In-Depth Interviews

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Overview

In-depth interviewing has become a popular data collection method in qualitative research in health professions education. Interviews can be unstructured, highly structured or semi-structured, the latter being most common. A well-crafted semi-structured interview guide includes predetermined questions while allowing flexibility to explore emergent topics based on the research question. In order to collect rich interview data, researchers must attend to key elements before, during, and after the interview. The qualitative methodology used impacts key aspects, including: who performs the interview, who participates in the interview, what is included in the interview guide, where the interview takes place, and how data will be captured, transcribed, and analyzed.

> **Practice Points**
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> - Be clear about the research question and how the interviews will help to answer this question.
> - Prepare for each interview carefully to ensure you capture rich data.

> - Remain flexible during interviews; pose predetermined questions and explore emergent topics that are relevant to your study.
> - After each interview reflect on how you can improve for the next interview.
> - Use additional techniques to elicit the interview such as Pictor, Rich Pictures, or Point-of-view Filming.

Short Case Study

Susan, a health professions educator, wants to study how healthcare debriefings contribute to peer learning among medical students. She has previously engaged in survey research and statistical analysis of survey results. Given the exploratory nature of the research question, she plans to interview both medical students and simulation educators. She is not sure if she is on the right track or where to start and seeks guidance.

Introduction

While quantitative research paradigms dominate healthcare simulation, qualitative research complements existing approaches by exploring how and why simulation promotes learning. Healthcare simulation researchers skilled in quantitative research methods, however, may find themselves challenged with the diversity of qualitative data collection methods. Among these, interviews represent a common and seemingly straightforward approach, although potential pitfalls may prevent the collection of rich data for analysis.

This chapter aims to:

- Explain the role of interviews as a data collection method and their relationship to qualitative methodology
- Differentiate between structured, semi-structured, and unstructured interviews

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- Provide a roadmap for designing an interview guide
- Explore supplemental elicitation strategies
- Offer guidance on preparing for and conducting the interview
- Review how to capture and transform interview data for later analysis

Why Interview?

For certain research questions and methodologies, interviews can enable the collection of rich data. As Kvale (2007) notes, "interviews allow the subjects to convey to others their situation from their own perspective and in their own words" [1].We can view interviews as a social dialogue between participant and interviewer, which highlights the critical role of the interviewer in co-constructing knowledge with the interview participants [1]. In-depth interviews lend themselves to exploration of social phenomenon as participants share their life-worlds, or their "lived everyday world" [1]. Many factors contribute to the quality of interview research, including interviewer characteristics, the qualitative methodology used, the sampling strategy, rapport management, and interviewing technique just to name a few. Most of these factors should be detailed in published research reports (see Tong et al. for a detailed reporting criteria) [2].

Why Choose In-Depth Interviewing?

Various forms of interviews exist, including structured, semi-structured and unstructured interviews. Structured interviews apply highly standardized questions to solicit specific data points that lend themselves to quantitative analysis. In contrast, semi-structured and unstructured interviews as used in qualitative research can yield much richer data. Unstructured interviews often supplement field observations used in ethnography, a specific qualitative research methodology [3]. In these, researchers use a more conversational approach to explore behaviors and other phenomenon observed in the field. In-depth semi-structured interviews are the sole or primary mode of data collection in most qualitative research projects [4], making them the most widely used form of interview. Semi-structured interviews combine a series of pre-planned questions in an interview guide with emergent questions or probes depending on the dialogue between interviewer and participant [4].

How Does Interviewing Fit with Various Qualitative Methodologies?

Interviews represent a data collection *method*, much like observations, document analysis, and the review of audiovisual materials [5]. Qualitative researchers employ these methods as part of a larger overarching qualitative research *methodology*. These methodologies not only guide data collection, but also reflect a comprehensive approach and interpretive framework that influences formulation of research questions, sampling strategy, approach to data collection and analysis, and goals of the project. Examples include narrative research, phenomenology, ethnography, grounded theory, or case studies [5]. For example, researchers use a grounded theory methodology to build a theory *grounded* in the data [6, 7]. This approach dictates that data collection and analysis proceed iteratively using the principles of constant comparison and theoretical sampling. Theoretical sampling involves selecting participants for their unique perspectives that inform theory development. While general principles of interviewing apply in most cases, the specific methodology has significant impact on the interview approach. See Cresswell and Poth (2018) for an in-depth discussion of the relevant issues [5].

How to Create an Interview Guide?

