Qualitative Data Standards

The process of a qualitative data inquiry encompasses the collection, analysis, and interpretation of types of data that cannot easily be translated into numbers. Qualitative data often focus on the content of words and phrases written, spoken, or recorded. These words and phrases are the data; they help us understand behaviors and thought processes, and they can describe characteristics or qualities. In public health, when we say qualitative data, we typically are referring to qualitative data involving community responses. Therefore, public health qualitative data focus on understanding the feelings and opinions of the audience; they aim to understand the audience's attitudes, beliefs, and motivations regarding specific subjects. Qualitative data tends to answer questions about what, how, and why regarding a chosen topic.

Outlined below are the steps that will guide you through the process of a qualitative data inquiry. Following these steps will lessen your burden and should lead to higher quality data that can effectively inform action. This qualitative data guide will also detail those common types of community-participatory qualitative research methods often used in public health.

1. Define your qualitative research question and objectives

As you prepare to start on your qualitative data project, it is imperative that you establish a clear understanding of your goal and intended outcome. This comes down to answering the following questions: (1) What are you trying to accomplish or learn? and (2) How will community members affected by the topic of interest be engaged throughout all steps of the qualitative data project, from deciding on a research question to interpreting the findings?

Research question

The first step is identifying the issue you want to address and/or the knowledge gap for which you seek clarity. A qualitative research question is a clear statement about the subject matter of interest. Examples include unhealthy eating habits and children missing their recommended well-child or immunization schedule. The question can be relatively broad because you will come up with objective statements that will answer more specific aspects of your research question.

When developing your research question, consider some of the following questions:

- What are you most interested in learning about?
- What questions or concern lead you to this topic interest?
- What is already known about this topic?
- Why is the issue or topic important to you?
- How will this contribute to your community or work environment?

Example: defining a research question

You are a maternal-child health staffer, and community data reveal that only 15 percent of mothers in the community are able to exclusively breastfeed for the recommended six months after birth. You want to better understand what factors are playing into this issue so that you can propose programmatic recommendations and policy changes that will enable mothers to meet the recommended breastfeeding guidelines. You have knowledge that the six-month breastfeeding recommendation is a challenge, but you don't know the specific challenges mothers in your community are experiencing as it relates to breastfeeding. The following example serves as an adequate research question: **What factors are preventing mothers from exclusively breastfeeding for the recommended six months?**

Research objective

The research objectives are statements about how you will answer the research question. Each objective outlines an action or activity that will take place as a singular step. When objectives are compiled together, they provide a comprehensive answer to the research question. Each objective should be clear, achievable, and measurable. Each objective should start with an action word (verb), such as examine, consult, determine, establish, identify, measure, compare, provide, or increase. An objective statement can be: **Identify barriers to breastfeeding in the workplace.**

Community engagement and objective development

It is also vital to have an established plan on how to engage community members throughout the research. One way to engage the community is during the construction of your research objectives; consulting with members to center on their reality and decide collectively on what should be investigated and how it will help them. Another way to engage the community is through the selection of your data collection method; each method generates a different level of engagement. Partnering with community-based organizations to help organize and facilitate the data collection can help increase buy-in and ease discomfort. Another way to infuse the community into the research is by having community members be engaged as the data collectors; this approach will help eliminate barriers and increase trust and cultural mindfulness. However, this approach requires providing training to community members, so they gain the skills needed to be comfortable as facilitators.

2. Determine the best data collection method

A good research question, along with objective statements, should guide your decision regarding which data collection method is most suitable. Things to consider when deciding on what method to use include:

- The pros and cons of the selected method, which are outlined in the *Data collection methods* section below.
- The medium of data collection. Will the data be collected virtually, over a phone call, with paper format, or in person?
- The available resources and constraints of the project.

Keep in mind that the cheapest and easiest method is not always best. **The purpose of collecting data is to leverage the findings to improve the outcome of the topic of interest.**

Definitions: data collection questions

There are two primary types of data collection questions: open-ended and closed-ended. The "Data collections method" section following these definitions will discuss how each type of question applies (or does not) to each type of method.

