

# 15

## Qualitative Research Methods

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Public health researchers aim to address complex and multifaceted problems that often require empirical data on key behavioral, cultural, and environmental questions. The other methods covered in this section approach those questions by collecting and analyzing quantitative or number-based data. Qualitative research, by contrast, relies heavily on other forms of data—primarily text, narrative, direct observation, and images—to address issues in public health. Sometimes, we are interested in describing what people are doing, why they are doing it, and the context of their actions (when and where the activities take place) as a first step toward addressing a particular public health issue. For instance, what are the behaviors, motivations, and contexts related to adolescent drug use, or domestic violence, or prescription drug misuse? In other cases, epidemiological or quantitative survey data define the parameters of an issue, but we need to fill in the explanatory *why*, *where*, and *when* to help interpret or apply those data. This is the case when surveillance or secondary data (Chapters 5 and 9, respectively) reveal a trend that can't be explained by statistical correlation or the quantitative data alone. Qualitative research methods offer processes and techniques to help illuminate the relevant issues in both of these circumstances by examining the phenomena that underpin health beliefs, behaviors, or opinions.

### THE QUALITATIVE-QUANTITATIVE COMPARISON

Attempts to discuss or define qualitative research often prompt stereotypical contrasts with quantitative research, summarized in the chart below.

	<i>Qualitative</i>	<i>Quantitative</i>
Data	Words, images, behaviors	Numbers
Purpose	Hypothesis generating, exploratory, validating	Hypothesis testing or confirmatory
Sampling	Nonprobabilistic sampling	Probabilistic sampling

These overly simplified comparisons may be helpful for demarcating points on the spectrum of scientific research methods; however, we would like to move away from this type of dichotomization because, like any broad generalization, it misses critical nuances. Qualitative research does frequently focus on nonnumeric or nominal-level data, including texts, images, behavioral descriptions, or sounds (Nkwi, Nyamongo, & Ryan, 2001). However, qualitative data collection and analysis activities also include ranking, grouping, and quantification processes, supported by a variety of univariate and multivariate statistical analyses. Similarly, while qualitative research is often exploratory and descriptive, so is a significant portion of quantitative research—and rigorous confirmatory qualitative research projects are increasingly common (Patton, 2002), particularly within mixed methods research designs (see Chapter 19).

Between 1990 and 2000, public health researchers engaged in a series of discussions, sometimes debates, on the consequences of the differences between quantitative and qualitative research design and methods (Baum, 1995; Johnson, 1990; Luborsky & Rubinstein, 1995). That debate focused on four critical issues: (1) theory in public health research, (2) sampling designs for public health research, (3) data collection techniques, and (4) analysis strategies relevant to public health policy and programs. The result of these discussions was validation of qualitative methods as highly important public health tools in research designs that include correctly targeted methods, defensible sampling plans, and theory-based analysis strategies (Creswell, Klassen, Plano Clark, & Clegg Smith, 2011; National Institutes of Health, 2000). We will touch on 2–4 here; a review of qualitative theory as linked to research designs is beyond the scope of this chapter, but there are several excellent baseline references on the topic (Bernard, 2013; Glaser & Strauss, 1967; Schensul & LeCompte, 2010; Trotter, 1997) as well as a review of common public health theories in the Appendix.

## DEFINING QUALITATIVE RESEARCH

Like other research methods detailed in this book, qualitative research comprises a theoretical and methodological tool kit, and each tool in the kit has specific capabilities, applications, and limitations. We believe there are three characteristics that define qualitative research methods and help to set them apart from other approaches.

1. The ability to generate richly nuanced, personal- or public-level data through selection of knowledgeable informants, open-ended questioning about their attitudes and experiences, and inductive probing of their responses.

2. A sensitivity to context, the natural setting in which behaviors or beliefs occur or arise (Hammersley, 2008).
3. The capacity to meet the participant “where she or he is” by using local language and phrasing to ensure that the respondent has understood the question and has had the chance to explain her or his response.

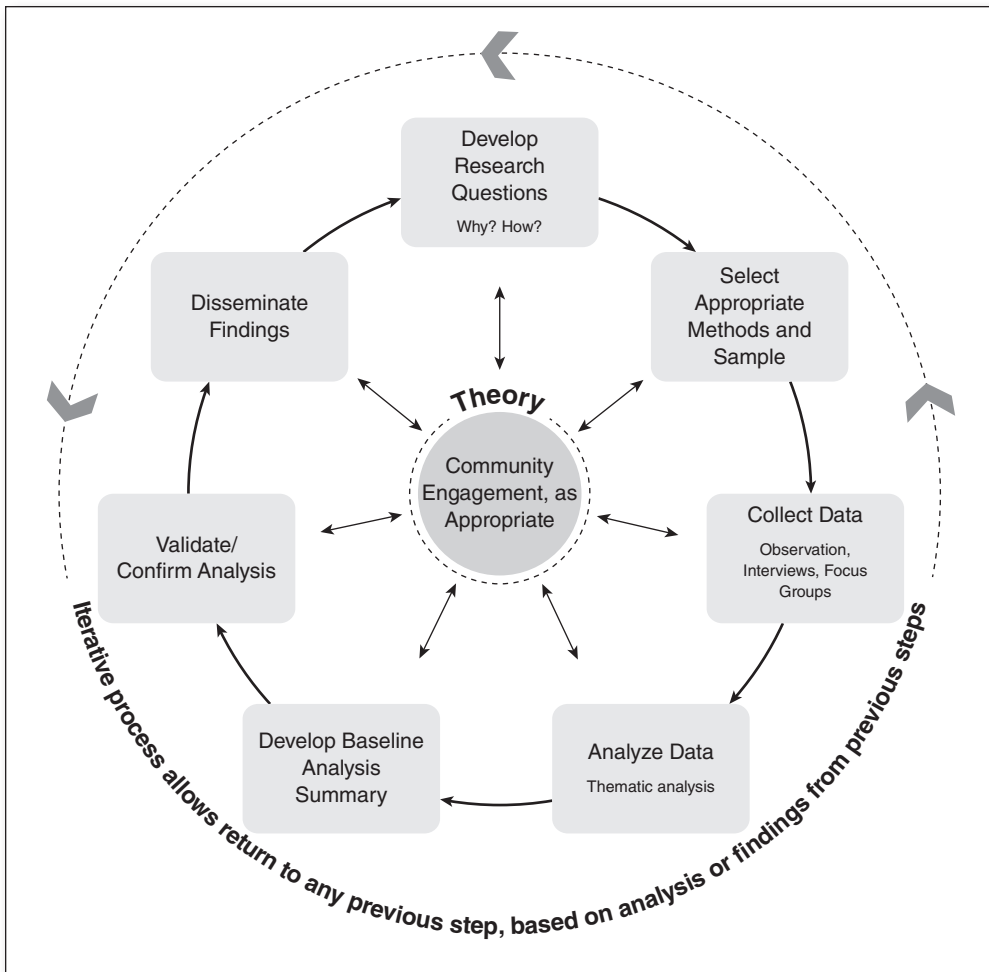
Methodologically sound qualitative research also follows an iterative design that allows researchers to use preliminary discoveries to guide subsequent data collection and analysis, and may include the community in these efforts at all or some stages of research (see In Focus on community-based participatory research at the end of Chapter 4). Finally, as mentioned, much of the source data collected as part of qualitative research in the form of narrative, text, or images is itself qualitative. Figure 15.1 provides a general schematic of the research process, with typical qualitative research questions and data collection and analysis methods identified. Note that theory is used to varying degrees to inform each step of the process, from development of the research question and selecting appropriate methods, through to analysis and dissemination. (Chapter 2 covers the relationship between design and theory in more detail.)

