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# USING QUALITATIVE AND MIXED METHODS RESEARCH TO STRENGTHEN IMPLEMENTATION SCIENCE

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# GOALS

1. Understand of what rapid methodologies are
2. Determine when rapid methodologies are useful in implementation research
3. Understand the key components of rapid methodology to integrate into your research programs
4. Identify the team characteristics and training needs for successful implementation
5. Gain specific examples of rapid methodology use and publication

# CMIPS AND THE QUALITATIVE METHODS INNOVATION PROGRAM

1. Innovate qualitative methodological contributions motivated by Implementation Science
2. Provide rigorous training opportunities to build the next generation of innovators in qualitative IS research
3. Create a learning community within Yale and worldwide through expert seminars, innovation workshops, and collaborative research
4. Email

## SYSTEMATIC REVIEW PROTOCOL

### **How are qualitative methods used in implementation science research? A scoping review protocol**

Ashley Hagaman<sup>1,2</sup> • Elizabeth C. Rhodes<sup>1,2,3</sup> • Kate Nyhan<sup>4,5</sup> • Marina Katague<sup>1</sup> • Anna Schwartz<sup>1</sup> • Donna Spiegelman<sup>2,6</sup>

# WHY RAPID RESEARCH APPROACHES



SAVE TIME



SAVE MONEY



MAXIMIZE DATA  
QUANTITY



MAXIMIZE  
EFFICIENCY



PROVIDE TIMELY  
FEEDBACK

# HOW LONG DOES RAPID RESEARCH TAKE?

3 weeks - 3 months

...some say within a year

# RAPID APPROACHES: LOTS OF TERMS

## Formative focus

Rapid assessment procedures (RAP)

Rapid assessment, response, and evaluation (RARE)

Rapid Assessment Procedure Informed Clinical Ethnography (RAPICE)

Rapid/short-term/quick ethnographies

## Evaluation

Rapid feedback evaluations (RFEs)

Rapid evaluation methods (REM)

Real-time evaluations (RTEs)

**“To study the institutions, customs, and codes or to study the behaviour and mentality without the subjective desire of feeling by what these people live, of realising the substance of their happiness—is, in my opinion, to miss the greatest reward which we can hope to obtain from the study of man.” -- Malinowski**

## WHAT DO ALL RAPID APPROACHES THEY HAVE IN COMMON?

Think about your research, who are your 'insiders' that can facilitate deeper contextual understanding and nuance? How can you hire them into your team?



Data collection and analysis happen concurrently with triangulation



Develop feedback loops to share findings and iterate inquiry



Occur with teams, using insiders to expedite process



A focus on insider perspective drawing on ethnographic approaches

# RAPID APPROACHES ARE A PACKAGE, NOT A SINGLE ANALYTIC STRATEGY

## **A triangulation of methods**

- Surveys
- Secondary data (emails, meeting minutes, social media)
- Qualitative interviews
- Observations (very helpful)

## **And processes (often with multiple investigators)**

- Rapid: evaluation, assessment or appraisal
- Participatory approaches
- Team based
- Iterative

# DESIGN CONSIDERATIONS OF RAPID APPROACHES

- **What are the research objectives? (clear, specific, deductive (usually))**
- What guides your rapid study (theoretical/conceptual framework)?
- What will be your sources of data (i.e., what data will you collect, from whom)?
- When will you collect data (when in project, how often, logic behind timing)?
- Who will collect data (training of team, size of team)?
- How will you analyze the data (team-based approach, approach to data, timeframe for analysis)?
- Who will receive your results, when, and how?
- How will you tell the story of your data?

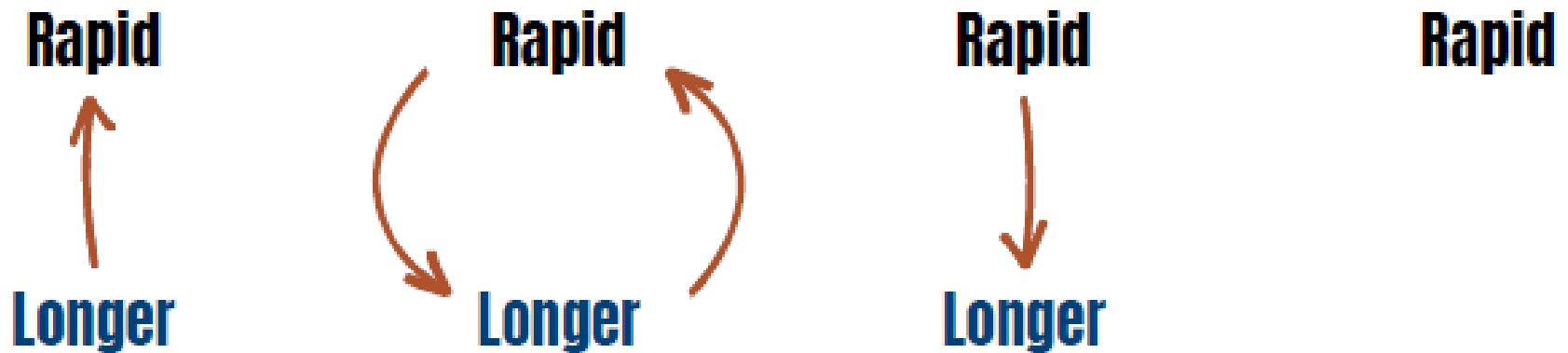
# WHEN TO USE RAPID APPROACHES

- Research questions can be answered using rapid analysis
  - Typically deductive
- Timely results are needed – e.g.,
  - To adapt and tailor intervention to context and needs of target population
  - To support iterative program improvements
  - To meet information needs of health care and community stakeholders in a short timeline
- Team has capacity to complete analysis in a compressed timeframe

# WHEN **NOT** TO USE RAPID ANALYSIS

- When your goal is to:
  - Explore a new topic
  - Develop or refine a theory
  - Quantify and analyze the presence of certain words, themes, concepts in the data
  - There is not yet a clear framework or deductive structure to your research question

# HOW RAPID APPROACHES CAN BE USED



# EXAMPLE RESEARCH QUESTIONS FOR A RAPID APPROACH

Well suited:

What are the **facilitators** and **barriers** to implementation of universal diabetes screening uptake in urban Kathmandu hospitals?

