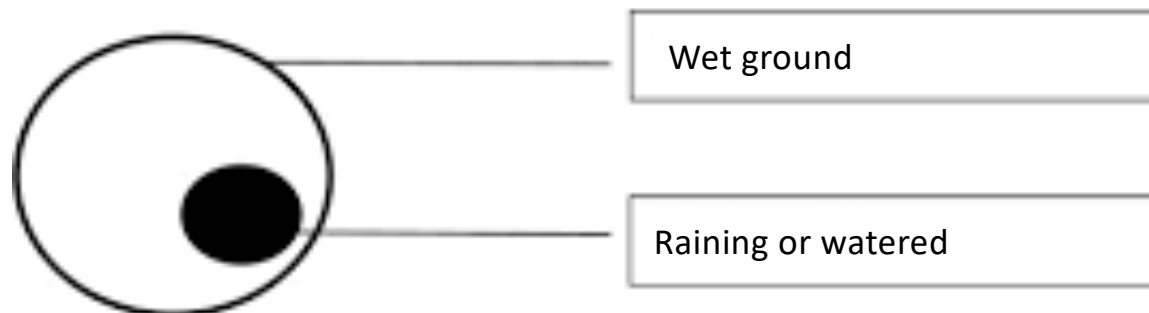
What CCM does

- Helps to identify conditions that produce an outcome – either singly or in combination
- Necessary
 - Must be present to produce a good outcome, but does not guarantee a good outcome (i.e. water must be present to have the ground wet)
 - High consistency score indicates strong relationship between the condition and outcome
- Sufficient
 - Sufficient conditions alone or in combination will always result in a good outcome although they are not necessary to produce a good outcome (meaning there are other paths to a good outcome) (the ground could be wet because it rained or because someone watered it)
 - Coverage score is high demonstrating high relevance to the outcome; or importance of each configuration to the solution
- Casual conditions can be necessary or sufficient, both or neither

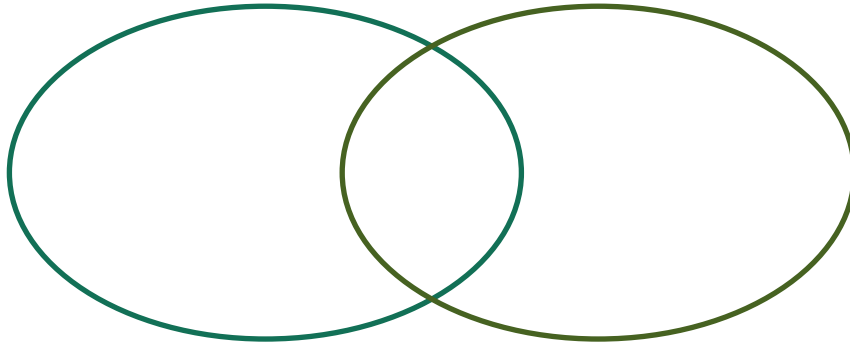
Necessity—The outcome is the subset of the cause



Sufficiency—The cause is the subset of the outcome

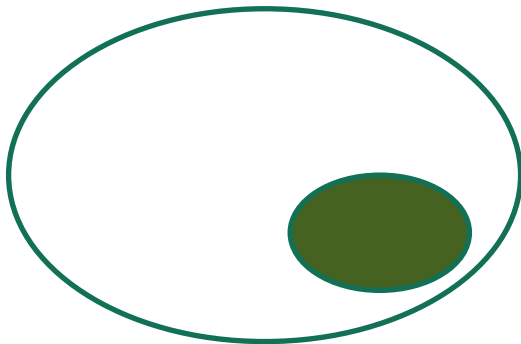


Consistency



Refers to the percentage of casual configurations of similar composition which result in the same outcome value. = relevance

Coverage



Refers to the number of cases in which a configuration is valid.

CCM includes CNA and QCA

CNA = coincidence analysis

QCA = qualitative comparative analysis

- Both use Boolean algebra and set theory to develop solutions of “difference making” configurations
- CNA first uses “bottom-up” (puts 1 in and then another in, then another in)
- QCA uses “all in” then you eliminate conditions

- Lots of debate about how to use each one and why one is better!

