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Qualitative Rip Out Series

Design: Selection of Data Collection Methods

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The Challenge

Imagine that residents in your program have been less than complimentary about interprofessional rounds (IPRs). The program director asks you to determine what residents are learning about in collaboration with other health professionals during IPRs. If you construct a survey asking Likert-type questions such as “How much are you learning?” you likely will not gather the information you need to answer this question. You understand that qualitative data deals with words rather than numbers and could provide the needed answers. How do you collect “good” words? Should you use open-ended questions in a survey format? Should you conduct interviews, focus groups, or conduct direct observation? What should you consider when making these decisions?

Introduction

Qualitative research is often employed when there is a problem and no clear solutions exist, as in the case above eliciting the following questions: Why are residents complaining about rounds? How could we make rounds better? In this context, collecting “good” information or words (qualitative data) is intended to produce information that helps you to answer your research questions, capture the phenomenon of interest, and account for context and the rich texture of the human experience. You may also aim to challenge previous thinking and invite further enquiry.

Coherence or alignment between all aspects of the research project is essential. In this Rip Out we focus on data collection, but in qualitative research, the entire project must be considered.^{1,2} Careful design of the data collection phase requires the following: deciding who will do what, where, when, and how at the different stages of the research process;

acknowledging the role of the researcher as an instrument of data collection; and carefully considering the context studied and the participants and informants involved in the research.

Types of Data Collection Methods

Data collection methods are important, because how the information collected is used and what explanations it can generate are determined by the methodology and analytical approach applied by the researcher.^{1,2} Five key data collection methods are presented here, with their strengths and limitations described in the TABLE.

1. Questions added to *surveys* to obtain qualitative data typically are open-ended with a free text format. Surveys are ideal for documenting perceptions, attitudes, beliefs, or knowledge within a clear, predetermined sample of individuals. “Good” open-ended questions should be specific enough to yield coherent responses across respondents, yet broad enough to invite a spectrum of answers. Examples for this scenario include: What is the function of IPRs? What is the educational value of IPRs, according to residents? Qualitative survey data can be analyzed using a range of techniques.
2. *Interviews* are used to gather information from individuals 1-on-1, using a series of predetermined questions or a set of interest areas. Interviews are often recorded and transcribed. They can be structured or unstructured; they can either follow a tightly written script that mimics a survey or be inspired by a loose set of questions that invite interviewees to express themselves more freely. Interviewers need to listen actively and question, probe, and prompt further to collect richer data. Interviews are ideal when used to document participants’ accounts, perceptions of, or stories about attitudes toward and responses to certain situations or phenomena. Interview data are often used to generate

themes, theories, and models. Many research questions that can be answered with surveys can also be answered through interviews, but interviews will generally yield richer, more in-depth data than surveys. Interviews do, however, require more time and resources to conduct and analyze. Importantly, because interviewers are the *instruments* of data collection, interviewers should be trained to collect comparable data. The number of interviews required depends on the research question and the overarching methodology used. Examples of these questions include: How do residents experience IPRs? What do residents' stories about IPRs tell us about interprofessional care hierarchies?

3. *Focus groups* are used to gather information in a group setting, either through predetermined interview questions that the moderator asks of participants in turn or through a script to stimulate group conversations. Ideally, they are used when the sum of a group of people's experiences may offer more than a single individual's experiences in understanding social phenomena. Focus groups also allow researchers to capture participants' reactions to the comments and perspectives shared by other participants and are thus a way to capture similarities and differences in viewpoints. The number of focus groups required will vary based on the questions asked and the number of different stakeholders involved, such as residents, nurses, social workers, pharmacists, and patients. The optimal number of participants per focus group, to generate rich discussion while enabling all members to speak, is 8 to 10 people.³ Examples of questions include: How would residents, nurses, and pharmacists redesign or improve IPRs to maximize engagement, participation, and use of time? How do suggestions compare across professional groups?

4. *Observations* are used to gather information in situ using the senses: vision, hearing, touch, and smell. Observations allow us to investigate and document what people *do*—their everyday behavior—and to try to understand why they do it, rather than focus on their own perceptions or recollections. Observations are ideal when used to document, explore, and understand, as they occur, activities, actions, relationships, culture, or taken-for-granted ways of doing things. As with the previous methods, the number of observations required will depend on the research question and overarching research approach used. Examples of research questions include: How do residents use their time during IPRs? How do they relate to other health care providers? What kind of language and body language is used to describe patients and their families during IPRs?
5. *Textual or content analysis* is ideal when used to investigate changes in official, institutional, or organizational views on a specific topic or area to document the context of certain practices or to investigate the experiences and perspectives of a group of individuals who have, for example, engaged in written reflection. Textual analysis can be used as the main method in a research project or to contextualize findings from another method. The choice and number of documents has to be guided by the research question, but can include newspaper or research articles, governmental reports, organization policies and protocols, letters, records, films, photographs, art, meeting notes, or checklists. The development of a coding grid or scheme for analysis will be guided by the research question and will be iteratively applied to selected documents. Examples of research questions include: How do our local policies and protocols for IPRs reflect or contrast with the broader discourses of interprofessional collaboration? What are the

perceived successful features of IPRs in the literature? What are the key features of residents' reflections on their interprofessional experiences during IPRs?