Not well suited

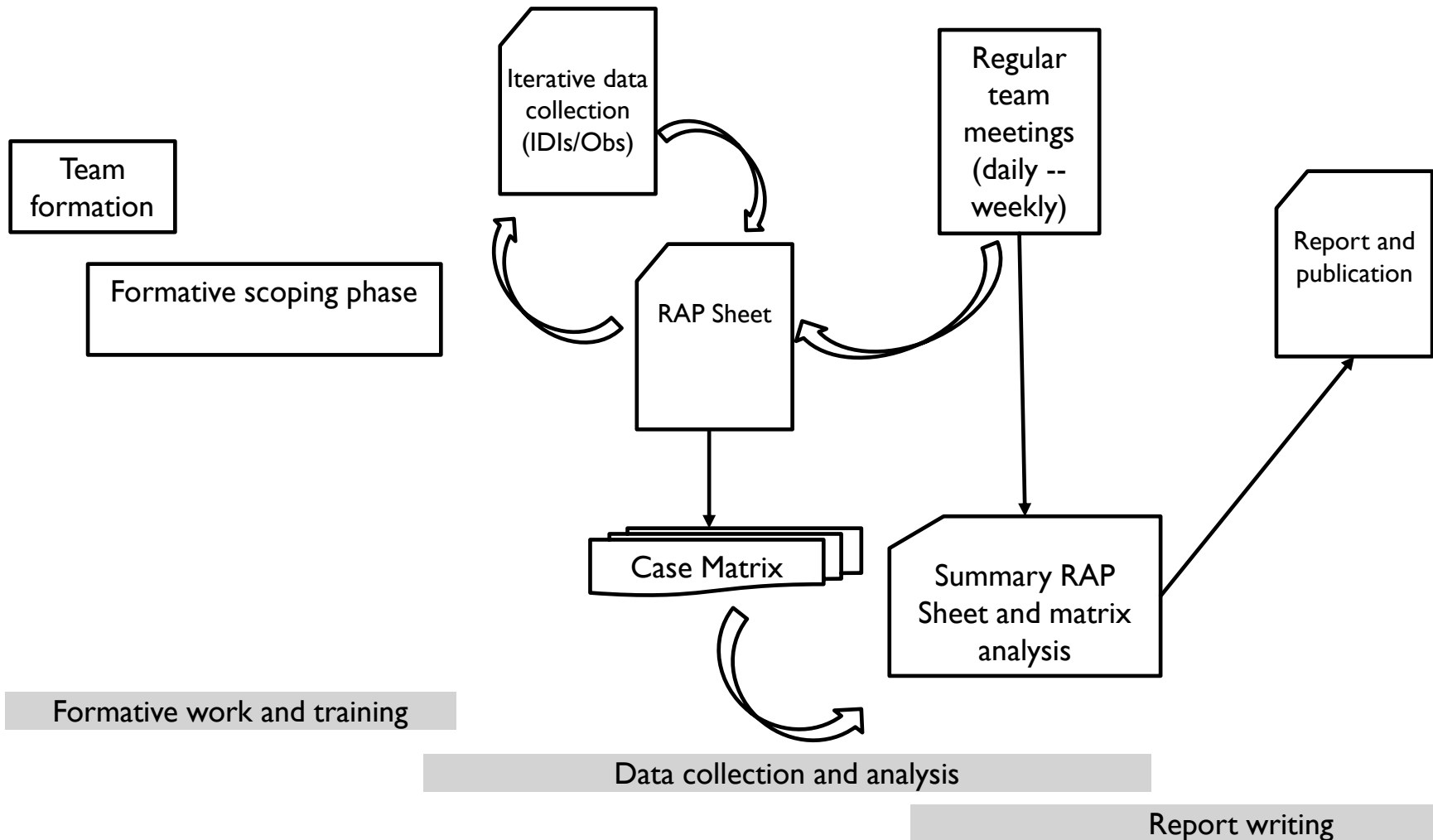
How do Nepali adolescents perceive and negotiate diabetes diagnosis?



