

Really Getting to the Why: Qualitative Approaches with RE-AIM

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Acknowledgments and Conflicts of Interest

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FINANCIAL DISCLOSURE

- National Institutes of Health (NIH), Agency for Healthcare Research and Quality (AHRQ), and Patient Centered Outcomes Research (PCORI) funding on various projects

UNLABELED/UNAPPROVED USES DISCLOSURE

- None

My Background

Senior Implementation Scientist, ACCORDS and Center on Aging, University of Colorado School of Medicine

Associate Professor and Associate Vice Chair for Research, Department of Family Medicine

Primary care researcher, former Practice Based Research Network Director

Instructor for Designs and Mixed Methods in Implementation Research (CLSC 6560)

Areas of interest: application of qualitative and mixed methods in D & I and other areas; health behavior and practice improvement in primary care

Overview

- Quick overview and history of RE-AIM
- Quick overview of qualitative methods
- Using qualitative methods with RE-AIM
- Complex issues with qualitative methods for RE-AIM
- Future directions and opportunities for qualitative methods in D&I research
- Discussion; resources; Q & A

Through the eyes of RE-AIM



Dimension	
Reach	Number, percentage and representativeness of eligible patients who participated in the intervention. <ul style="list-style-type: none">•Is the intervention reaching the target population? Those most in need?
Effectiveness	Intervention effects on targeted outcomes, <ul style="list-style-type: none">•Does the intervention accomplish its goals?
Adoption	Number, percentage and representativeness of participating settings and providers. <ul style="list-style-type: none">•To what extent are those targeted to deliver the intervention participating?
Implementation	The extent to which the intervention was consistently implemented by staff members.
Maintenance	The extent to which an intervention becomes part of routine organizational practices, and maintains effectiveness.

Purpose and History of RE-AIM Framework

- Intended to facilitate translation of research to practice
- Internal and external validity, and emphasizes representativeness
- Individual and organizational factors - experimental and observational
- Public health impact depends on all elements (reach x effectiveness, etc.)



www.re-aim.org

RE-AIM Summary Points

- RE-AIM is not a theory - but it tells you where to look; where things often break down
- RE-AIM is an outcomes framework that can be used for planning and evaluation
- Each dimension is an opportunity for intervention
- All dimensions can be addressed within a given study (though likely not all intervened upon)
- RE-AIM can be used for observational, efficacy, effectiveness, and implementation science projects

Evolution of RE-AIM



Focus on
Context!

- Applicability to many different content areas - over 430 articles
- Underreporting of key components
- Setting level factors reported much less often (e.g., adoption)
- Increasing use of **qualitative measures***

NEW AREAS

Costs and resources

Adaptations

Patient centered
outcomes research

Qualitative RE-AIM
assessments

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

COUNTING THINGS

LET'S GET A SHOW OF HANDS...

WHO HERE PREFERS
QUANTITATIVE DATA
OVER QUALITATIVE DATA?

created by @daveyeats in 2018 using cmx.io

1...2...3...

OK! LOOKS LIKE EVERYBODY!
TELL ME, WHY DO
YOU PREFER QUANT?

WELL, QUANT DATA IS
THE ONLY WAY TO
REALLY KNOW...

OH, SORRY...

I SHOULD HAVE MENTIONED.
PLEASE ONLY USE NUMBERS
IN YOUR RESPONSE.

PAUSE

SEVEN?

Qualitative methods provide their own value



However, people question it's 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?