Differences with Statistics

CCM search target = find configurations of conditions linked to “light bulb being on”

- e.g., configurations of switches in on or off position
- combination of conditions (present or absent)

Correlational search target = find how “more/less of X” relates to “more/less of Y”

- e.g., dimmer switch

ORIGINAL RESEARCH

What Makes for Successful Registry Implementation: A Qualitative Comparative Analysis

*Jodi Summers Holtrop, PhD, MCHES, Tristen L. Hall, MPH, Claude Rubinson, PhD,
L. Miriam Dickinson, PhD, and Russell E. Glasgow, PhD*

Purpose: Registry implementation is an important component of successfully achieving patient-centered medical home designation and an important part of population-based health. The purpose of this study was to examine what factors are evident in the successful implementation of a registry in a selection of Colorado practices involved in quality-improvement activities.

Methods: In-depth, small-group interviews occurred at 13 practices. The data were recorded, transcribed, and qualitatively analyzed to identify key themes regarding elements of successful registry implementation. Key elements were described as conditions, then calibrated and analyzed using qualitative comparative analysis (QCA).

Results: The QCA revealed several formulas to successful registry implementation. Key conditions included the importance of Resources and Leadership along with either a Quality Improvement Mindset or a Key Person driving efforts (or both). Health System membership affected the specific formula.

Discussion: This study is innovative in that it examines which factors and in what combination are necessary for successful implementation of a registry. The findings have implications for primary care quality-improvement efforts. (J Am Board Fam Med 2017;30:657–665.)

Keywords: Adaptations, Implementation, Primary Health Care, Process, Registry

Table 4. Sufficiency Consistency and Coverage, including the Condition of QI Mindset

Configurations Leading to Successful Registry Implementation	Consistency	Raw Coverage	Unique Coverage	Observations with Strong Membership in this Configuration
HEALTHSYSTEM*KEYPERSON* RESOURCE*LEADERSHIP	0.99	0.50	0.02	P:1,2,3,5,6,8,9
HEALTHSYSTEM*QIMINDSET* RESOURCES*LEADERSHIP	0.98	0.58	0.10	P:1,2,4,5,6,7,8,9
KEYPERSON*QIMINDSET* RESOURCES*LEADERSHIP	0.97	0.73	0.25	P:1,2,5,6,8,9,10,12,13
Solution	0.97	0.86	NA	NA

This sufficiency analysis identifies three overlapping combinations of conditions that produced successful registry implementations. These solutions indicate that sufficient resources and strong leadership always accompanied successful registry implementations. Within large health care systems, success resulted when these conditions were combined with *either* a keyperson *or* a strong QI mindset. Alternatively, the combination of sufficient resources and strong leadership with *both* a key person *and* a strong QI mindset was sufficient for a successful outcome, regardless of the size of the healthcare system. The high consistency and coverage scores reported in the final row indicate that practices exhibiting one of these three combinations of conditions were almost always successful in implementing a healthcare registry and, furthermore, that almost all instances of successful registry implementation exhibited one of these three combinations of conditions.

Source: **Holtrop J Summers**, Hall T, Dickinson M, Glasgow R. What makes for successful registry implementation: A qualitative comparative analysis. *Journal of the American Board of Family Medicine*. 2017;30(5).

How does this
work with
Mixed
Methods?

Data originally qualitative or quantitative

Converted to quantitative and analyzed

Allows to see patterns in the data

Can be useful for theory building

Identifies multiple paths to success
(equifinality)

Social Network Analysis

Social network analysis (SNA) is an analytic method to examine networks and their communication and workflow patterns

Why would you want to do this?

- Social relationships can be a key factor driving implementation, this method highlights that – a way to “see” your data in a different way

How do you do this?

1. Identify who you want to collect data on and what the relationships that are important to capture (how much, how important, about what, roles, where located, etc.)
2. Determine the way you wish to collect this information (interviews, observations, survey, other data sources, etc.)
3. Use program to calculate the “statistics”
4. Interpret the results

ORIGINAL RESEARCH

Using Social Network Analysis to Examine the Effect of Care Management Structure on Chronic Disease Management Communication Within Primary Care

Jodi Summers Holtrop, PhD, MCHES¹, Sandra Ruland, MPH, DVM¹, Stephanie Diaz, BS¹, Elaine H. Morrato, DrPH², and Eric Jones, PhD³

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BACKGROUND: Care management and care managers are becoming increasingly prevalent in primary care medical practice as a means of improving population health and reducing unnecessary care. Care managers are often involved in chronic disease management and associated transitional care. In this study, we examined the communication regarding chronic disease care within 24 primary