# BROAD STRUCTURE AND COMPONENTS



# BROAD STRUCTURE OF RAPID APPROACHES TO DATA COLLECTION AND PROCESSING



# POSSIBLE DATA COLLECTION METHODS

Interviews

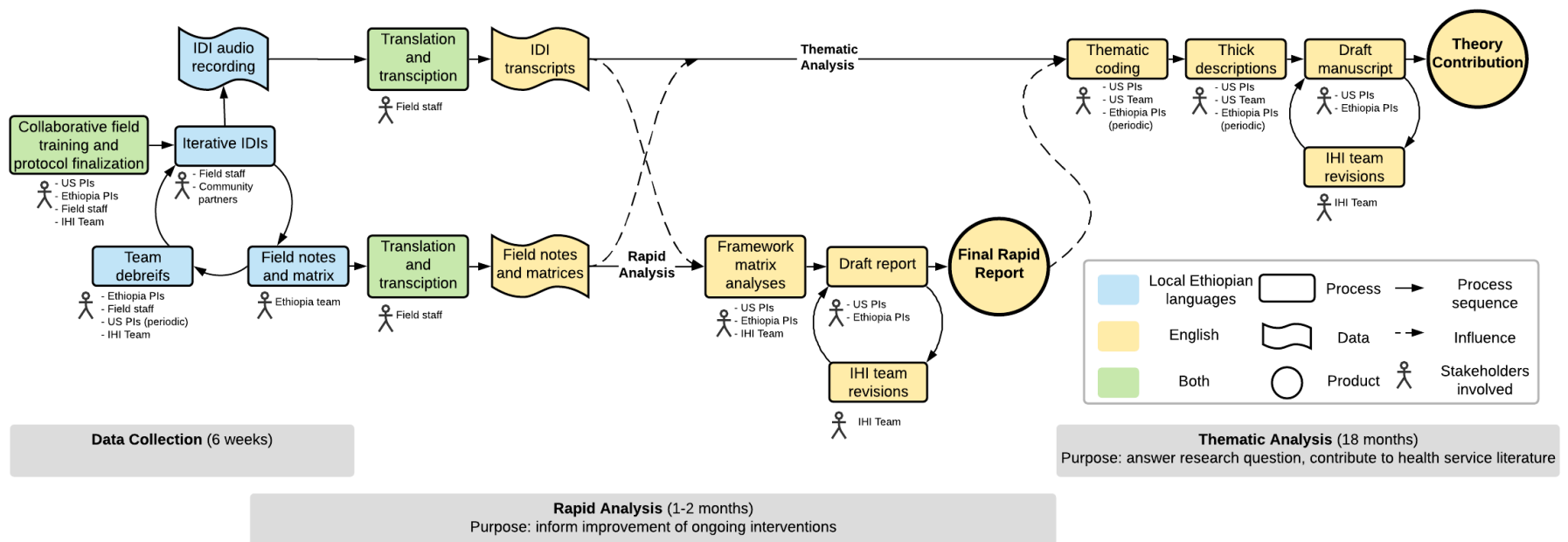
Focus groups

Observations

Periodic  
reflections

Secondary data  
(emails, meeting minutes, program  
data, etc.)

# SATELLITE VIEW OF IMPLEMENTATION PROJECT





# Rapid Assessment Procedure Sheet

Prepared by:

Participant type:

Participant ID number:

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## REASONS JOINED PROGRAM (Q1)

- 

## LIKE BEST ABOUT VIDEO CALLS (Q2)

- 

## LIKE LEAST ABOUT VIDEO CALLS (Q3)

-

# RAP SUMMARY SHEETS ARE CREATED FOR DATA POINTS AT VARIOUS STAGES/LEVELS OF RESEARCH



Researcher



Study stage  
(pre-implementation,  
implementation,  
sustainment, etc)

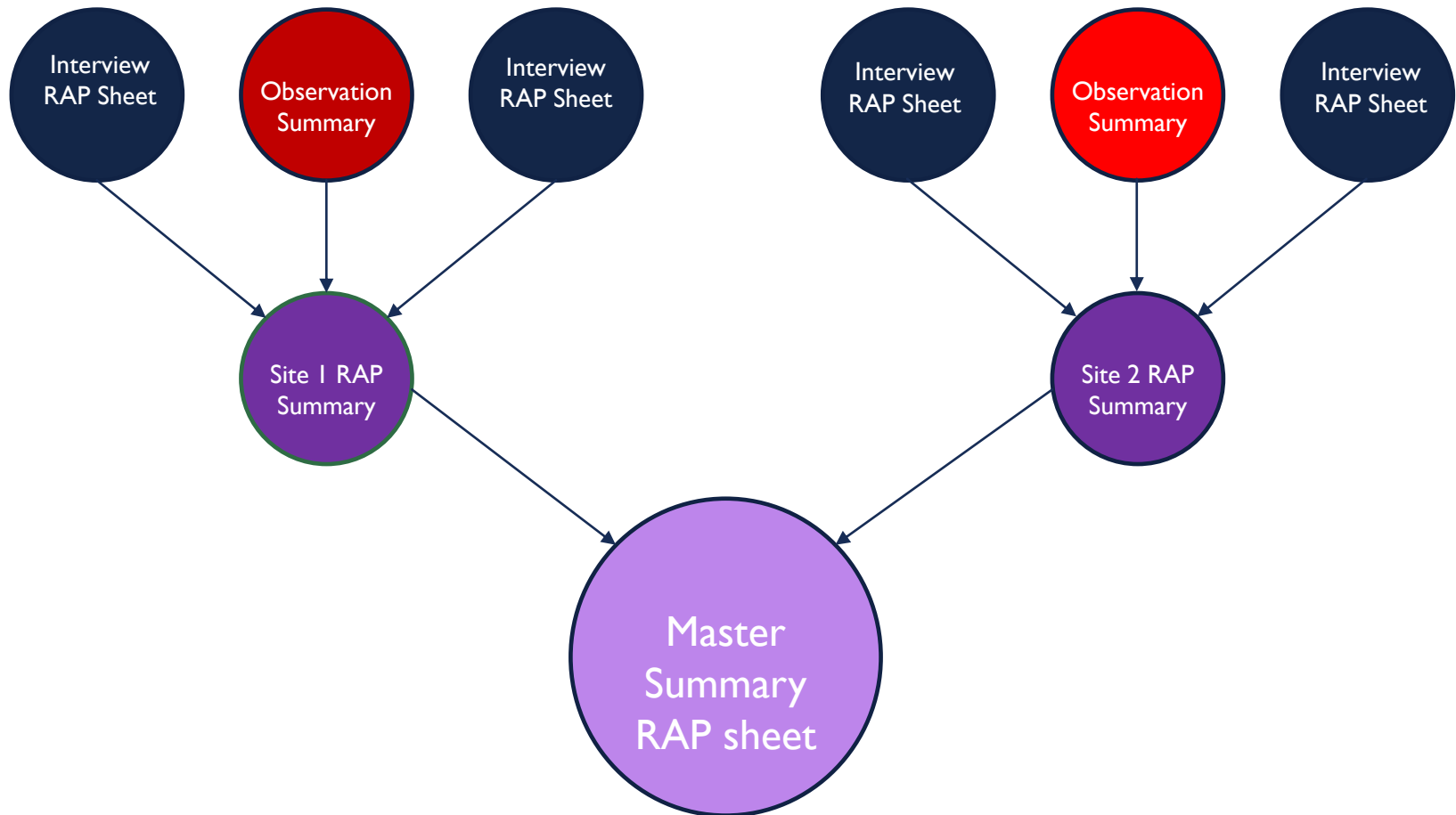


Study site  
(if multi-sited)