Open-ended questions

Open-ended questions are broad and are intentionally asked in a way that allows respondents to construct their own detailed response. The majority of the time, qualitative data inquiries focus on asking open-ended questions because they can yield richer, more detailed information. Open-ended questions allow participants to express their individuality, which is important. Some examples of open-ended questions are listed below.

- Why did you choose transportation as the most important barrier?
- How would you describe your experience working at home?
- What experiences have you had with breastfeeding?

Closed-ended questions

Closed-ended questions are narrow and can usually be answered in a single word or by selecting a choice from a limited number of options. Some examples of closed-ended questions are listed below.

- Is transportation the most pressing barrier?
- Are you happy working at home?
- Are you having a hard time breastfeeding?

Data collection methods

Commonly used data collection methods include surveys and questionnaires, interviews (structured and semi-structured interviews), and focus groups. It is important to consider if your interviews or focus group will be conducted virtually, over the phone, or in person. Each method comes with its own sets of benefits and challenges. A few examples are listed below.

Surveys and questionnaires

Surveys and questionnaires are convenient for reaching a larger number of participants. They are easiest to administer and less costly; however, data quality may be sacrificed. They are among the most common data collection methods used and are best used for closed-ended questions (for example, multiple-choice questions). Open-ended questions may be used, but on a limited basis because they can be taxing to participants, which reduces the number and quality of responses. Generally, it is best to limit the number of open-ended questions to no more than three.

Structured interviews

Often, the aim of structured interviews is to collect a maximum number of standardized answers, which are often expressed through closed-ended questions. Structured interview questions are carefully scripted in advance, and all participants are asked the same questions in the same order. Structured interviews often contain a lot of closed-ended questions and few open-ended questions. This leaves little room for the interviewee to express their narrative. Structured interviews often avoid probing questions, which allows responses from individuals to be easily compared. Structured interviews are more reliable than other interview methods because they reduce the variability among interviewer and participant. With structured interviews, you can easily compare responses between participants. One drawback with structured interviews the inability to deviate from the established set of questions and that can significantly reduce the richness of the data being collected.

Semi-structured interviews

Semi-structured interviews are characterized by open-ended questions, encouraging sharing of narrative, and **gathering opinions and comments.** Semi-structured interviews should be used when you have a good understanding of the topic, and you want to capture the nuance of individual experiences through their own narrative. The interviewer will have a few questions prepared in advance in the form of an interview guide or discussion guide, and the questions are generally open-ended to allow participants to openly share what they want. The interviewer may ask probing questions—clarifying or follow-up questions—and has the freedom to change the order of questions in the guide or spend more time on a specific question to gather more information. Semi-structured interviews allow more flexibility to pursue new topics as needed, compared to structured interviews. Semi-structured interviews allow for more personal interactions due to its flexibility in probing questions. One drawback is there is a greater risk in going over the allocated time because of the flexibility to ask probing questions.

Focus groups

Focus groups are group interviews that aim to explore participants' expertise and experiences, including how and why people behave the way they do. Focus groups usually consist of six to eight participants, should last between 45 to 90 minutes, and are led by an experienced moderator following a topic guide or script that usually includes mostly open-ended questions.

Focus groups are easier to organize compared to interviews, as they require less time. However, focus groups require more facilitation effort than interviews, as there is a greater risk of disproportionate speaking (with more individuals you may get less in-depth responses and fewer participants sharing). Focus groups have the potential to develop healthy conversation between participants and can provide very rich and genuine responses. In addition, focus groups allow for the collection of qualitative data rather quickly from multiple participants in less time than interviews. One drawback is the increased likelihood that participants may be shy in a group setting and not fully express themselves.

Data collection method considerations

Also, consider if it is best to conduct the interview or focus group virtually, over the phone, or in person. When considering these options, be mindful of the resources you have available (location to conduct interview or focus group and incentives) and the preferences of your participants. For example, you should consider what will work best with the participants work schedule, transportation access, childcare needs, technology access and time constraints, to name just a few.

Regardless of the data collection method chosen, remember to **always obtain informed consent** from your participants. Here is a resource that illustrates how to obtain informed consent.