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Hallmarks of 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

Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups

ALLISON TONG^{1,2}, PETER SAINSBURY^{1,3} AND JONATHAN CRAIG^{1,2}

¹School of Public Health, University of Sydney, NSW 2006, Australia, ²Centre for Kidney Research, The Children's Hospital at Westmead, NSW 2145, Australia, and ³Population Health, Sydney South West Area Health Service, NSW 2170, Australia

Abstract

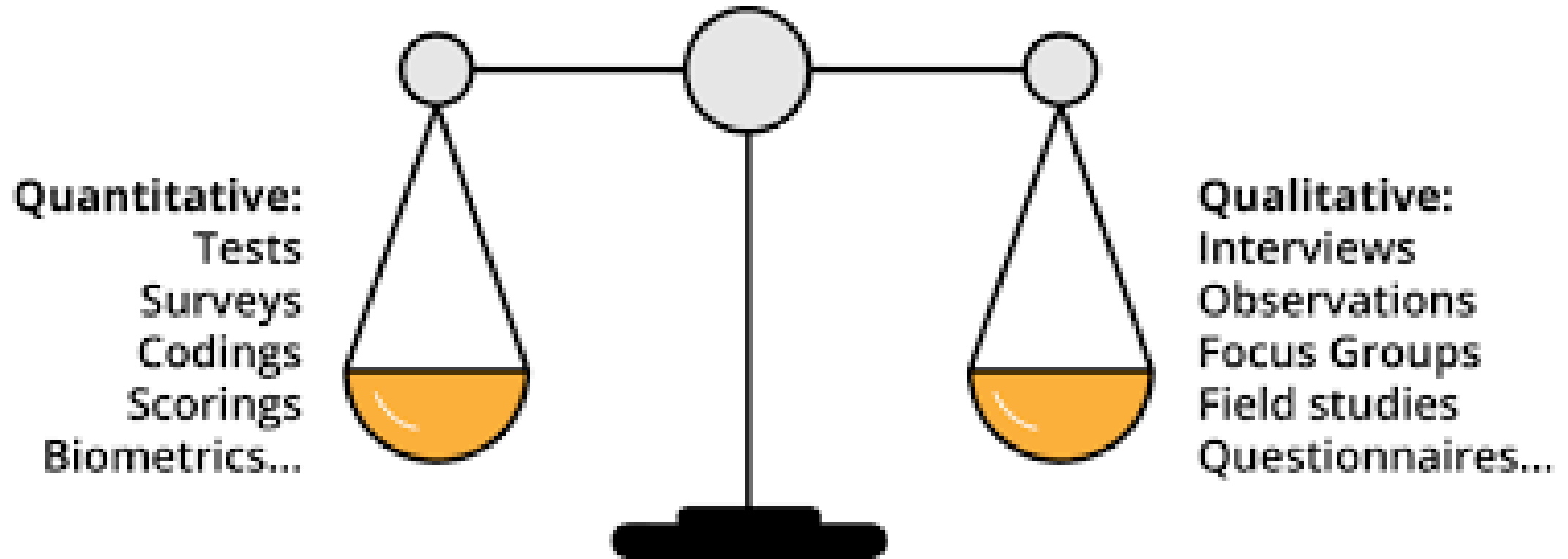
Background. Qualitative research explores complex phenomena encountered by clinicians, health care providers, policy makers and consumers. Although partial checklists are available, no consolidated reporting framework exists for any type of qualitative design.

Objective. To develop a checklist for explicit and comprehensive reporting of qualitative studies (indepth interviews and focus groups).

Methods. We performed a comprehensive search in Cochrane and Campbell Protocols, Medline, CINAHL, systematic reviews of qualitative studies, author or reviewer guidelines of major medical journals and reference lists of relevant publications for existing checklists used to assess qualitative studies. Seventy-six items from 22 checklists were compiled into a comprehensive list. All items were grouped into three domains: (i) research team and reflexivity, (ii) study design and (iii) data analysis and reporting. Duplicate items and those that were ambiguous, too broadly defined and impractical to assess were removed.