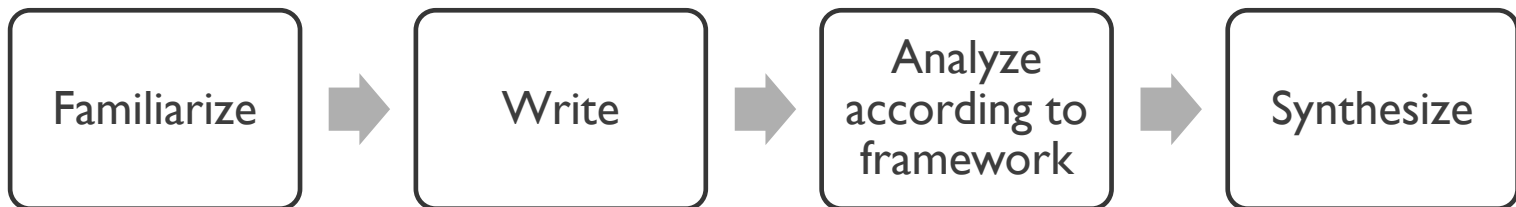
Population sub-group  
(if applicable)

# TRIANGULATION : SUMMARIES AS LIVING DOCUMENTS



# FRAMEWORK/MATRIX ANALYSIS

	Topic 1	Topic 2	Topic 3	...		Notes
Case 1	“raw data”		“raw data”			
Case 2		“raw data”	“raw data”			
Case 3			“raw data”			





# PURPOSIVE SAMPLING AS ONE APPROACH: EXAMPLE FROM INTERNET DELIVERED CBT AMONG MSM IN CHINA

## RCT Participants In-depth Interviews (n=20)

	Response to treatment				Demographic variation
	large change in dep/anx severity	little change in dep/anxiety severity	large change in sex behav	little change in sex behav	age/educ/employment
High attendance(6-10)	2	2	2	2	2
Low attendance(5 and under) /withdraw	2	2	2	2	2


# FRAMEWORK/MATRIX ANALYSIS

China ICBT Recipient Interviews Template Analyses Matrix					
DOMAINS		General Vibe AND HOW THEY ARE DOING	Feasibility/APPROPRIATENESS		
Sub-construct	# sessions completed	Introduction	1.Usability	2. Confidentiality	3. Interpersonal Impact
A042	5	Age: 26; Education; graduate student Married: No; Employed: student; Counselor: Yang Xiong; Reasons of participation: there was depression and a need for counseling	<p><b>Weakness of the platform:</b></p> <p>1. Before sometimes we were asked to fill in some of our actions or feelings, and in some places I might have to think for a long time what exactly do we fill in here? Sometimes I think about it for a long time, and I don't understand what kind of things to fill in this place. That's why I'm confused. I wrote down my doubts... There's a question about counseling or courses, and I put it there, so I don't think there's any feedback.</p> <p>Some of the suggestions that were included in the course did not receive feedback: "There was a question about a consultation or course that I filled in, so there shouldn't have been any feedback."</p> <p><b>Compared to offline:</b></p> <p>2. Online counseling requires self-awareness: "If it's online, I think the most important thing is to take the initiative to implement it. You have to take the time and energy to complete the content of the course and follow the content of the course. Each session takes two hours"</p>	<p>1. Two-factor verification is necessary: "I think it's well thought out, including the need for a verification code to log in, which I think is a good thing to do."</p> <p>2. Worried about the risk of revealing my real information when mailing reagents: "It's express mail, and I need to give you my real information, so I have some concerns about that."</p>	<p>1. Friends of the same sex minority knew he was involved in the project and did not influence the relationship. "we get along well. Nothing was that sensitive and when I told them about the project, they weren't much interested."</p>
A027	1.5	Age: 21; Education; College Married: No; Employed: Human Resource management; Counselor: Xiangyu Li; Reasons of participation: want to learn about the psychology of sexual minorities systematically and professionally	<p><b>Weakness of the platform:</b></p> <p>1. Due to the development of self-media and short video, we are not used to reading a lot of text. "It is suggested to present it in short video form".</p> <p><b>Compared to offline:</b></p> <p>2. Setting pre-class goals helps users self-evaluate their learning outcomes. High privacy, you can speak freely: "Offline words may actually have some scruples, after all, some of their own counseling problems, may also have some privacy... but online words can avoid this point";</p> <p>3. The online platform can avoid the impact of a face-to-face meeting with a counselor: "We may have a face-to-face conversation based on the emotional feedback the therapist gave me at the time. If the feedback wasn't good, or if it made me feel hostile, or if there were some areas where it wasn't very gentle, maybe I would have reduced the amount of time I spent talking or asking questions about the issues I wanted to consult about, but I could have avoided that online."</p> <p>4. Online counseling doesn't capture the mood changes that affect communication: "Because offline, he can capture your mood changes, perhaps through your body</p>	<p>1. Good privacy: because of "Number used" and "Double validation."</p>	<p>1. Have to share it with my partner and friends: I get paid to participate in the project and I get to learn more about our community.</p>

# ALIGNMENT



Consistent alignment across project elements

A large, hollow arrow pointing to the right, spanning the width of the diagram below the flowchart.