3. Identify the right participants

In many instances, the project may already have identified who your audience will be; therefore, you will use that information to guide yourself through step two in selecting the best collection method for your audience. In other instances, steps one and two should help you determine who would be the right audience for your work. Identifying the right participants starts with understanding:

1. Why your research question is important.
2. What do you ultimately want to accomplish?

Next, you want to decide on **inclusion criteria**, which describe who should be eligible to participate in the research. For example, your research question may be seeking to understand an experience of a certain demographic group (age, gender, location), or you may be seeking participants that have been impacted by the matter related to the research question (individuals living in a food desert, individuals without health insurance). Additional items to consider when identifying the right audience for your qualitative project include the following:

- How will you reach out to your intended participants?

- Are there any existing barriers that you will have to work through (for example, lack of trust in government, transportation, childcare)?
- Do you have the capacity to compensate (provide cash, bus passes, or food) participants for their time?

4. Develop your guide

An interview or question guide is a list of open-ended questions that provide a framework for interviews or focus group conversations. The guide should be structured to encourage participants to openly share their experiences with comfort. Questions should be simple, clear, and short. The guide should serve as your assistant in asking the questions and additional probing questions during the conversations. It's best to memorize your guide, or at least be familiar with the guide, so you can spend more time engaging and developing a comfortable environment with the participants during an interview. The guide should include about five to seven major themes or questions. They should be sorted by importance, with your most important questions at the beginning, in case you do not have time to ask all your questions.

Tips for developing your guide

Focus on quality, clear, open-ended questions.

- Do not ask a double-barreled question (two questions in one). For example: What is most frustrating and what is most exciting about your job?
- Do not ask questions that can be answered with one word. For example: Are you frustrated with your job?
- Do not ask participants for opinions on behalf of the group they are a part of. For example: What do people in your community think about access to affordable housing?

Ask coworkers to review your guide for feedback. Practice a mock interview with a coworker using the guide to get a sense of the flow.

The following are three types of questions that will help you get started when designing your guide:

1. Start with asking the broadest research questions: What is your experience with affordable housing?
2. Then, ask follow-up questions: Tell me more about the condition of affordable housing in your community.
3. Finally, ask more targeted questions: Why did you not move into Garden Lake like you planned?

Additional steps to consider when designing your guide are listed below.

- Write down the larger research questions of the study at the top.
- Develop questions within each major area of the larger research question. The goal is to tap into participants' experiences and expertise.
- Ask **how** questions to get stories of processes. For example: How did you come to join this group?
- Develop probing questions from the main questions that will provoke participants to elaborate more. You do not need to use them, but they are helpful to have prepared ahead of time.
- Begin the interview with a warm-up, open-ended question. This is something that the participants can easily answer to help to warm up the room and ease their comfort. For example: What makes your favorite food your favorite?
- Think about the logical flow of the questions; the order in which you ask your questions can impact responses. This may take some adjustment after several interviews.
- Save difficult or potentially personal questions for the end of the conversation when rapport has been established.

- Provide a final question that allows the participants to ask you any questions. For example: What questions or thoughts do you have for me?

5. Create a trusting environment

When collecting data, providing an environment that feels welcoming, comfortable, and trusting to participants will have a positive impact on the outcome. As one example, sometimes playing soft music as participants arrive can make a space feel more comfortable and inviting. Additionally, being transparent and explaining the purpose and goal of the research to the participants can set a tone of trust. Inform participants of their rights and responsibilities and the measures that are in place to protect their privacy. When feasible, collaborate with someone who is a trusted figure in the community to bring a sense of familiarity to participants.

Sessions should always start with a simple, and easy to answer question to help lighten up the mood. The goal is to collect authentic and detailed responses. Questions must remain neutral and not be leading; let participants control their stories. The facilitator should avoid showing any visible signs of judgment. Be cautious of how your body language responds to what is being said, especially if you disagree or are shocked by what you hear. Your reaction to one participant may prevent others from sharing. Your interview guide will play an important role in remaining neutral; therefore, you may want to ask a co-worker to review your guide ahead of time for leading questions to reduce the risk of bias. See examples of leading and neutral questions below:

Leading question

Avoid leading questions like, "How does the bus schedule make it challenging for you to get to your doctor appointment on time?" This question makes assumption that the person experiences difficulties getting to their doctor appointment due to the bus schedule. This leads the participant to give a narrow response based on the bus schedule as the presumed reason for any difficulty in getting to their appointment.