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INTRODUCTION

SNA Example: Care management

- We used a written survey format to collect SNA data
- Our SNA questions: As a busy practitioner, you cross paths with and talk to a variety of people on any given day. Below, please write in the names of the **three most important people from whom you talk with, seek advice from, or refer to regarding the management of patients with all types of chronic disease** and complete the questions that follow.
 - Role
 - Physical location
 - Frequency of interaction
 - Topics of discussion
 - How important conversation(s) are to your role

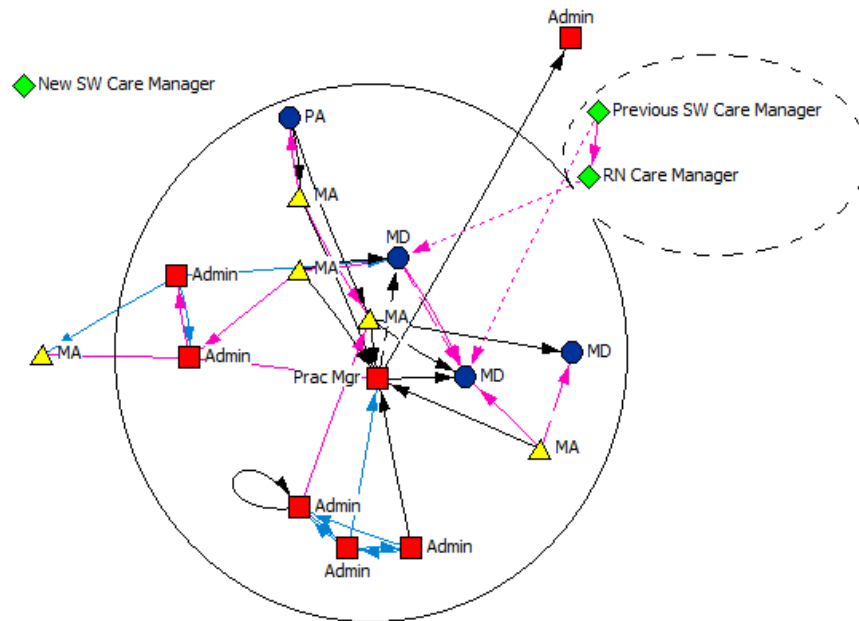
Three Care Manager Structures Emerged

Off-site: The care manager does not usually work in the practice - work location is from home and visiting patients in their homes, the care manager is employed by another organization than the practice (usually the practice association).

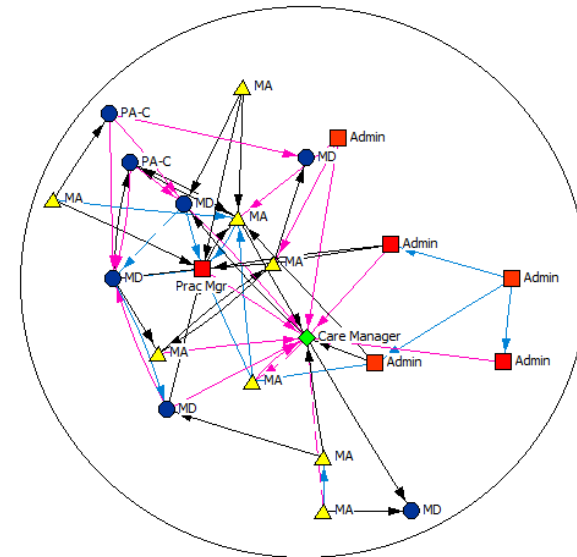
Co-located: The care manager works a minimum of half-day a week and up to four days in the practice, but is employed by another organization than the practice.

Embedded: The care manager works his or her full working hours (even if part-time) in the practice, although s/he may complete other duties as well. The care manager is employed by the practice.

Example Practice in Organization A



Example Practice in Organization C



LEGEND	
◆ Care Manager	Communication Type
● Provider	— Non-clinical
■ Admin	— Clinical
▲ Medical Assistant	— Both
● Nurse	Communication Frequency
	— Frequent
	- - - Moderate
	⋯ Infrequent

How does this
work with
Mixed
Methods?

Can gather the data by qualitative or quantitative means or both and triangulate

Can convert the qual information into quant (numbers and types)

Can use as quant info to compare to qual information in a mixed methods analysis

Helps to see your data in a different way – spatially and relationally

User (or Human) Centered Design

A process of design using a series of steps to include user input in the design process.

Why would you want to do this?