# ALIGNMENT

Implementation theories, models, and frameworks

Research  
Objectives



Interview  
Guide



Summary  
template and  
matrix

Consistent alignment across project elements





# CASE STUDY OF A RAPID APPROACH

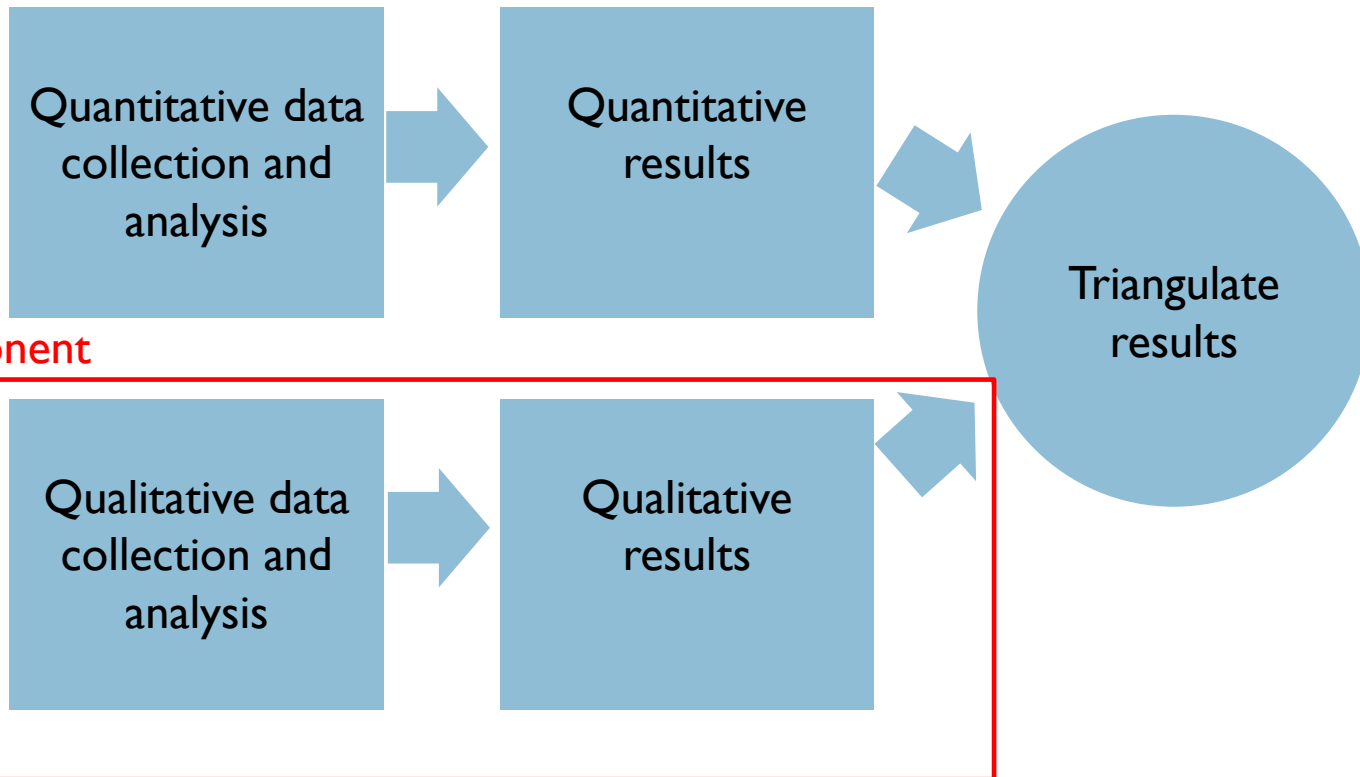
# BACKGROUND AND OBJECTIVE

- Peer counseling program to improve access to HIV care for low-income adults living with HIV in the US
- Objective: To understand the effectiveness, acceptability, and feasibility of delivering the program remotely during the COVID-19 pandemic
- Why rapid analysis?
  - To inform planning for program scale-up