Results. Items most frequently included in the checklists related to sampling method, setting for data collection, method of data

Qualitative Data Collection Methods



Asking People Questions

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



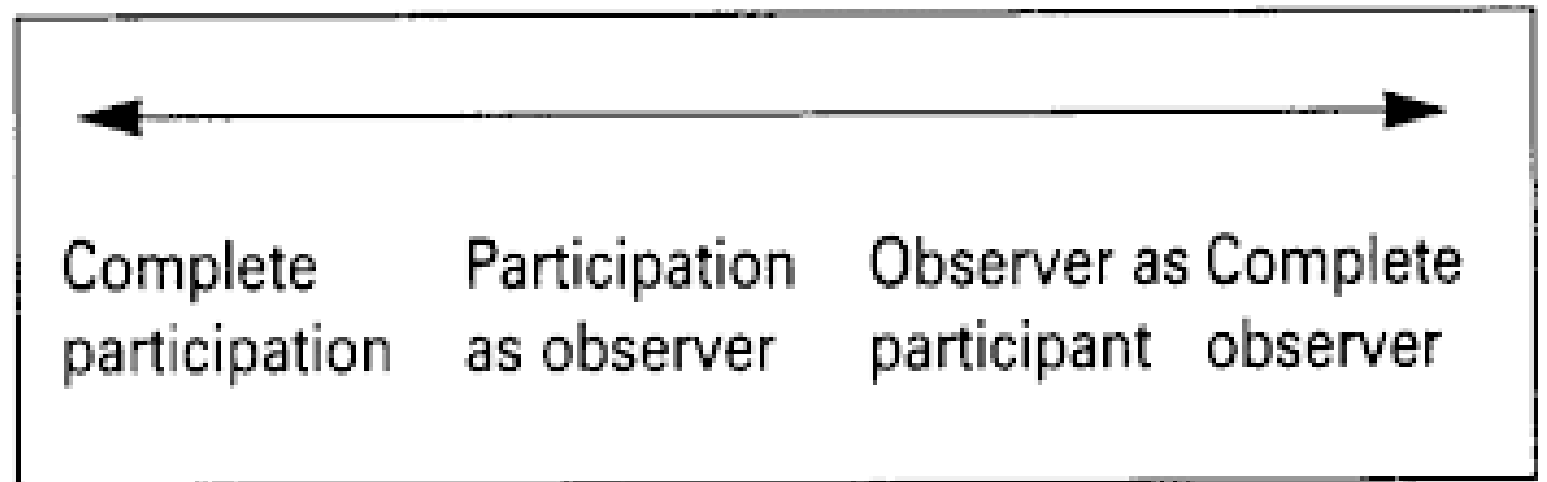
Interview Methods

- Oral survey
- Structured interview
- Semi-structured interview
- Unstructured interview
- Critical incident
- Task analysis
- Appreciative inquiry



Watching People

- Observation/shadowing
- Participant immersion



Observation – it's not creepy



Other Methods

- Photovoice
- Digital storytelling
- Document review/artifacts



Key Components of RE-AIM

RE-AIM Dimension	Key Planning Questions to Consider and Answer
Reach	WHO is (was) intended to benefit and who actually participates or is exposed to the intervention?
Effectiveness	WHAT is (was) the most important benefit you are trying to achieve and what is (was) the likelihood of negative outcomes?
Adoption	WHERE is (was) the program or policy applied and WHO applied it?
Implementation	HOW consistently is (was) the program or policy delivered, HOW will (was) it be <u>adapted</u> , HOW much will (did) it <u>cost</u> , and WHY will (did) the results come about?
Maintenance	WHEN will (was) the initiative become operational; how long will (was) it be sustained (setting level); and how long are the results sustained (individual level)?

Example: Diabetes Intervention

Intervention: Diabetes Self-Management Program available to patients within a health system

Implementation strategies:

Referral approach - Program identifies eligible patients and sends reminder to primary care providers to refer to the program

Training – providers brief training on how to introduce the program and make the referral

Follow-up results: results come to providers of which patients participate and how they are doing in the program; providers are prompted to share information on progress with patients

Reach

Quantitative

of patients participating/# eligible = 100/200

Frequency of patients with certain characteristics = 90% of those participating are female, white, privately insured (n=90/100) yet 50% of the eligible patient population is male, 30% is other races, and 40% has Medicaid



HOW

- Records of participation
- Patient characteristics from medical record

Qualitative

- Why was it that only 50% participated?
- What happened to the other patient types with regard to their participation?
- What other characteristics might be of interest in patient participation?