How You Can Start TODAY

- Review medical education journals to find qualitative research in your area of interest and focus on the methods used as well as the findings.
- When you have chosen a method, read several different sources on it.
- From your readings identify potential colleagues with expertise in your choice of qualitative method as well as others in your discipline who would like to learn more for potential working groups to discuss challenges that arise in your work.

What You Can Do LONG TERM

- Either locally or nationally, build a community of like-minded scholars to expand your qualitative expertise.
- Use a range of methods to develop a broad program of qualitative research.

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Resources for Further Reading

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TABLE: Strengths and Limitations of Different Types of Qualitative Data Collection Methods

Method	Strengths	Limitations
Surveys (that use open-ended questions)	<ul style="list-style-type: none"> • Larger number of participants • Can easily ensure anonymity to participants • Can allow specific questions/foci to be addressed 	<ul style="list-style-type: none"> • Requires true skill to design survey questions that do not bias participants • Can’t follow up on responses in real time • Open-ended questions are often poorly and unevenly answered and lack the richness of interviews • Survey fatigue • Measures participants’ self-assessed behaviors and attitudes, which are not always accurate representations of their actual behaviors and attitudes

		<ul style="list-style-type: none"> • Limited ability to interpret context/causality • Limited ability to adapt on the fly to arising issues
Interviews	<ul style="list-style-type: none"> • Participants can share their own point of view and stories using their own voice • Analysis can start as interviews are still being conducted, and the data gathering process refined to yield higher-quality data. Indeed, the iterative process of interviewing enables researchers to probe participants on emerging topics. Interviews are thus more flexible than surveys. • Does not require a priori commitment to tightly delimited content areas/questions 	<ul style="list-style-type: none"> • Complexity of participants and of communication may lead to misunderstandings and misinterpretation, as qualitative research is inherently interpretive • Only captures perceptions, self-assessed behaviors, and attitudes, and may thus not be accurate representations of actual behavior • Requires a fair amount of skill to conduct and analyze • Yields messier, larger amounts of data than surveys • Can be expensive and time consuming
Focus groups	<ul style="list-style-type: none"> • Groups of participants are often more helpful than individuals in providing a rich, multidimensional perspective on a situation or social phenomenon • They are bounded in time, and thus less time-consuming than observations • May allow for more candid contributions if reporting is aggregated 	<ul style="list-style-type: none"> • Certain participants may be unwilling to share in public some difficult or outlier experiences, especially if they share a room with other participants in positions of power over them • Selection of participants is key to obtaining a wide range of perspectives on the phenomenon of interest • Requires skilled moderators, especially when topics are controversial or when certain personalities are difficult to manage (eg, dominant or domineering personalities, silent individuals, oppositional characters) • Transcription/note taking can be challenging. The use of participants' nonverbal communication as data might be used for analysis. Whether this data is collected should be determined ahead of time.
Observations	<ul style="list-style-type: none"> • Focus on actual behavior, rather than recollections of behavior 	<ul style="list-style-type: none"> • Requires extensive training, rigor, and time • Often perceived to be of low reliability and generalizability because of its subjective nature: the observer is the instrument of data collection • Often suggested that observers bias

		<p>participants' behavior, although evidence of the Hawthorne effect is limited</p> <ul style="list-style-type: none"> • Raises ethical questions for privacy and evaluation of performance • Limited insight into thoughts and beliefs that shape behaviors, unless the observer makes an effort to collect key informant/on-the-fly interviews
Textual or content analysis	<ul style="list-style-type: none"> • Many documents are easily available online • Time and cost efficient • Official documents can tell stories that are not accessible otherwise and can be contrasted against participants' stories 	<ul style="list-style-type: none"> • Researchers are limited to documents that are available • Documents often present the views of powerful actors rather than vulnerable populations. Researchers must acknowledge the fact that documents may not be representative of all perspectives. • It may be difficult to know ahead of time what one can find in selected documents • The researcher has no control over how documents were generated