Together, the qualities described above enable “qualitative methods [to] fill a gap in the public health toolbox; they help us understand underlying behaviors, attitudes, perceptions, and culture in a way that quantitative methods alone cannot” (Steckler, 2005, p. xiii). They help to explain the *why* and *how* of health issues and provide a more in-depth understanding of the *who*, *what*, and *when* (Bernard, 2011). Qualitative methods have contributed to the areas of nutrition, HIV prevention, diabetes treatment, maternal health, smoking cessation, vaccine avoidance, obesity, and most other current “hot topics” in public health. They provide efficient means for accessing, assessing, and capturing the context of *emerging* public health issues and are also often used in public health engagement and advocacy initiatives. In the subsequent sections, we offer an introduction to qualitative sampling, data collection, data management, and analysis and then provide illustrations of successful public health applications of these methods.

## SAMPLING DESIGNS IN QUALITATIVE RESEARCH

Along with a credible research design, effective qualitative research hinges on proper selection of the sources of information that will address a given research question. The adage “garbage in, garbage out” applies: Collecting data from the wrong people leads to poor-quality or invalid data that cannot serve as the basis for evidence-based policies or programs. Consequently, sampling and the selection (from random to purposeful) of participants in qualitative public health research is a critical point of methodological discussion (Trotter, 2012; Trotter & Medina Mora, 2000).

Most qualitative research designs employ nonprobabilistic sampling strategies (Trotter & Medina Mora, 2000), some of which can lead to whole population descriptions and generalizability of findings (Frank & Snijders, 1994; Heckathorn, 1997), while

**Figure 15.1** Basic Qualitative Research Design and Process

others are limited to describing much smaller populations. Probability (or random) samples are less frequently used in qualitative research for a few reasons:

- Much qualitative research is not intended or designed for statistical analysis or generalizability; it is designed for baseline description of people engaged in health behaviors and for theory and variable generation.
- There is little evidence of the normal distribution of the values, beliefs, attitudes, and perceptions across particular populations or topics (ACAPS, 2012).
- The potential for missing “experts” or specific individuals who have unique attributes (e.g., knowledge, experiences, social position) relative to the research question(s) is very high for most probabilistic samples, while qualitative sampling designs are specifically targeted at finding and engaging those cultural experts.

However, as Johnson (1990) shows in his seminal book on qualitative sampling, there are also qualitative research projects for which random or probabilistic sampling is feasible and absolutely appropriate (see Guest, Namey, & Mitchell, 2013, for examples).

The current state of the art for qualitative sampling includes four empirically tested techniques that produce scientifically defensible data relevant to public health (cf. Trotter, 2012): (1) nominated expert sampling, (2) intensive case finding through geographical sampling, (3) referral sampling, and (4) targeted sampling. Chapter 17 describes additional approaches to nonprobability sampling.

- **Nominated expert sampling** is a classic qualitative approach to exploring cultural and social meanings in various populations, communities, and cultural groups (Trotter, 2012; Trotter & Medina Mora, 2000). Defining the sample involves identifying consensus experts (those nominated by multiple other individuals in a community) to explore or confirm a specific area of knowledge or life experience. Since experts tend to agree about the majority of their subject area and also provide explanation of the variability in thought or experience, nominated expert samples produce a data set that is qualitatively valid, reliable, and culturally generalizable using a relatively small sample (Romney, Weller, & Batchelder, 1986).

- **Intensive case finding through geographical sampling** capitalizes on the condition that people with similar life experiences and views tend to congregate in identifiable locations. This allows researchers to characterize and target social settings that are ideal for drawing concentrated qualitative samples within subgroups of a larger population. The approach works particularly well for research on place-bound behaviors (such as those occurring in clinics, schools, bars, sporting venues, etc.). The researcher identifies a set of known (or discoverable) locations where the target behaviors occur on a regular basis and then recruits research participants from those locations using either a probabilistic or purposeful recruitment strategy (Curtis, Gesler, Smith, & Washburn, 2000).

- **Referral sampling** (snowball sampling and network-based sampling are the most common varieties) starts with an index individual who is identified as having the important characteristics, behaviors, or experiences relevant to the research objectives. This individual is then asked to refer others “like him or her” to participate in the research. The nominated individuals constitute a second wave of data collection, their nominees are the third wave, and so on until the required sample size is reached. One benefit of carefully designed nominated or referral samples is that they can provide a framework estimating the characteristics of whole populations (Frank & Snijders, 1994). Heckathorn’s (1997) respondent-driven sampling is one of the most widely used variations on referral sampling. Another common referral sampling strategy is group identification and network sampling, which can be used to create defensible samples for studies of communities and bounded cultural groups (Schensul, Schensul, & LeCompte, 1999). Social network samples focus on mapping specific relationships (drug use, needle sharing, sexual partnerships) as well as their intensity, directionality, and frequency (see also Chapter 14). This type of sampling allows public health practitioners to make inferences about the type and quality of the relationships, core versus peripheral participation in the group, roles and statuses in the group, and dynamic interactions in the group (Salganik & Heckathorn, 2004).

- **Targeted sampling** is a well-substantiated sampling choice for mixed methods designs in hard-to-reach populations or where it is impossible to use an appropriate preexisting sampling frame. Targeted sampling (Robinson et al., 2006; Watters & Biernacki, 1989) consists of four steps: (1) initial mapping of county- and city-level indicators of behavior; (2) ethnographic mapping of candidate census tracts, neighborhoods, or other geopolitical entities; (3) development of initial recruitment plan for each site; and (4) ongoing revision of recruitment plans for each site (Bluthenthal & Watters, 1995). This strategy can be used as a reasonable substitute for strict probabilistic sampling designs in situations where qualitative and quantitative data are needed from the same population.