HOW

- Listen to non-participants and ask them (interview)
- Have them take pictures of what their diabetes means to them and their life (photovoice)

Effectiveness

Quantitative

Change in health outcomes in participating patients. Goal of the program is to get patients to an Hemoglobin A1c of less than 8.

50% (N=50) of the participants were able to lower their A1c to less than 8

The mean reduction in A1c was .7%.



HOW

- Medical record data query

Qualitative

- Is the reduction of .7% or of 50% of the patients clinically meaningful for providers or patients? Was it worthwhile?

- Is this an appropriate indicator of diabetes control? What other measures are meaningful that impact patients lives?

- What are the characteristics of the patients that did not improve?



HOW

- Talk to patients about how they made changes (Critical incident interview)
- Observe practice teams and discussions of implications

Adoption

Quantitative

of settings that tried the intervention; # of providers who provided the intervention.
Intervention was taken up by Practices A, B and C, but not D and E.

In practice A, providers 1,2 and 3 referred patients (physicians), but not providers 4 and 5 (physicians assistants)



HOW

- Tracking of participation by program
- Survey of practice culture

Qualitative

- Why did some practices refer patients and others did not?
- Why did some providers refer patients and some did not?



HOW

- Document review from meeting notes
- Interview with non-adopters (“why’s”)
- Practice observation and/or shadowing of roles

Implementation

Quantitative

% adherence to core components; cost to implement; # drop out of implementation; # types of unintended consequences



HOW

- Have staff complete logs with checklists
- Assess costs to implement
- Reporting of outcomes

Qualitative

- What was the impact of the program delivery costs?
- Did the participants find the intervention acceptable?
- Were they able to implement the core components with fidelity? What made it difficult or not possible to do so?
- What adaptations occurred and were they planned or responsive?
- Were there unintended consequences?



HOW

- Watch patient visits (Observation)
- Conduct process or cognitive task maps (Interview)
- Interview staff (appreciative inquiry)

Maintenance

Quantitative

of sites that continued intervention past the study



HOW

- Tracking of site participation

Qualitative

What factors were in play that caused some practices to stop referring?



HOW

- Focus groups
- Interview health system leaders

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>

Characteristics of Qualitative Research

Seeking the “truth”

- Was it the intervention or the implementation?

Importance of context

- How did the setting contribute to adoption or not?

Importance of meaning

- Did this add value to the patient’s lives?

Qualitative researcher as instrument

- Were we looking at this issue with informed, but open eyes?
- Did we consider multiple perspectives?

Immersion

- Did we fully capture all there was to know about what was done to implement?



Data Analysis Methods – lots of choices

Thematic Analysis (identify themes across data)

Matrix (patterns of meaning across units)

Case studies (indepth 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



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.

Complex Issues to consider in Qualitative use of RE-AIM

Patterns of results across RE-AIM dimensions

- What is you get high reach but low effectiveness – what does that mean? Or low adoption and low fidelity?

Using with frameworks and models

- Many D & I models and frameworks that “hold” your qualitative inquiries. For example CFIR has the five buckets of implementation issues that can guide a qualitative inquiry (i.e. what territory to look into)

Delving into true “mixed” methods

- How does the qual and quant results inform each other? Do you want to have one inform the other or merge them together in some way? Conversion?

Making qualitative more “rapid”

- Iterative, user-centered design approaches

Rapid Assessment Approaches (RAP)

Qualitative can take a long time

In some instances, doing the qual work on a faster timeline is needed. Rapid is not rushed

- Inform process as it goes, need product, on timeline, timely issue “strike when the iron is hot”

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)