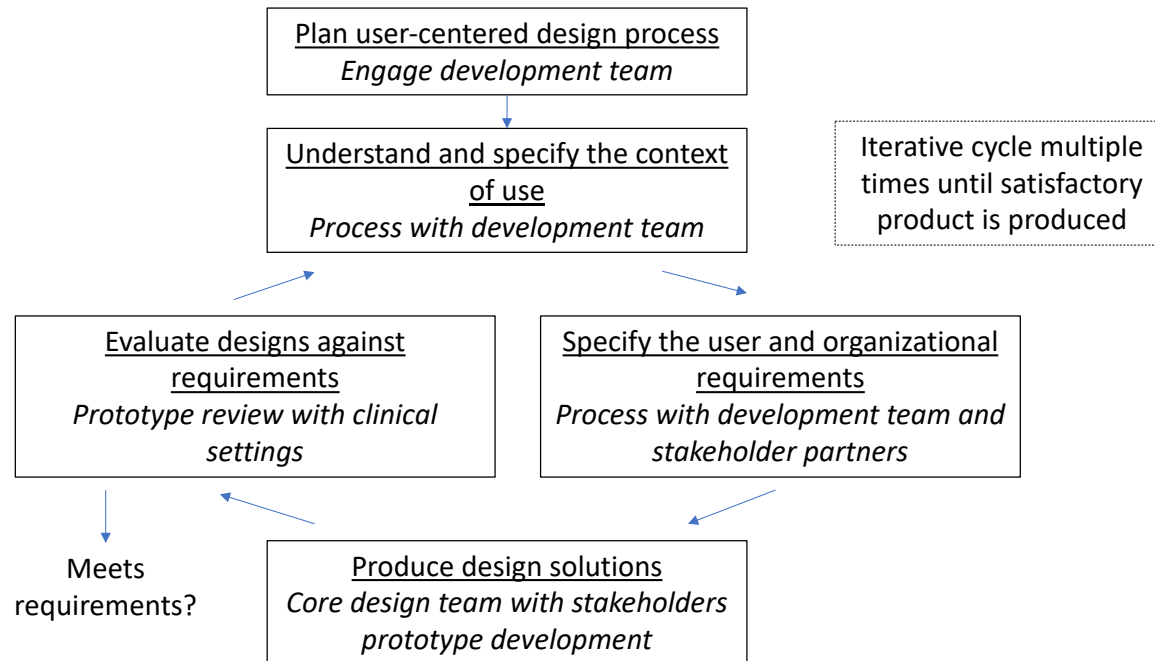
- Helpful to have a process and techniques to apply in developing a new program or approach or technology.

How do you use it?

1. Follow the series of steps in an iterative process to get closer and closer to a product.
2. Analysis happens sequentially over time after each step to inform the next step.

Example Iterative Design Process

Figure 2: User-Centered Design Process



Example: Detail to the Figure

Overview of User Centered Design Process Steps Applied to a Study – Detail for Figure 2

Step	Application to this Work – How, Who, Process
1: Plan the human centered process	Development team has a series of meetings to identify the overall goals, design principles, timeline, resources needed and expectations
2: Understand and specify the context of use	Development team utilizes data from Aim 1 and analyzes in context using a context of use analysis,* additional field study observations including task analysis, and surveys
3: Specify the user and organizational requirements	Development team and additional stakeholders collect specifications including user requirements interviews,* scenarios of use and personas,*and task-function mapping*
4: Produce design solutions	Core design team develops and iterates with larger development and stakeholder groups. Methods include brainstorming, storyboarding,* affinity diagramming* and various types of prototyping*
5: Evaluate designs against requirements	Core design team shares with new group of stakeholders to elicit participatory evaluation* and share with experts for heuristic evaluation*

How does this work with Mixed Methods?

- Very much like a sequential design, however, iterative until achieving a certain outcome for each stage
- At each stage can use qual or quant or both
- Draws upon other methods plus adds some twists and new methods
- Adds the addition of having a prototype for participants to respond to

Summary – Lots of Choices to Answer YOUR Research Question(s)

- WITHIN methods –
 - Types of interviews
- Using MULTIPLE methods –
 - Interview with observation
- NEW and interesting methods and analysis –
 - Rapid assessment analysis
 - Configurational Comparative Methods
- Integration and MIXING methods –
 - Joint Display Analysis
- SEQUENCING methods –
 - User Centered Design



Thank you!