Neutral question

Use neutral questions like, "What is your experience like getting to your doctor appointments?" This question allows the participant to be an open book and share if they are or are not having issues getting to their doctor appointment on time.

Remember, it's always good to prepare some probing questions in case participants are not elaborating. If you are curious about late or missed appointments, you could ask, "Can you share more about why it has been difficult for you to make it to your appointment on time?"

6. Work in teams

No qualitative data project should be conducted by one person alone. It is best to form a team comprising individuals with subject-matter expertise and methodological skill sets, as well as people with lived experiences in the research topic. This is especially useful when conducting a focus group, as one person can focus on facilitating, while another takes notes. This allows the facilitator to focus on guiding the conversation and navigating the interview guide, while the notetaker captures responses and can begin establishing themes in real time. In writing, set clear expectations in the beginning between yourself and the teammates to ensure roles are established, and there is mutual agreement.

7. Analyze your data

Once the data is collected, it is time to think about the story it is telling. Remember to double up by reaching out to other people; in this case, those with some experience analyzing data. When beginning to analyze your data, first listen or read through your interviews separately to identify repeated words, phrases, ideas, and experiences to identify themes from the interviews or focus groups. Then, code sections of the interviews or focus groups to the identified themes to help unveil answers or narratives for your primary qualitative research question. Then you can begin to outline the efforts needed to address the question or problem. The precise analytic method used will vary based on the data collection method used. Below are a few resources with more details about analyzing data.

- Evaluation Briefs: Analyzing Qualitative Data for Evaluation (Centers for Disease Control and Prevention)
- The CDC Field Epidemiology Manual: Collecting and Analyzing Qualitative Data

8. Maintain confidentiality when storing data

If your organization has a retention policy, be sure to follow the policy. A retention policy outlines how long you must keep certain documents before you can discard them. One way you can keep data confidential is by deidentifying the information, which means removing or coding all information that could identify individuals (name, job title, address). If using a coding system, the master code list should be stored separately from the data source. For example, you could use a unique code number to identify participants. The master code list would contain the participant's full name along with their unique code number. You can come up with any kind of coding system you like as long as it keeps the data confidential.

The data should only be visible when you are working on it; otherwise, it should be stored away in a locked cabinet, if possible. When storing data electronically, you want to restrict the accessibility of the data. This may include password protecting the folder where the data is stored, so only those who need access to the data are permitted to access it. Additionally, you want to limit the number of people who have access to the data to those who are directly involved in the research in some capacity. This includes those collecting or facilitating the data collection and those analyzing the data.

9. Action your data

After you have analyzed your data and developed the narrative, the most crucial next steps are to decide what to do with the results and determine how to communicate the results back to your audience. What you **do not** want to do is keep the findings to yourself, as it serves no benefit to anyone. To help decide what to do with the analyzed data, you want to ask yourself:

- Why was it important to collect this data?
- What will I use the information for?

For example, the data can be useful in improving programs, procedures, and policies. In this case, you would present or share the narrative results with the appropriate people within the agency where procedural changes are needed. Additionally, it is important to share your data analysis results and course(s) of action with the community and research participants. Doing so not only builds trust and strengthens future relationships, but it also allows participants to understand that their voice matters, and they were a part of the process to enact change. Knowing how much information to share with your audience is important as well, so it might be appropriate to have multiple versions of the reports that best meet the needs of different audiences.

Resources

Ivan, S. (2021, April 1). *Qualitative Data Collection: 6 Things Researchers Need to Know to Get it Right*. National Institute for Children's Health Quality. https://nichq.org/insight/qualitative-data-analysis-7-things-researchers-need-know-get-it-right

(n.d.). *Some Strategies for Developing Interview Guides*. Harvard University Department of Sociology. https://sociology.fas.harvard.edu/files/sociology/files/interview_strategies.pdf