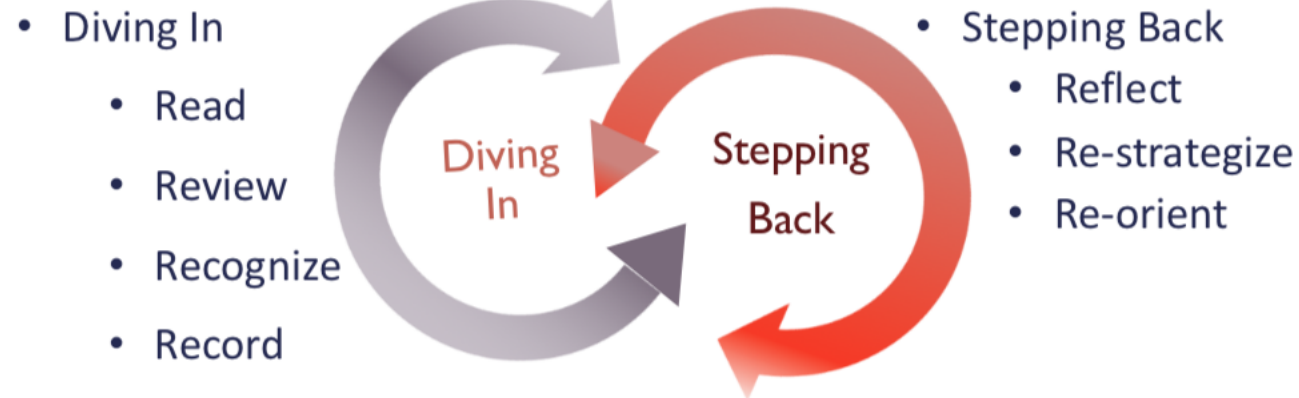
Beebe, J. *Rapid Assessment Process: An Introduction*. AltaMira Press, 2001

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

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.

Qualitative Comparative Analysis (QCA)

Qualitative comparative analysis (QCA) is a method that allows considering program features and contextual conditions to examine relationships in groups or sets with outcomes. Involves converting qualitative data into quantitative data.

Linear Additive Model	QCA
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 subject needed	Sample size independent-all sizes

What QCA does

Helps to identify conditions that produce an outcome – either singly or in combination

Necessary

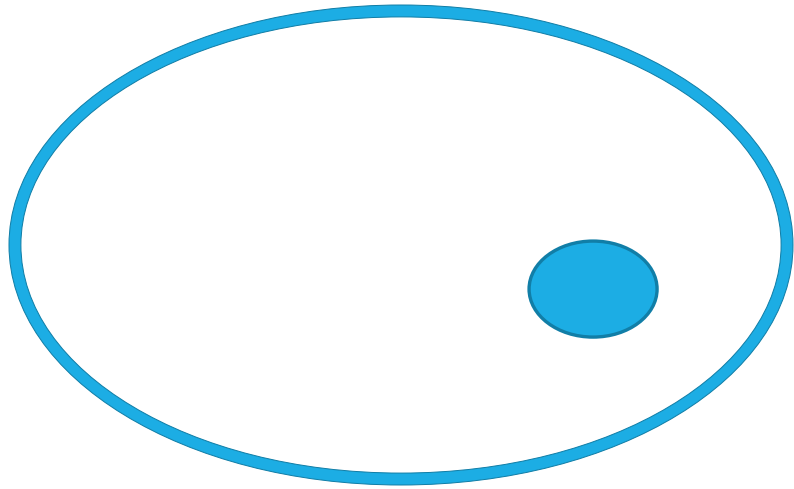
- Must be present to produce a good outcome, but does not guarantee a good outcome
- High consistency score indicates strong relationship between the condition and outcome