Often *theoretical saturation* is cited as a sampling parameter for qualitative research, meaning that you “interview to redundancy,” or collect data until you are no longer learning something new about the topic. Most funders of public health research, however, require up-front estimates of sample size, which these sampling approaches can help to facilitate (see also Guest, Bunce, & Johnson, 2006; Guest et al. 2013). Qualitative sampling approaches do have limitations with regard to generalizing to large populations, especially highly diverse populations that are multimodal on beliefs, values, knowledge, and processes; however, this level of generalizability is typically not the aim of qualitative research or analysis.

## OVERVIEW OF COMMON QUALITATIVE RESEARCH METHODS

The most common qualitative data collection methods are probably familiar, including **observation** (with a range of researcher involvement) and **interviewing** (including individual and group interview techniques). While there are various “camps” and approaches to qualitative research (see Creswell, 2006, for a description), qualitative researchers generally employ systematic, inductively oriented data collection processes, using in situ observation, open-ended questioning, and contextualized solicitation of ideas and opinions in people’s own words. Analysis of the data generated through these methods is usually qualitative, using some form of thematic analysis (Charmaz, 2006; Corbin & Strauss, 2008; Guest, MacQueen, & Namey, 2012). We present a brief description of the main methods here; readers interested in more detailed coverage of the how-to of qualitative methods can find dedicated chapters on participant observation, in-depth interviews, and focus groups in *Collecting Qualitative Data* (Guest et al., 2013) and will also find references in the Additional Resources section at the end of this chapter.

### Participant Observation

The term *participant observation* has two different referents. First, participant observation is a qualitative research paradigm that “puts you where the action is and

lets you collect data” (Bernard, 2013, p. 310). A strong participant observation design is a systematic and integrated multi-method approach to field-based data collection (Schensul et al., 1999), developed to include specific methods, based on the project’s guiding theory and research objectives. The basic methodological suite for participant observation includes the following:

1. Direct (in-context) observation of the environment and behaviors under study, including systematic—not impressionistic—recording of observational data. Observations can be guided by exploratory (inductive, grounded theory) approaches to highly quantified and operationally defined confirmatory or even hypothesis testing approaches, depending on the research question.
2. Participation by the primary researcher(s) in the experiential aspects of the behaviors under study, to the extent that is possible and ethical, in order to gain both an empirical and a humanistic understanding of those behaviors. This enhances both analysis and interpretation of the data.
3. Systematic collection of sociocultural narratives (through interviews, focus groups, natural environment conversations, dialogues, secondary data sources) that focus on “cultural expert” descriptions and explanations of the *what, why, who, where, when*, and context of the issues being studied.
4. A systematic approach to the management and analysis (and integration) of the complex data that a solidly designed participant observation study yields. The analysis can be based on emergent theory (grounded theory) and/or (simultaneously) existing theory to advance knowledge of public health conditions and issues (Trotter, Needle, Goosby, Bates, & Singer, 2001; Trotter, Needle, Goosby, Bates, & von Zinkernagel, 2000).

The second use of the term *participant observation* refers more narrowly to a technique combining elements 1 and 2 above: a process of in situ observation with some degree of interaction between the researcher and the environment/people being observed (DeWalt & DeWalt, 2011). The researcher may be an external *participant observer* seeking “to learn what life is like for an ‘insider’ while remaining, inevitably, an ‘outsider’” (Mack, Woodsong, MacQueen, Guest, & Namey, 2005, p. 13) or an insider acting as an *observing participant*, noting and recording some aspect of life around her or him (Bernard, 2013). In either case, several types of data collection are possible in participant observation, as described in Table 15.1.

The strengths of observational activities are related to the embeddedness of the researcher and the ability to see and note what is happening in a given context. Within public health, observational methods are often used to do the following:

1. *Establish topics of inquiry for later, more structured data collection.* If knowledge of a social milieu is so minimal that research domains or questions cannot be formulated, participant observation is an excellent starting point.



**Table 15.1** Types of Data Collection in Participant Observation

<i>Data Type</i>	<i>Description</i>	<i>Pros and Cons</i>
Observation notes, audio, video	The baseline for participant observation, notes and recordings are a written/transcribed/digital record of what the researcher saw or heard during the observation period	Very open to emergent data; little/no instrument bias. Can be difficult to capture in some venues, time-consuming to analyze, subject to the bias of the researcher regarding what to note or record.
Casual conversations, informal interviews	Notes or recordings of actual conversations	Capture data in the vernacular and in context. May not be relevant to research objectives; can be hard to accurately record in some settings. May be highly idiosyncratic and difficult to analyze.
Semistructured or structured interviews	Interviews conducted using an interview guide	Provide data relevant to the research objectives. Takes the encounter into a research mode that decreases some aspects of the natural context.
Counts of specific observations	Counts of the frequency/intensity/source of specific behaviors of interest; usually collected with the aid of a template listing the types of things to be counted	Provide data that can be used to identify norms or make comparisons between events, times, individuals, etc. Requires the development of a data collection instrument and the ability to accurately record the behavior of interest in the field setting.
Process flows	Visual or verbal records of common processes; often laid out in a flowchart or stepwise diagram	Excellent for understanding sequenced events (work flows, manufacturing processes, decision processes). Can be challenging to capture. Potential for capturing an idiosyncratic version.
Lists and categories	Lists of items, categories, and inclusion/exclusion rules	Provide both list content and cultural meaning. Can be tedious to collect and may be difficult to extract "rules."

Source: Guest et al. (2013).



2. *Avoid suspect self-reported data.* There are some topics for which people cannot or will not accurately report their own behavior (petty criminality, violations of social norms, etc.). Participant observation can lessen this form of self-report bias and yield a more valid understanding of these behaviors.
3. *Identify behaviors that might go unreported or be missed due to the limitations of procedural memory.* Highly routine or unconscious behaviors are notoriously easy to miss during interviews, focus groups, and surveys. Seeing these occur in a natural setting allows them to become part of the data.
4. *Lessen reporting biases.* Those without direct knowledge of a social scene may collect data that reflect their own points of view rather than the social reality of the people in it.
5. *Integrate the observed behavior into its physical context.* If the location and setting of the behavior of interest are critical to understanding, observation offers insights into how the setting and behavior interact.
6. *See the behavior you are interested in as it happens.* If your research questions are about observable behaviors, observation puts you in direct contact with the phenomena of interest in a way unrivaled by other data collection techniques (adapted from Guest et al., 2013).