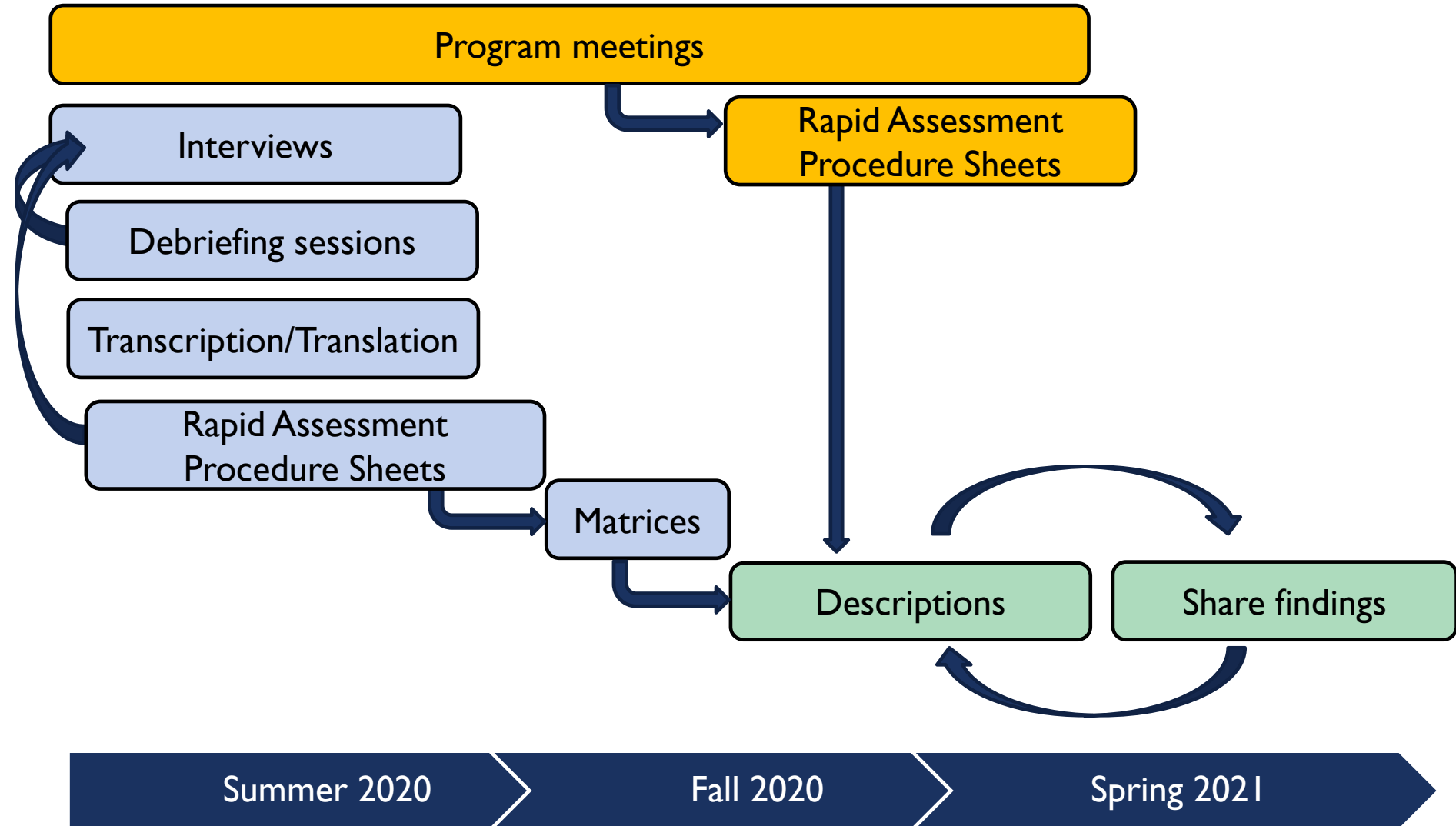
# PREPARATION

- Assembled team (2 researchers, 2 research assistants, 1 community member with lived experience)
- Formative scoping phase
  - Became familiar with program model and setting
    - Reviewed program materials
    - Met with program implementers
    - Participated in program meetings
  - Identified program implementers' priority questions

# CONVERGENT PARALLEL DESIGN



# Overview of Qualitative Component



# STEPS FOR CREATING RAPID ASSESSMENT PROCEDURE (RAP) SHEETS

Step 1: Give each topic on your interview guide a name

<b>Interview Questions for Clients</b>	<b>Topic Name (Question #)</b>
1. What are some of the reasons you joined the program?	Reasons joined program (Q1)
2. What do you like best about talking with your peer counselor over video calls?	Like best about video calls (Q2)
3. What do you like least about talking with your peer counselor over video calls?	Like least about video calls (Q3)
...and so on	...and so on



# Rapid Assessment Procedure Sheet

Prepared by:

Participant type:

Participant ID number:

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## REASONS JOINED PROGRAM (Q1)

- 

## LIKE BEST ABOUT VIDEO CALLS (Q2)

- 

## LIKE LEAST ABOUT VIDEO CALLS (Q3)

-

# STEPS FOR CREATING RAP SHEETS

Step 2: Test sheet template and refine as needed

- Have summarizers use the template to summarize the same transcript

Questions to discuss as a team:

- Is it capturing the information we need?
- Are any topics missing?
- Is it easy to use?
- Is it well-organized?
- How long is summarizing taking?

# STEPS FOR CREATING RAP SHEETS

## Step 3: Establish consistency across team

- Have all summarizers use template to summarize the same transcript
- Meet to discuss:
  - Similarities/differences in summarizing styles
  - Inclusion of direct quotes
  - Ways to improve consistency
- Repeat process as needed

## Step 4: Divide up transcripts across team and summarize

- Conduct quality checks
- Check-in regularly about the time it's taking to complete RAP sheets

# WHAT MAKES A GOOD RAP SHEET?

- Brief (~2 – 3 pages)
- Captures all major points
- Well-written and understandable
- Balances summary with specificity
- Includes the “why”
- Includes illustrative quotes
- Useful – e.g.,
  - Provides page numbers for quotes (or time stamps)
  - Includes notes on where to look for details, stories, etc. (or time stamps)
  - Provides reasons for absence of data
- Provides context and detail not captured by transcript text or audio (e.g., emotions, setting)

# Rapid Assessment Procedure Sheet

**Prepared by:** Sandra Ortiz

**Participant type:** Program client

**Participant ID number:** 1

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## **REASONS JOINED PROGRAM (Q1)**

- Lack of family support, interested in having support from *“someone like me”* (p. 1)
- Peer counselor (PC) was *“friendly”* and talked to me *“with respect”*

## **LIKE BEST ABOUT VIDEO CALLS (Q2)**

- Convenient; like not having to travel to clinic, which can be hard due to work schedule
- Save money; don't have to pay for taxi or bus to clinic
- Since PC doesn't come over, don't have to spend time cleaning house
- Can schedule video calls at night because PC is flexible