The creation of an interview guide represents an essential element of the interview process [1, 7]. From a very practical point of view, obtaining ethics approval will likely require you to outline what questions you will pose and which topics will remain off-limits. For this purpose, the predetermined questions informed by your research questions are usually sufficient. You may also choose a theoretical or conceptual framework to help you design your interview guide.

After the purpose of the study, ground rules for the interview, and any demographic data such as age or professional background has been covered, a broad open-ended question can serve as a point of departure for the interview. Subsequent questions should explore topics related to the research question(s), and, if possible, solicit specific examples that allow study participants to describe their experiences. For example, we propose the following broad opening question for our exemplar study that addresses how debriefings contribute to peer learning: *"Please tell about your prior experiences participating in healthcare debriefings"*. Potential follow-up questions are as follows:

- *"Please describe your most recent debriefing (as participant or facilitator)"*
- *"Please tell me about a recent debriefing that stands out for you and why?"*
- *"Please tell me about the interactions you have with the other participants during a debriefing and how those interactions shape your experience"*
- *"What aspects of debriefings shape what you take away from them?"*

As participants describe their experiences, the astute interviewer will identify relevant issues that emerge from the conversation and explore these in greater details as they relate to the study's research questions. It can be helpful for interviewers to have follow-up questions or 'probes' prepared (see below in "conducting interview").

Enhancing Data Collection During Interviews

While research interviews elicit participants' views, they often fall short of providing a full picture of their experiences. For example, some individuals may find it challenging to articulate their experiences fully. Drawing upon social sciences, a range of techniques can help to enrich interview data collection. These strategies should be planned in advance and reflected in your interview guide. Such techniques can allow interviewers to make a greater connection with the participant's experiences and permit a deeper shared understanding about the subject matter under investigation. A few examples of techniques that could be used in simulation-based research include:

- **Rich Pictures:** In this technique, participants are invited to draw their experiences. This drawing then serves as a prompt for the participant to describe the picture during the course of the interview. See Cheng et al. for an example [8].
- **Point-of-view Filming**: Participants record their first-person perspectives of an activity while wearing digital video glasses *(e.g. learners wear digital video glasses or a body-cam during a simulation-based learning activity)*. This film footage is subsequently used to elicit their experience during the interview. Interviews augmented by point of view filming rely less on memory than traditional interviews as both the interviewer and interviewee can pause and replay parts of the recording with particular relevance, elaborating on them as needed. This technique also allows the interviewer to observe and empathize with the participant in light of what transpired [9, 10]. See Figs. 12.1, 12.2, and 12.3.
- **Pictor technique**: Participants use this visual technique to construct a representation of their experiences using arrow-shaped adhesive cards on a chart. Interviewers can then use this representation to elicit the interview and help participants share their experiences in greater detail. See King et al. for an example [11].

How to Recruit and Select Participants?

Multiple sampling strategies exist [5]. Recruiting participants based purely on convenience should be avoided. A purposive sampling strategy seeks to collect data intentionally

Fig. 12.1 Example of video glass to capture a research participants point of view (PoV) in an activity

Fig. 12.2 Illustration of a research participant wearing video glasses in a simulated scenario. (Reproduced with permission of Queens University School of Medicine, Dentistry and Biomedical Sciences)

Fig. 12.3 A research participants PoV via footage from video glasses. (Reproduced with permission of Queens University School of Medicine, Dentistry and Biomedical Sciences)

from a range of data-rich informants who possess both similar and disparate views on the phenomenon in question. Both of these perspectives have great value and should be included.

A number of important steps must be accomplished before participants are recruited. First, ethics board approval must be obtained. You may also need to obtain permission from key stakeholders (e.g. training program directors if you seek to recruit physicians-in-training). Once this is complete, consider announcing your study at departmental lectures or meetings in order to inform people about the research and let them know you are recruiting subjects. Send electronic mails to the target group. Based on your responses, you will need to decide who to interview and in which sequence. Here your chosen methodology may provide some guidance. For example, if you are using a grounded theory approach to your analysis, your sampling strategy will be primarily based on participants' potential to shed light on an evolving theoretical model you have identified through constant comparison and iterative analysis. It can also be helpful to deliberately interview participants with differing backgrounds as this sheds light on a range of perspectives. Rather than interviewing medical students in sequence based on year of study (i.e. first years, then second years, etc.), you might instead intersperse early year, later year, and middle year students. Depending on the stage of your research you might also select participants for their potential to share alternate perspectives rather than those who will affirm what you have already found.