A note of caution: The term *participant observation* is frequently misused in qualitatively oriented research proposals and publications. Too often, researchers use the term as an opaque catch-all, meaning, “Trust me, I know what I am doing, even though I don’t want to tell you what that is, specifically.” Be prepared to unpack the term if you use it, describing the research use of observation through a careful consideration of the areas, venues, times, and target populations to be included in the participant observation events, along with any other types of data collection involved. This technique should be systematic and grounded in the goals of research to keep it focused (Guest et al., 2013). Participant observers capture as much detail as possible in field notes or with recorders, sometimes using templates or guides to help focus observations or to keep them consistent across research team members. Patton (2002, p. 304) provides excellent examples of “good” and “bad” field notes that illustrate the difference between describing what is observed and making assumptions or interpretations about what is going on. Table 15.2 offers ideas of types of things to observe, though your project’s aims will determine which types of observations are most relevant.

One classic example of a public health application of observation techniques comes from the 1990s, when researchers were interested in identifying how HIV transmission continued to spread among injecting drug users (IDUs), despite evidence that they were not sharing needles. To research the issue, Koester and Hoffer (1994) employed qualitative observation methods, joining IDUs in shooting galleries and other places where they went to inject drugs. There the researchers were close enough to the scene of the behavior to be able to observe each step in the process and ask on-the-spot questions about it. This allowed them to identify a crucial step that IDUs failed to consider when retelling their process of injecting: Drug injectors

**Table 15.2** General Things to Observe

<i>Category</i>	<i>Examples</i>	<i>Things to Note</i>
Physical environment	Structural and geographical features	Map physical features of the environment as well as locations of particular behaviors and activities
Appearance of people	Demographics of individuals in the area, such as gender, estimated age and ethnicity, and any noteworthy physical appearance	Any trends and/or imbalances in demographic characteristics; range of types of individuals, including demographics, clothing, and unique appearance relative to others
Verbal behavior and interactions	Who speaks to whom and for how long, who initiates interaction; languages or dialects spoken	Any trends and/or imbalances in demographic characteristics in terms of interactions; range of languages/dialects spoken
Activities	Activities that occur in the area/venue; which people are engaged in which activities; duration of activities; temporal dimensions of activities	Range of activities; activity trends and associations of particular activities with certain types of individuals; temporal range and patterns of activities
Movement	Who enters and exits the area, and how many; time individuals spend in the area	When and where people enter and exit, where they come from, and how long they stay; demographic characteristics and whether they are alone or accompanied by others
Individuals who seem different from others in the area/group	Identifying people who dress or otherwise look different from others, or who are treated differently from others	Unique characteristics and what differentiates them from others; in many cases these individuals can be good key informants

shared other equipment, such as cottons and cookers used to filter and prepare drugs. Also, some users practiced “back-filling,” opening the back of a syringe so that a friend could draw a specified amount of drugs from it. These sources of cross-contamination, dubbed *indirect sharing*, were potentially responsible for the continued transmission of HIV and hepatitis among the injecting drug user population.

Subsequent research confirmed the findings and offered more nuanced understanding of the intervention needs, which included education on the dangers of indirect sharing.

Page and Evans (2003) also employed the participant observation paradigm (and technique) to investigate a survey finding that tobacco use by African American youth was relatively low. The study team first observed adolescents smoking in public places and then conducted interviews with teens and their parents. “The field team’s original intention for use of observational data was to gain a general picture of smoking behaviors among middle school age students, but in fact, several other kinds of information emerged” (p. 68). For instance, one of the main findings was that “Black & Milds,” a cigarillo with 5 to 12 times the nicotine of cigarettes, was the tobacco product of choice among youth. The authors concluded that since users of these cigarillos “tend not to recognize them as tobacco and believe they contain no nicotine” (p. 64), the self-reported survey data was probably truthful, though an inaccurate representation of tobacco use among African American youth. Participant observation, including follow-up interviews, helped to refine and explain the survey findings and suggested intervention points—as well as potential changes to be made to items on tobacco use surveys for youth.

## Individual and Group Interview Techniques

Virtually all qualitative researchers use interview techniques to some extent, and for many projects and researchers, interviews are the primary or sole source of data. This method is versatile across a range of study topics, adaptable to challenging field conditions, and excellent for not just providing information but generating understanding as well. We will discuss two types of interviews in detail here: one-on-one or in-depth interviews and focus group discussions. The basic processes for both are similar: A good interviewer or moderator will capitalize on interpersonal dynamics, using body language and verbal cues to encourage respondents to share their experiences and opinions (Green & Thorogood, 2009). The main difference between individual and group interviews relates to these dynamics and how they affect what people will say in a given context. Table 15.3 provides a comparison of in-depth interviews and focus groups and their uses.

### *In-Depth Interviews*

An in-depth interview (IDI) is a guided conversation or narrative designed to elicit depth on a topic of interest. There are several features that characterize IDIs and that are essential to the power and utility of the technique. In general, IDIs

- are conducted one-on-one,
- use open-ended questioning,
- use inductive probing to get depth, and
- look and feel like a conversation.

**Table 15.3** Individual In-Depth Interviews and Focus Group Comparison

<i>Type of Interview</i>	<i>Strengths</i>	<i>Common Uses</i>
Individual in-depth interviews	<ul style="list-style-type: none"> <li>• Allow researchers to get “deep” answers to their questions from “experts” on the issue</li> <li>• Helpful for answering the <i>how</i> and <i>why</i> of processes, decision making, belief systems, mental models, interpretations, motivations, expectations, hopes, and fears</li> <li>• Can elucidate the meaning of norms, opinions, or experiences</li> <li>• Are more likely to capture individuals’ personal opinions and values, rather than public or expected beliefs and values</li> <li>• Conversational, open-ended style is familiar to everyone</li> <li>• Easy to establish intimate setting and interpersonal rapport</li> <li>• Possible to have multiple, sequential conversations</li> </ul>	<ul style="list-style-type: none"> <li>• For narrower topics that require depth</li> <li>• If interested in personal narrative and individual experiences or opinions</li> <li>• To understand connections and relationships between particular events, phenomena, and beliefs</li> <li>• For sensitive or highly personal topics</li> <li>• When response independence is important</li> </ul>
Focus group discussions	<ul style="list-style-type: none"> <li>• Efficient for gathering a range of perspectives on a given topic</li> <li>• Group dynamics and cognitive triggers stimulate conversation</li> <li>• Can identify areas of consensus or disagreement</li> <li>• Provide an excellent window into “public discourse” and expected social norms and narratives</li> <li>• Can identify and discuss group norms</li> </ul>	<ul style="list-style-type: none"> <li>• For broader topics that require range</li> <li>• When studying social norms or seeking public-level narratives</li> <li>• If interested in group dynamics or process</li> <li>• To develop or pre-test campaigns or messages</li> <li>• To evaluate processes, programs, messages</li> <li>• As a way to “member check” findings from PO or IDI activities</li> </ul>

IDIs can be used throughout the research process and at multiple points along the path of learning about a topic or issue. Weiss (1994) suggests that IDIs are useful for research that aims to develop detailed or holistic descriptions, integrate multiple perspectives, describe processes, learn how events are interpreted, and/or identify variables and frame hypotheses for quantitative research. This multiplex utility of IDIs is one of the reasons why they are so often one element of mixed method approaches in public health.