## **LIKE LEAST ABOUT VIDEO CALLS (Q3)**

- Wasn't familiar with how to use Zoom at first, but then learned and found platform easy to use
- Don't always want to be on camera; phone calls would be *“just as good”* (p. 4)
- Don't need a video call if only have a *“quick question”* (p. 4)

# ANALYTIC TEAM DISCUSSIONS

- Create an initial coding matrix of themes
- Team members prepare briefs about what their interviews/RAP sheets contributed to the research question
  - What are the common topics emerging in your data?
  - What is something that you don't want to miss in our results writing?
  - Is there a case that 'stands out' as different from the rest?
  - Are the findings specific and textured, but not overly detailed?
  - Are you finding the 'same thing' because responses are vague and generic?
- Your team members are experts in their RAP sheets

ID #	Language spoken	Reasons joined program (Q1)	Like best about video calls (Q2)	Like least about video calls (Q3)
1	Spanish	<ul style="list-style-type: none"> <li>Lack of family support, interested in having support from “<i>someone like me</i>” (p. 1)</li> <li>Peer counselor (PC) was “<i>friendly</i>” and talked to me “<i>with respect</i>”</li> </ul>	<ul style="list-style-type: none"> <li>Convenient; like not having to travel to clinic, which can be hard due to work schedule</li> <li>Save money; don’t have to pay for taxi or bus to clinic</li> <li>Since PC doesn’t come over, don’t have to spend time cleaning house</li> <li>Can schedule video calls at night because PC is flexible</li> </ul>	<ul style="list-style-type: none"> <li>Wasn’t familiar with how to use Zoom at first, but then learned and found platform easy to use</li> <li>Don’t always want to be on camera; phone calls would be “<i>just as good</i>” (p. 4)</li> <li>Don’t need a video call if only have a “<i>quick question</i>” (p. 4)</li> </ul>
2	English	<ul style="list-style-type: none"> <li>Good to have someone to reach out to “<i>any time</i>” (p. 2)</li> <li>Happy to have extra support</li> </ul>	<ul style="list-style-type: none"> <li>Easy to use FaceTime; already use FaceTime with friends</li> <li>PC is open to scheduling video calls morning, afternoon, or evening; unlike clinic when could only meet during the day</li> </ul>	<ul style="list-style-type: none"> <li>Not sure if others are around who I can’t see on video; don’t want others hearing</li> <li>Hard to get to know PC over video</li> <li>Sometimes connection is poor, which can be “<i>frustrating</i>” and “<i>mess up the flow</i>” (p. 6)</li> </ul>

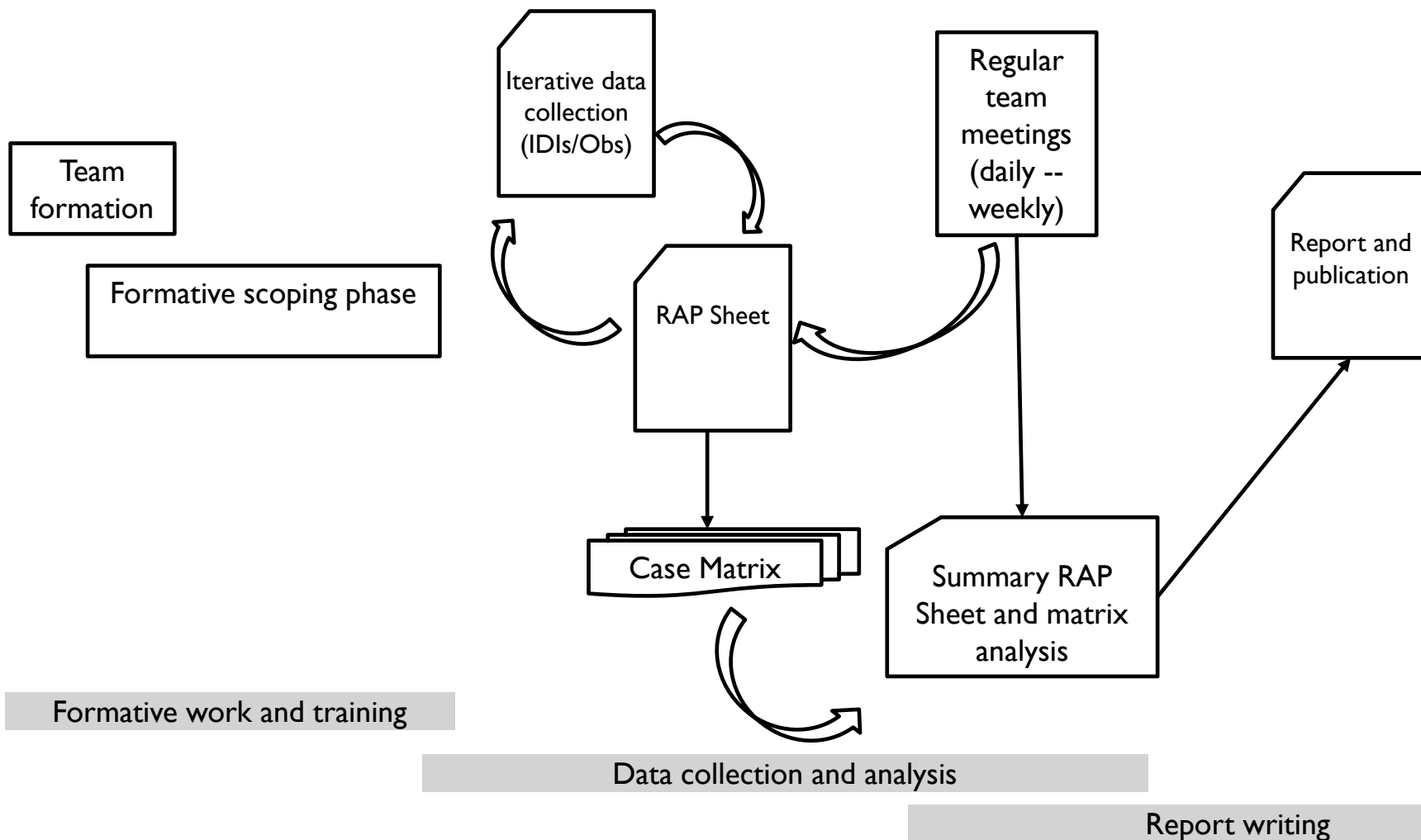
# ANALYTIC TEAM DISCUSSIONS: ITERATING ANALYSIS

- How is the matrix working for your data?
- Do we need new topics? Combine topics?
- What examples do not fit in our framework?
- Connect the data to patterns, theories, models

