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 deal 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 that elicits 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 inquiry.

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 online supplemental material.

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 actively listen 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

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Editor's Note: The online version of this article contains resources for further reading and a table of strengths and limitations of qualitative data collection methods.

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 are 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 and organize 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.

References

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