If we distill individual interviewing into the basic steps required, the process is (1) build rapport, (2) ask questions, (3) ask (probing) follow-up questions, and (4) repeat until the person has nothing new to add. The role of the interviewer is to *guide* the conversation. As Bernard (2013) puts it, “Get people on to a topic of interest and get out of the way. Let the informant provide information he or she thinks is important” (p. 185). During analysis you can look for consensus between participants and variability among them.

As noted in Table 15.3, in-depth interviews are typically the preferred approach for asking questions about polarizing, sensitive, confidential, or highly personal topics, since effective elicitation of information on these issues requires a space in which the interviewee can feel safe discussing matters that are usually kept private. For some sensitive or taboo topics, such as sexual activity, illicit behavior, or death, an interview serves as a forum where people can reflect on their own attitudes, opinions, and behaviors in a way they might not in a regular conversation. Similarly, because the setting is one-on-one, interviewees may be less concerned about offending someone else or answering in the “right” or socially acceptable way than if they were in a group setting (though potential for this kind of social desirability bias still exists). In some cases, discussing sensitive topics in a group or public setting could also put the interviewee at risks that range from social embarrassment to financial loss to actual physical harm.

One example of the productive use of IDIs in public health comes from work Lyerly and colleagues (2006) conducted on how women and couples think about what to do with “extra” frozen embryos. The objective was to explore the range of factors influencing couples’ decision making in order to develop better counseling and policies surrounding frozen embryo disposition. Each of the four available options for handling the extra embryos was discussed: saving embryos for a future pregnancy attempt, thawing and discarding the embryos, donating them for stem cell research, or donating them to another infertile couple for adoption. The topic was sensitive in that it related to both infertility and morality (in terms of how people viewed their embryos). For many people, the interview was the first time they had to explicitly examine the beliefs and feelings guiding them about what to do with their frozen embryos.

The format of the interviews facilitated candid discussions about the meaning of the frozen embryos—for each individual, to the couple or family, and as a potential source of research material or adoption hope. One of the interesting findings from this research was that some women suggested there could be an alternative option to those presented—an option to return embryos to the woman’s body at a time she was unlikely to get pregnant, allowing them to be reabsorbed instead of “discarded” in a lab somewhere. This idea was included in a subsequent national survey on the issue, and 19% of respondents said they would be likely or very likely to consider the option of transplanting the embryos to the woman’s body at an infertile time (Lyerly et al., 2010). The findings from the in-depth interviews provided a response option for the survey that may never have been included—and one that nearly one-fifth of respondents agreed with.

### *Focus Group Discussions*

Focus groups have the distinction of being the qualitative data collection technique with a name recognizable to the nonresearch public. The frequent use of the term,

however, does not mean that everyone who says something about “focus groups” is talking about the same thing. From a research standpoint, it is important to define precisely what we mean by focus group discussion: a carefully planned conversation with a group of 8–12 people on a focused topic. Research focus groups generally have the following characteristics (Guest et al., 2013):

- A small group of people brought together explicitly to participate in a research discussion regarding a defined topic. This is substantially different from a debate, a cocktail party conversation, or a town hall meeting.
- Similarity among group members in terms of some aspect of their characteristics, experiences, or situation that causes them to feel they all have something in common (being female neurosurgeons or American men who were circumcised as adults, for example). This is key to building the rapport that makes a focus group successful.
- Lack of preexisting social relationships between the group members, so as to limit issues of hierarchy and to facilitate trust and openness during the discussion.
- Discussion guided by a skilled moderator or facilitator who controls the flow of questions and answers, and who explicitly uses group dynamics to uncover information and gain insights.

Focus group discussions rely on important elements of normal human conversation (sharing of experiences, opinions, perceptions, and reactions) and aspects of how we retrieve information stored in our memories (cognitive triggers) to enable the group to address the research objectives (Barbour, 2007). Just as human groups have certain characteristics and capabilities that are not just the sum of their individual members (a person can run in panic, but only a group can “stampede”), so too do focus groups yield data and insights that are more than just the sum of the perceptions, beliefs, and experiences of those taking part in the discussion (Patton, 2002).

Like IDIs, focus groups are a versatile technique that can be used for a wide variety of topics and research interests. Groups are an especially good method for collecting data on things that are inherently shared or that have a public aspect.

- *Group norms and normative expectations*—These can be at very broad levels (cultural norms) or much more specific (workplace routines, what happens during a visit to a doctor’s office, what people do following a minor car accident, etc.).
- *Opinions and perspectives*—For topics on which a variety of viewpoints is known or expected to exist, groups can be a great way to explore the range of opinions. In these situations, the moderator stimulates mild debate among group members to discover how perspectives on the topic differ and how those holding different points of view support their positions.
- *Reactions and responses*—Focus groups are often used as a testing ground for reactions to social marketing campaigns, health product designs, public health interventions, service innovations, and so on. The focus group setting can capture both the direction and strength of the response, while ensuring discussion can critique or improve specific elements of the source material.

- *Problem solving and brainstorming*—The cognitive triggering in focus groups can often produce a team mentality in which the group members solve a problem, make suggestions, or brainstorm ideas for communications, products, or policies.
- *Group processes and group dynamics*—If your research topic is itself about a group process or about how people interact in groups, focus groups may enable you to observe these phenomena in action (Guest et al., 2013).

Successful conduct of a focus group requires training and skill. The moderator must carry a general idea of the topics to be covered, ask thoughtful questions, listen to answers with one ear toward how they relate to other topics on the list (to make smooth transitions) and the other ear toward the content of the response, pick up on and probe into interesting ideas or phrases, and at the same time skillfully make sure that everyone is engaged and is interacting with other members of the group (see also Seidman, 2006, pp. 78–79, for a description of the types of listening necessary for effective interviewing). In one-on-one interviews, too, the interviewer balances rapport and a conversation-like feel to the interview with an eye on the clock, the interview guide, and the research objectives to ensure that the “conversation” covers all of the necessary areas. In neither case should managing time be equated with administering Q1, Q2, Q3, Q4, getting a quick answer, and proceeding. One of the biggest advantages of the qualitative paradigm is the ability to probe into responses or observations as needed to obtain more detailed descriptions and explanations of experiences, behaviors, and beliefs, and it is up to the moderator (or interviewer for IDIs) to follow relevant leads.