Conducting a Research Interview

Now that you have obtained ethics approval and designed your semi-structured interview guide, you are ready to recruit participants, schedule interviews, and prepare for the interviews themselves. Each of these elements include key steps that occur before, during, and after the interview.

Before the Interview

After deciding on the type of interview, interview guide, and recruitment strategy, now you must prepare for the interviews themselves. You must both (a) plan your approach to the interviews in general, and (b) prepare before each and every interview. This section addresses both topics.

General Approach to Interviewing

The researcher must address several important issues well in advance of the initial interview: (a) who will conduct the interviews, (b) what materials and devices will be used to capture data, and (c) what supplies might you need bring for the interview participants.

'Who' Will Perform the Interview?

This is a vital question since the interviewer represents the data collection instrument. In many instances you as the primary researcher will be the person doing the interviews, but in certain cases you may not be the most suitable person. Study participants should feel free to share information without fear of repercussions. Whoever conducts the interview will need to be "reflexive" about their role and clearly consider how their past experiences shape interpretations [12]. Prior relationships between interviewer and study participants may prevent the collection of rich, high-quality data (depending on the nature of those relationships and the research questions). Therefore, the research team should proactively discuss whether or not someone else should do an interview if you have a prior relationship with participant(s). Naturally, whoever performs the interviews should have some interviewing experience to ensure that they use effective questioning and rapport building techniques. Therefore, we advise gaining some experience before your first research interview. One strategy involves recording and transcribing any pilot interviews. By reviewing the audio-recordings and interview transcripts, you will identify areas of improvement. Even better, an experienced research interviewer can listen to portions of the interview and provide feedback on your general interviewing approach as well as specific questioning techniques. You should also consider whether more than one person will conduct interviews for your study and in what circumstances. Discuss expectations for the interviews and use of the interview guides beforehand. Finally, joint review of completed interviews helps get multiple interviewers on the same page. All of these considerations require deliberate forethought and planning.

What Supplies Will You Need for Data Capture?

Data capture usually requires a device with audio-recording capability (e.g. Dictaphone, tablet, or smartphone), although in some instances an observer can take notes if recording is impractical or impossible. Most experienced researchers also bring a second device to as a back-up in case of technical issues. Print your interview guide (preferably in a large, easy to read font) as well as paper and pencil(s) to take notes during or after the interview. Consider jotting some field notes immediately after the interview ends; such reflections may relate to the interview participant and their responses, or to the interviewer and their immediate impressions about that interview.

What Materials Should You Bring for the Interviewees?

Beyond the consent form, you may wish to collect written responses from interviewees regarding demographic characteristics (e.g. contact details, age, occupation, prior training, to name a few); a specially designed form will be required

for this step. In addition, special elicitation techniques may require additional supplies, such as paper and pencils for interviewees to draw rich pictures or arrow shaped sticky notes for the Pictor technique. Finally, you will need to plan ahead if you wish to provide participants with a beverage or a snack.

How Will You Respond If a Study Participant Becomes Distressed?

Although a rare event, some interviewees may become distressed or disclose something concerning that may require further attention. You may even need to shift the focus of the interview from 'research' to the 'well-being' of the participant. Ethics committees may wish to know your approach to such situations, which could involve offering the interviewer the choice to continue or end the interview, turning off the recording, or discussing the issue further with either study staff or someone trained in psychosocial support.

How to Prepare Before Each Interview

You will need to arrive at the site well before the interview is scheduled to make sure everything is ready. Ensure that you are in a safe and quiet place where you will not be disturbed. For in-person onsite interviews, think about possible sources of noise that may impact the quality of your audio recording, such background noise from doors opening and closing, people talking, or vehicles passing by open windows. Such noise at inopportune times may make key words unintelligible for transcription. For example, one author realized after the first interview that he had to change from ceramic coffee mugs to paper cups because the sound of the coffee mug being placed on the table interfered with the audio-recording. Consider the structure of the environment as well. Think carefully about the positioning, light and temperature of the space to make sure both you and your interviewee will be comfortable. Explicitly check with your interviewee that (s)he is comfortable before you start the interview. If the interview will take place in an unfamiliar location, know where the bathrooms are and offer participants a bathroom break before the interview begins. You will have less control over these aspects of the environment during interviews via telephone or video-conferencing technology. You will also need to confirm explicitly with participants that the time and location remains suitable for the interview. Invite participants to silence their mobile phone before the interview starts unless pressing matters exist. Review the study's purpose, interview procedure and time frame, and ask them to sign the consent form before you start recording. See Table 12.1 for a pre-interview checklist.