# MATRIX ANALYSIS PRODUCTS

- Develop topics of descriptions— e.g.,
  - By site
  - By type of participant
- Develop products – e.g.,
  - Presentation
  - Brief summary of key findings
  - Report
  - Manuscript for publication

# BROAD STRUCTURE OF RAPID APPROACHES TO DATA COLLECTION AND PROCESSING



# TEAMS: CONSIDERATIONS

- **Who do you want on your team?**
  - Strong **analytic** writers
  - Individuals with adequate time to devote to project
  - Individuals who understand context and research topics
  - May/may not have qualitative methods training, but individuals who are organized, can build rapport, probe well, and think analytically are valuable
    - Not necessary for summarizing data
- **Key topics for training**
  - Study objectives
  - How to use RAP sheets and summarize data (ensures consistency across team)
  - What makes a good quality RAP sheet (give examples!)
  - How to transfer data from RAP sheets to matrix

# RIGOR

- Training & refresher training(s)
- Team meetings
  - Ongoing training
  - Iterative data collection
  - Ongoing discussions regarding consistency across summarizers
- Quality checks
  - Transcripts
  - RAP sheets
- Feedback and validity

# PUBLISHING RAPID APPROACHES IS VERY FEASIBLE

- Considerations
  - Target journal
  - Be clear and transparent with your process
  - Some reviewers may not be familiar with rapid methods
- Examples
  - Needle RH, Trotter RT 2nd, Singer M, Bates C, Page JB, Metzger D, Marcelin LH. Rapid assessment of the HIV/AIDS crisis in racial and ethnic minority communities: an approach for timely community interventions. *Am J Public Health*. 2003 Jun;93(6):970-9.
  - McNall MA, Welch VE, Ruh KL, Mildner CA, Soto T. The use of rapid-feedback evaluation methods to improve the retention rates of an HIV/AIDS healthcare intervention. *Eval Program Plann*. 2004;27(3):287-94.

# RESOURCES FOR FUTURE LEARNING

- Vindrola-Padros, Cecilia, and Ginger A. Johnson. "Rapid techniques in qualitative research: A critical review of the literature." *Qualitative Health Research* 30.10 (2020): 1596-1604.
- Vindrola-Padros, Cecilia, and Bruno Vindrola-Padros. "Quick and dirty? A systematic review of the use of rapid ethnographies in healthcare organisation and delivery." *BMJ Quality & Safety* 27.4 (2018): 321-330.
- Johnson, Ginger A., and Cecilia Vindrola-Padros. "Rapid qualitative research methods during complex health emergencies: a systematic review of the literature." *Social Science & Medicine* 189 (2017): 63-75.
- Finley, Erin P., et al. "Periodic reflections: a method of guided discussions for documenting implementation phenomena." *BMC medical research methodology* 18.1 (2018): 1-15.
- Burgess-Allen J, Owen-Smith V. Using mind mapping techniques for rapid qualitative data analysis in public participation processes. *Health Expect.* 2010;13(4):406-415. doi:10.1111/j.1369-7625.2010.00594.x
- Hamilton AB, Mittman BS, Campbell D, Hutchinson C, Liu H, Moss NJ, Wyatt GE. Understanding the impact of external context on community-based implementation of an evidence-based HIV risk reduction intervention. *BMC Health Serv Res.* 2018 Jan 9;18(1):11. doi: 10.1186/s12913-017-2791-1. PMID: 29316922; PMCID: PMC5759288.
- Keith RE, Crosson JC, O'Malley AS, Crompton D, Taylor EF. Using the Consolidated Framework for Implementation Research (CFIR) to produce actionable findings: a rapid-cycle evaluation approach to improving implementation. *Implement Sci.* 2017 Feb 10;12(1):15. doi: 10.1186/s13012-017-0550-7. PMID: 28187747; PMCID: PMC5303301.
- Mthembu J, Hamilton AB, Milburn NG, Sinclair D, Mkhabela S, Mashego M, Manengela T, Wyatt GE. "It Had a Lot of Cultural Stuff in It": HIV-Serodiscordant African American Couples' Experiences of a Culturally Congruent Sexual Health Intervention. *Ethn Dis.* 2020 Apr 23;30(2):269-276. doi: 10.18865/ed.30.2.269. PMID: 32346272; PMCID: PMC7186048.
- Palinkas, L.A., Zatzick, D. Rapid Assessment Procedure Informed Clinical Ethnography (RAPICE) in Pragmatic Clinical Trials of Mental Health Services Implementation: Methods and Applied Case Study. *Adm Policy Ment Health* 46, 255–270 (2019).
- McMullen, C. K., Ash, J. S., Sittig, D. F., Bunce, A., Guappone, K., Dykstra, R., Carpenter, J., Richardson, J., & Wright, A. (2011). Rapid assessment of clinical information systems in the healthcare setting: an efficient method for time-pressed evaluation. *Methods of information in medicine*, 50(4), 299–307. <https://doi.org/10.3414/MEI0-01-0042>