Siddiqui and colleagues (n.d.) used focus groups to learn about norms around urinary incontinence among different ethnic groups in the southern United States. Epidemiological data show that urinary incontinence (UI) affects up to 45% of the female population of the United States, yet among women with UI, 70% of White compared to 16% Hispanic, 6% Black, and 5% Asian admitted to seeking care (Morrill et al., 2007). The goal of the study was to identify and compare normative beliefs about UI and to highlight potential intervention points for increasing treatment of UI in minority populations. Focus groups were convened with White, Hispanic, and Black women separately, stratified also by those who did and did not experience UI. All groups were asked the same questions about how UI was discussed among families and friends, within the larger ethnic community, and what they had learned from popular media. These questions were followed by questions about health seeking behaviors generally, and then more specifically for UI. A comparative thematic analysis of these data is underway, following an information-motivation-behavioral skill model.

### How Do You Choose (or Know If Someone Has Chosen Wisely)?

Since focus groups and/or individual interviews are crucial to most projects, how do you choose between or mix and match them? Bernard (2000) usefully identifies “a continuum of interview situations based on the amount of control we try to exercise over people’s responses” (p. 190). We refer to this level of control as the degree of



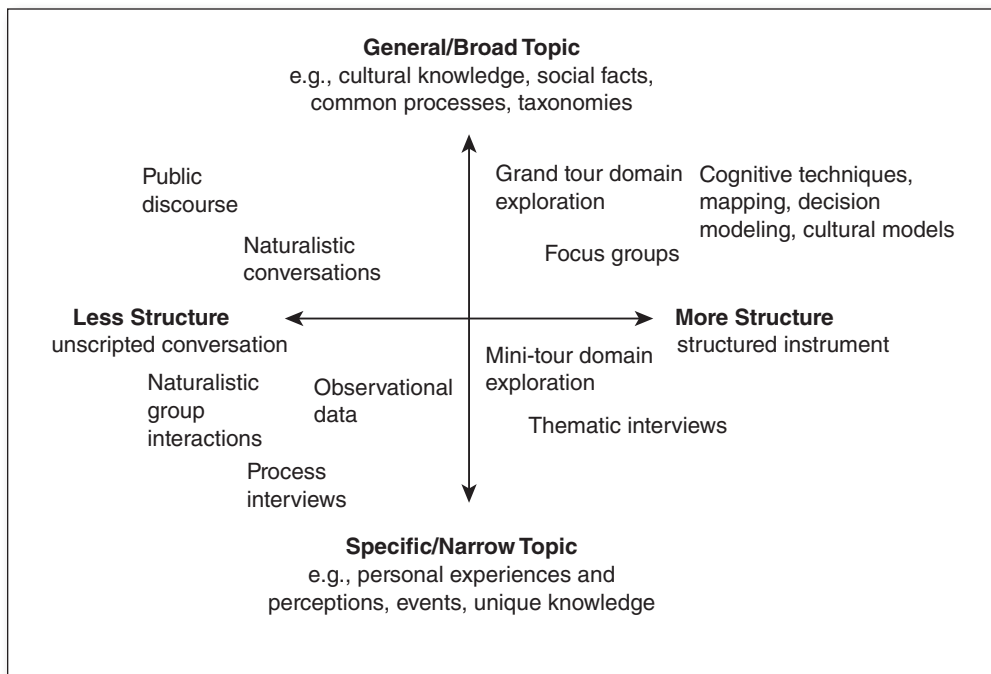
## MODIFYING THE MEDIUM FOR CONDUCTING INTERVIEWS

While many of the examples presented in this chapter involved face-to-face interviewing of individuals or groups, there are several options for conducting interviews remotely. The table below summarizes a few of the more common options, along with some pros and cons to each. Note that you can also incorporate technology into data collection with things like videos or polling software (see [www.polleverywhere.com](http://www.polleverywhere.com)). See the In Focus section at the end of Chapter 21 for more on mobile and digital data collection.

<i>Medium</i>	<i>Pros</i>	<i>Cons</i>
Phone or voice-over Internet	Enables cost-effective data collection with interviewees in geographically distant or highly dispersed locations. Can be useful when interviewees need to maintain a degree of anonymity.	Rapport can be harder to build without face-to-face contact. Data are less rich due to lack of body language. Requires both interviewer and interviewee to have access to reliable phone connections. In focus groups, it can be hard to tell when someone is ready to speak or would like to get in on the conversation.
Internet–written	Exchange of written question and answers can be done “live” in a single session or as a threaded discussion over days or weeks. Creates a full written record of responses. For some interviewees the process creates more thoughtful responses.	As with phone, rapport may be impaired and body language cues are absent from the data. Respondents who do not like to type may give shorter, less complete answers. Requires literate interviewees with Internet capability. Cross-typing (where more than one person types a response at a time) is frequent and can disrupt the flow of the conversation in “live” sessions.
Internet–video	Often a good approximation of face-to-face interviewing, cost-effective, and good for geographically distant or dispersed interviewees. Video capture enables a full record of the session.	Requires broadband Internet, webcam/speakers, and some degree of technical savvy on the part of both the interviewer and interviewee.

structure within the interview process. Three general terms used in this regard are unstructured, semistructured, and structured, but as Figure 15.2 illustrates, these are markers within a range (the x-axis). At one extreme are completely unscripted conversations, the type a researcher might have when doing participant observation or when almost nothing is known about a topic. At the other extreme fall highly structured interviews, in which the questions are asked verbatim and response categories are fixed (quantitative surveys). Most qualitative interviews are semistructured and fall somewhere in the middle, with more naturalistic interviews on the unstructured side and formal systematic qualitative techniques (freelists, pilesorts, social network interviews, decision modeling, cultural models interviews, etc.) on the more structured side.

**Figure 15.2** General Interview Typology



Source: Adapted from Guest et al. (2013, p. 115).

Figure 15.2 also includes, on the y-axis, a continuum of interview topics to consider. Topics that are more specific or narrow are better addressed in a one-on-one interview, where a respondent will have time to go in greater depth about a personal experience or specific knowledge. Broader or more general topics can be addressed by individual interviews as well, but group or focus group interviews may be more efficient, because a greater range of cultural knowledge can be generated quickly in a group setting.

Consider the following to choose between different interview methods:

- What are the main research questions that the interviews are intended to answer?
- What are the primary domains of content that should be covered in the interview?
- What types of data are needed to provide these answers (opinions, experiences, knowledge, attitudes—at a personal or public level)?