In summary, the axiom, 'fortune favors the prepared', certainly holds true when planning for research interviews. By taking extra supplies, checking and double-checking your equipment and materials, you will be less likely to be sur-

Table 12.1 Key considerations before an in-depth interview

Pre-interview checklist
Offer restroom break
Offer drinks/snack
Have back-up recording devise available, with sufficient battery power and memory
Silence or turn off cell phones and pagers
Place sign on door ("Please do not disturb—Interview in Progress")
Gather supplies
Interview guide
Notes, pens/pencils
Obtain explicit consent to record
Turn recording devices on

prised by missing items or experience technology failures that prevent you from capturing valuable data.

The Interview

You are now ready to conduct the interview. Switch on your recording device (and back-up device) and ensure that they are actually recording. Although you will already have obtained consent, re-orient participants to the purpose of the study and provide reassurance about confidentiality. Let participants know how the interview will proceed, and inform them that they should make no assumptions about what the interviewer knows and does not know about the phenomenon in question. Invite participants to be explicit in their responses so that a full picture of their valuable perspectives can be collected. Specifically inform participants of the need to explore their thinking and the role of follow-up questions. Let participants know there are no right or wrong answers to the questions posed; rather, it is their perspectives and experiences that we (i.e. both interviewer and participant) will explore together. At the outset of the interview, invite participants to introduce themselves and perhaps their role *(e.g. a simulation-based educator who conducts debriefings, or a medical student who participates in debriefings).* Such an opening question gives participants an opportunity to settle into the interview by talking about low-risk topics.

Now that the interview has commenced, how you proceed depends on the type of interview you wish to conduct. For example, if you pursue a semi-structured approach, you will have a list of key topics/questions as part of a predetermined interview guide. Informal conversational interviews will be more exploratory, and interviewers will need to allow themselves to be guided by participant responses. Regardless of interview type, interviewer must develop and maintain trust with the interviewees to elicit the richest possible data. At all times interviewers should remain open and interested in the interviewees' perspectives. They should also support interviewees as they share their experiences, especially if the subject matter is sensitive *(e.g. when a participant shares an*

experience about a simulation in which their performance was sub-standard compared to their peers).

Open questions are more invitational and provide interviewees with greater agency (for example – instead of asking *'have you ever facilitated a debrief that went well?* – you could reframe this question by asking *'would you like to share a time when a debrief went well for you?'*). Probing questions allow interviewers to gain deeper insights to interviewees' viewpoints and experiences. Such probes might include, "*Can tell me more about that?" "What do you mean by that?" "What makes you say that?" "Can you provide an example?"* This approach to questioning allows both interviewers and interviewees to co-create knowledge about the subject matter under investigation.

As you your interview draws to a close it is important to allow interviewees the opportunity to share any further insights or clarifications. If participants have no further contributions you can formally end the interview, thank the study participant, and turn off the recording device.

Immediately after the Interview

Once the interview formally ends, make sure that participants are comfortable allowing the content of the interview to be included in the study. Depending on the nature of the interview you may want to provide a short debrief for participants. This gives them the opportunity to share their experiences about the interview. You may also, based on your chosen methodology, wish to contact the participants again (e.g. for a follow up interview in a grounded theory study, member checking of your results in a phenomenology study, or provision of a study summary to participants once it is complete). It is important to notify participants about these contingencies and how you will contact them.

Once the participant has left you may which to audio record a short reflection about the interview or jot down some field notes. Doing this allows you to capture key concepts that may be beneficial for analysis and allows you to improve the process for subsequent interviews. Finally, consent forms and paperwork from the interview need to be securely stored. Most interview recordings are now in digital format, and you can upload the recorded interview data files from the device to a password protected and encrypted location approved by your ethics committee. This data can then be transcribed for further analysis.

Post-interview

When the interview ends and you have thanked your participant and parted ways, your top priority is to ensure that you have completely captured the data by checking your audio-recording device. This data should be uploaded immediately if possible to a secure digital location. If your devices didn't record, use a paper and pen to write down as much information from the interview as you can recall (or record a voice memo). Next, go through the notes you made during the interview. Take some time to elaborate on them and add factual observations you remember from the interview (e.g. perhaps how a participant said or didn't say something, or expressed themselves nonverbally, during the discussion of a specific topic). Add your initial interpretations about what you heard from the participant as well. These initial impressions may cover a range of topics, from theoretical concepts that came to mind during the interview to connections to previous interviews. Capture these thoughts as memos in your interview notes.