Sufficient

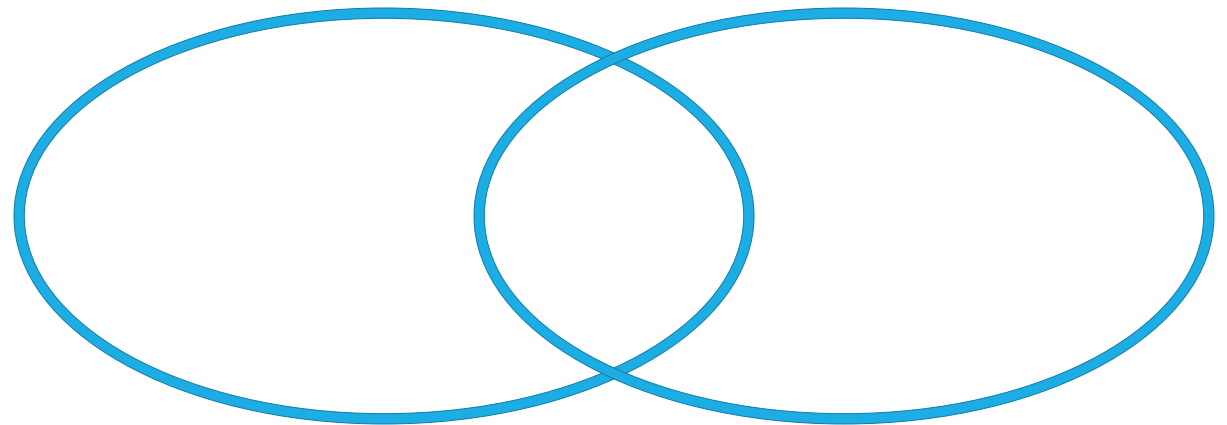
- Sufficient conditions alone or in combination will always result in a good outcome although they are not necessary to produce a good outcome (meaning there are other paths to a good outcome)
- Coverage score is high demonstrating high relevance to the outcome; or importance of each configuration to the solution

Casual conditions can be necessary or sufficient, both or neither

Coverage – how relevant?



Consistency – how related?



Remember the 5 Rs to Enhance Pragmatism, D&I Science and Likelihood of Translation

Research that is:

- Relevant
- Rapid and recursive
- Redefines rigor
- Reports resources required
- Replicable



How does this relate to what we collect qualitatively?

Future Directions and Opportunities

QUALRIS report

There is a need to:

- Bring greater transparency to and documentation of team-based analysis
- Continue to strengthen tools and techniques for conducting rapid qualitative assessment and analysis
- Explore methods of qualitative data collection and analysis not commonly used in implementation science
- Contribute to the development of a common language when conducting qualitative research in implementation science
- Bring meaningful approaches for cross-context comparison and synthesis of qualitative data

Resources

NCI Report: Qualitative Methods in Implementation Science; October 2018

NIH Office of Behavioral and Social Sciences. (2018). *Best practices for mixed methods research in the health sciences* (2nd ed). Bethesda: National Institutes of Health.

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Directed by [Russell Glasgow, PhD](#)

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- **Create collaborative learning partnerships** with embedded research settings to translate research into practice more quickly and successfully
- **Conduct cutting edge T3-T4 research** on: pragmatic research and measures, adaptation of interventions, designing for dissemination, shared decision making, planning for and evaluation of reach, implementation and sustainability
- **Use interactive on-line resources and support** for patients, medical and public health students, trainees and faculty researchers
- **Communicate frequently updated information** on D&I related conferences, articles, grant opportunities, events, webinars, talks, and training opportunities
- **Provide local consultation** on D&I related research to increase funding and publication success

Latest

WE'RE HIRING!

Who: D&I Scientist at the Advanced Assistant or Associate Professor level
Qualifications: Knowledge of D&I models, measures & methods, strong research record, experience in clinic/community, ability to mentor junior faculty
Opportunities: Collaborate with D&I experts and others in diverse programs

Upcoming Events

October 24, 2018

**Fireside Chat on De-implementation:
The Complexities of Overuse,
Overdiagnosis, and De-Adoption
(Webinar)**

NCI: Advanced Topics in Implementation Science

12-1PM MT

David Chambers, DPhil; Wynne Norton, PhD; Daniel Niven, MD, PhD

[CLICK HERE for info & to Register](#)

February 1, 2019

Submission deadline



International Journal of
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Tweets by [@RussGlasgow](#)



Russ Glasgow

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ACCORDS* Dissemination and Implementation Science Program, University of Colorado Denver School of Medicine

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*ACCORDS is the Adult and Child Consortium for Health Outcomes Research and Delivery Science