These questions, along with Table 15.3, provide some important considerations for identifying which type of interview goes with which type of data collection need. But theory, experience, and the need for flexibility factor in as well. For example, Namey and Lyerly (2010) collaborated on the Good Birth Project, a study investigating how U.S. women define a “good” birth experience, with an aim of improving maternity care (Lyerly, 2013). A senior consultant to the project insisted that focus groups would most efficiently and effectively address this topic, despite arguments that women’s birth narratives were both extremely detailed (narrow) and highly personal (women were emotionally invested). The team agreed to conduct a pilot focus group, and Namey convened a group of women who were alike on two key dimensions of birth experience: All had delivered their babies vaginally and in a hospital setting. Though the group dynamic limited how much detail a woman could provide about her personal experiences, the discussion was open and productive—until the issue of epidural analgesia was raised. Some women in the group had requested and received epidurals, others had opted to “go natural.”

The conversation then proceeded on eggshells, with women careful to couch their responses in socially acceptable ways. Those who had “gone natural” were lauded as brave or strong, which then caused those who had opted for an epidural to preface their remarks with slightly defensive comments about how or why an epidural was good or necessary. A veil of social correctness had fallen, and no amount of follow-up questioning could pull it away.

While this was extremely interesting data on the public-level narrative about birth (and provided good fodder for follow-up interviews), the group interview method was ill suited to the research objective of collecting rich, explanatory descriptions of the elements that made individual women’s experiences good for them, regardless of what society had to say about their choices. It was hard for women to be honest about their experiences and opinions knowing that they may inadvertently offend another woman in the group who held precisely the opposite views or made different choices. In-depth interviews were used for the remainder of the data collection.

### **Additional Qualitative Research Methods That Enhance the Basic Set**

While the core elements of participant observation and interviewing account for the bulk of qualitative research done in public health, there are a variety of additional, sometimes supplemental, methods that also rely on qualitative data collection techniques. These methods include free listing, ranking exercises, pile sorts, ethnographic

## ENHANCING VALIDITY IN QUALITATIVE RESEARCH

Chapter 2 provides an introduction to some of the issues around validity in research. In qualitative research, validity is sometimes referred to as credibility, and it addresses the believability or accurateness of data on a particular issue within a particular population. The tips below provide "suggestions for enhancing rigor and transparency" to improve validity, but "procedures alone can never replace sound research or compensate for inadequate understanding of basic research principles" (Guest et al. 2013, p. 101).

<i>Technique</i>	<i>What It Does</i>
<i>Research Design Stage</i>	
Use multiple methods and/or data sources	<ul style="list-style-type: none"> <li>Collecting data via multiple methods and from a variety of sources provides the opportunity to compare findings in analysis for convergence or divergence (triangulation, constant comparative method).</li> </ul>
Team-based instrument development (if using a guide) and pretest	<ul style="list-style-type: none"> <li>Involving the whole research team in steps of the instrument development processes increases validity by familiarizing the team with the connection between research objectives and questions on the guide at an early stage.</li> <li>Brainstorming specific questions to include may increase validity of the questions, since multiple perspectives will be considered (reduces bias from any one person).</li> <li>Pretesting facilitates validity by ensuring questions make sense to participants.</li> </ul>
<i>Data Collection Stage</i>	
Train field team in collection techniques	<ul style="list-style-type: none"> <li>Training data collectors on the purpose behind the questions and probing techniques improves the relevance of data collected (that is, interviewers are more likely to ask follow-up questions directly related to the study objectives).</li> </ul>
Monitor data as they come in	<ul style="list-style-type: none"> <li>Providing data collectors with immediate feedback (or receiving feedback on your own data) improves data quality and consistency. Debriefing on a regular basis is an important element in qualitative reliability and validity checks.</li> </ul>

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<i>Technique</i>	<i>What It Does</i>
Elicit feedback from participants after summarizing their interview	<ul style="list-style-type: none"> <li>• Having participants review what they said improves validity and provides the researcher with an opportunity to clarify anything that was unclear or ambiguous.</li> </ul>
<b><i>Data Analysis Stage</i></b>	
Transcribe data using a transcription protocol	<ul style="list-style-type: none"> <li>• Transcription provides a verbatim account of the data collection event, thereby enhancing validity.</li> <li>• Using a transcription protocol ensures that transcription is done consistently and is of the appropriate type for the analytic aims.</li> </ul>
Establish translation expectations from the start	<ul style="list-style-type: none"> <li>• Translation techniques and styles vary greatly. Establishing your translation approach up front increases the likelihood that your data will be useful for the analysis planned. Improper translation protocols result in highly questionable data, analysis, and interpretation.</li> </ul>
Develop and use a precise codebook	<ul style="list-style-type: none"> <li>• The vast majority of coding reliability problems are due to differing interpretations of code meanings. The more descriptive and precise a codebook, the better inter-coder reliability will result.</li> <li>• Good codebooks also facilitate data comparison if using the same codes in a different study.</li> <li>• This provides easy access to code meanings for internal reviews.</li> </ul>
Use multiple coders and inter-coder agreement checks	<ul style="list-style-type: none"> <li>• Coding agreement comparisons facilitate coding reliability by providing checks on individual biases and variance in interpretation of code definitions.</li> <li>• Coding comparisons generate iterative revisions to the codebook, improving the precision of code definitions.</li> <li>• Intercoder agreement exercises can provide a metric for assessing progress in consistency of code application (if using percent agreement or Kappa statistic).</li> </ul>
External and/or peer review of coding and summaries	<ul style="list-style-type: none"> <li>• Outside review facilitates coding validity by providing checks on individual biases and variance in interpretation of code definition (a reliability issue as well).</li> </ul>

<i>Technique</i>	<i>What It Does</i>
Create an audit trail	<ul style="list-style-type: none"> <li>• Such a trail makes the analysis process more transparent for other researchers to review.</li> <li>• It also facilitates internal review of processes and the ability to accurately replicate procedures if desired.</li> </ul>
Triangulate, combine, or cross-reference data sources	<ul style="list-style-type: none"> <li>• If analyzed properly, convergent data from different methods/sources validate findings.</li> <li>• Divergence of data indicates a need to adapt explanatory models and provide potential reasons for the discordance.</li> </ul>
Negative case analysis	<ul style="list-style-type: none"> <li>• Consciously including negative cases in an analysis mitigates analyst biases by forcing analysts to look for and report any evidence contrary to prevailing patterns identified in the data.</li> </ul>
Support themes and interpretations with quotes	<ul style="list-style-type: none"> <li>• Using verbatim quotes increases validity of findings by directly connecting the researcher's interpretations with what participants actually said.</li> </ul>

*Source:* Adapted from Guest et al. (2013, pp. 99–101).

decision modeling, visual elicitation techniques, and others. We have provided a brief description of many of these techniques, along with common applications and key references, in Table 15.4.