Most researchers listen to their recording again once the transcript becomes available to ensure its accuracy and familiarize themselves with the data. Consider briefly summarizing what the interview was about and what you learned about the phenomenon you're studying. If your research design includes providing a summary of the actual interview to participants, this can serve that purpose as well. Important questions to ask yourself when doing this include the following:

- What did I learn from this interview?
- What might I do differently next time?
- Should any questions be modified to reflect new lines of inquiry? (This may also require discussion with your research team and even an amendment to your ethics approval.)

In most cases you will wish to transcribe the audio files into textual data for further analysis. This depends, however, on your chosen qualitative methodology. Given its time intensive nature, it can be helpful to use either a commercial transcription service or one based in your institution. These typically incur costs, so it is important to budget for this service when designing your research project. If you submit your data to a third party for transcription, you are responsible for ensuring that all necessary precautions are in place to keep your data safe. In most countries this entails a non-disclosure agreement and/or a user agreement signed by both parties. When you receive transcripts you should de-identify them by removing personal information as per your research protocol. This essential step must be completed before sharing the data with your research team if they are only allowed to work with de-identified data.

Commercial transcription services tend to charge differently for one-on-one interviews versus group interviews or focus groups. You will also need to decide how much detail in transcription your research requires. Depending on your research domain, methodology and aim, transcribing the audio file to an 'intelligent verbatim transcript' may work for

you. True "verbatim' transcription means that every utterance (i.e. every stutter, stammer, 'um', cough and laugh) appears in the transcription. This approach increases the expense given the level of detail required. In an 'intelligent verbatim transcript' the transcriptionist will omit fillers like 'um', laughter and pauses from the transcript while preserving the participants' meaning. Some light editing may also be done to correct sentences and delete irrelevant words. If you use intelligent verbatim transcription you should review the transcript for accuracy since some utterances may have significant meaning for your study. Also, some technical/medical terms or jargon may be transcribed as "[unintelligible]" but will be easily recognizable (and potentially significant) to you. This makes your review for accuracy all the more important.

Qualitative analysis software can be used to facilitate the analysis of different forms of interview data, including audio, video (in the case of point-of-view filming) or text files. These software packages themselves perform no analysis, but provide a platform for coding data that allows you to search for specific codes and link them to relevant analytic memos. Such a platform is not essential, but can be helpful depending on the amount of data you will analyze.

Conclusion

As qualitative approaches to research in healthcare simulation expand, in-depth interviewing as a data collection method has become more popular. A well-crafted interview guide incorporates predetermined interview questions while providing flexibility to explore emergent topics that study participants raise. Successful collection of rich interview data demands attention to key elements before, during, and post interview. Researchers must consider the effect of their chosen qualitative methodology on key elements of data to be collected: who performs the interview, who participates in the interview, what to include in the interview guide, where the interview takes place, and how data will be captured, transcribed, and analyzed.

References

1. Kvale S. Doing interviews. London: Sage; 2007.
2. Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. Int J Qual Health Care. 2007 Dec;19(6):349–57.
3. Reeves S, Peller J, Goldman J, Kitto S. Ethnography in qualitative educational research: AMEE guide no. 80. Med Teach. 2013;35(8):e1365–79.
4. Dicicco-Bloom B, Crabtree BF. The qualitative research interview. Med Educ. 2006;40(4):314–21.
5. Creswell JW, Poth CN. Qualitative inquiry & research design: choosing among five approaches. 4th ed. Thousand Oaks: Sage; 2018.
6. Watling CJ, Lingard L. Grounded theory in medical education research: AMEE guide no. 70. Med Teach. 2012;34(10): 850–61.
7. Charmaz K. Constructing grounded theory. 2nd ed. London: Sage; 2014.
8. Cheng A, LaDonna K, Cristancho S, Ng S. Navigating difficult conversations: the role of self-monitoring and reflection-in-action. Med Educ. 2017;51(12):1220–31.
9. Skinner J, Gormley GJ. Point of view filming and the elicitation interview. Perspect Med Educ Bohn Stafleu van Loghum. 2016;5(4):235–9.
10. Lewis G, McCullough M, Maxwell AP, Gormley GJ. Ethical reasoning through simulation: a phenomenological analysis of student experience. Adv Simul. 2016;1(1):26.
11. King N, Bravington A, Brooks J, Hardy B, Melvin J, Wilde D. The Pictor technique: a method for exploring the experience of collaborative working. Qual Health Res. 2013;23(8):1138–52.
12. Creswell JW. Research design: quantitative, qualitative, and mixed methods approaches. 5th ed. Thousand Oaks: Sage; 2018.