## QUALITATIVE DATA MANAGEMENT AND ANALYSIS

### Qualitative Data Management

Data management includes “all the processes necessary for systematically and consistently collecting, tracking, preparing, processing, organizing, storing, securing, retrieving, verifying, and sharing qualitative data so that it can be used to (a) inform subsequent data collection and (b) perform data analysis” (McLellan-Lemal, 2008, p. 168). As such, there is no single data management “step” to be performed on qualitative data; it is an ongoing, dynamic series of activities that is interwoven with recruitment, data collection, coding, and analysis in an attempt to organize interrelated data and make them accessible for full analysis. Table 15.5 identifies specific data management tasks that run for the life of a project.

**Table 15.4** Overview of Additional Qualitative Data Collection Techniques

<i>Technique</i>	<i>Description</i>
<p><b>Free listing</b></p> <p>Potential uses</p> <p>References</p> <p>Context</p>	<p>Elicitation of an exhaustive list of elements or items in a particular domain. Usually phrased as, “What are all of the X in Y,” followed by probes of “Can you think of anything else?”</p> <p>Example: <i>What are all of the health problems in your community?</i></p> <ul style="list-style-type: none"> <li>• When you have limited information about your research topic</li> <li>• When you want to identify the range and parameters of a domain</li> <li>• When you want to create the primary items for other techniques such as surveys or domain classification techniques</li> <li>• To get people brainstorming about a topic as a warm-up</li> </ul> <p>Bernard (2000); Bernard &amp; Ryan (2010); Borgatti (1999); Weller &amp; Romney (1988)</p> <p>Group or one-on-one</p>
<p><b>Rating or ranking exercises</b></p> <p>Potential uses</p> <p>References</p> <p>Context</p>	<p>Research participants rate or rank a series of items, either provided by the researcher or generated within the interview (e.g., during free listing). May be done orally, visually (using stickers), or in writing.</p> <p>Example: <i>Which health problems in your community are the most important to you?</i></p> <ul style="list-style-type: none"> <li>• To establish priorities</li> <li>• To reach consensus on most relevant issues</li> <li>• To identify important sequences of events</li> </ul> <p>Bernard (2011); Weller &amp; Romney (1988)</p> <p>Group or one-on-one</p>
<p><b>Pile sorting</b></p> <p>Potential uses</p>	<p>Research participants put items (words, pictures, objects, sometimes generated through free listing) in piles that make sense to them.</p> <p>Example: <i>Ask participants to place free-listed health problems together in groups that make sense to them. Participants might make a pile for chronic disease, infectious disease, pediatric issues, geriatric issues, structural issues, etc.</i></p> <ul style="list-style-type: none"> <li>• To construct a taxonomy for a given domain</li> <li>• To elicit judgments of similarity among items in a cultural domain</li> </ul>



<i>Technique</i>	<i>Description</i>
References	<ul style="list-style-type: none"> <li>• To identify attributes people use to distinguish items</li> <li>• To identify underlying dimensions in complex domains</li> </ul> Borgatti (1999); Weller & Romney (1988)
Context	Group or one-on-one
<b>Mapping</b>	<p>Research participants are asked to create a map of a particular area or behavior, with a specific objective in mind.</p> <p>Example: <i>Draw a map of all of the areas around your school where teenagers smoke.</i></p>
Potential uses	<ul style="list-style-type: none"> <li>• To address research questions with a spatial dimension</li> <li>• To identify spatial sequences of behavior</li> <li>• To collect stacked information—qualitative, quantitative, social, behavioral, and geographic—in one sitting</li> <li>• To see the participant’s geographic view of the issue</li> <li>• To create concept maps</li> </ul>
References	Perkins (2007); Kuznar & Werner (2001)
Context	Group or one-on-one
<b>Visual elicitation techniques</b>	<p>The use of video, photographs, drawings, or maps—created by the research participants or the researcher—as stimuli to generate discussion or reveal elusive concepts. As a general rule of thumb, less ambiguous stimuli will tend to elicit more factual and tangible responses. More ambiguous stimuli are presumed to better reveal inner values, emotions, and beliefs.</p> <p>Example: <i>Tell me a story about these three photographs of the community that I have here. [Ask follow-up questions about the topic of interest: How do the factories here affect your daily life?]</i></p>
Potential uses	<ul style="list-style-type: none"> <li>• To reveal underlying values or cognitive and emotive processes that verbal questioning might not reach</li> <li>• To collect information on symbolic elements within a culture (e.g., graffiti, religious symbols, gang markers) that relate to the research topic</li> <li>• To document environmental context (both social and physical)</li> <li>• To get feedback on a visual campaign item</li> </ul>
References	Banks (2001, 2007); Pink (2007); Soley & Smith (2008)

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<i>Technique</i>	<i>Description</i>
Context	Group or one-on-one
<b>Photovoice</b>	<p>Research participants are asked to take photographs over a prescribed period of time, after developing a theme to guide the topics of the photos. They are then asked to come back and discuss their pictures and create a display or story to share with policymakers or community leaders.</p> <p>Example: <i>Take photographs to show how malaria affects your life.</i></p>
Potential uses	<ul style="list-style-type: none"> <li>• To allow research participants to present a visual view of their world and then explain it</li> <li>• To collect compelling firsthand accounts for advocacy or community health efforts</li> </ul>
References	Blackman (2007); Wang (1999); Wang, Yi, Tao, & Carovano (1998)
Context	Group or one-on-one, particularly effective with adolescents
<b>Drawings and collages</b>	<p>Research participants are asked to draw something or create a collage as a way of representing their thoughts, feelings, or opinions about a particular topic.</p> <p>Example: <i>Draw a picture or make a collage to represent how drinking alcohol affects your life.</i></p>
Potential uses	<ul style="list-style-type: none"> <li>• To explore ideas or opinions that may be better communicated visually</li> <li>• To allow research participants to present a visual view of their world and then explain it</li> <li>• To conduct a thematic apperception substudy</li> </ul>
References	Bagnoli (2009)
Context	Group or one-on-one, particularly effective with children
<b>Laddering</b>	<p>An interviewing technique used to reveal core values regarding a particular belief or behavior.</p> <p>Example: <i>Asking a series of why questions to uncover attributes, consequences, and ultimately underlying values related to choices of unhealthy foods.</i></p>
Potential uses	<ul style="list-style-type: none"> <li>• To develop effective communications or education campaigns</li> <li>• To identify deeply held values that affect motivations to act</li> </ul>
References	Guest et al. (2013); Reynolds & Gutman (1988)

<i>Technique</i>	<i>Description</i>
Context	One-on-one
<b>Ethnographic decision modeling</b>	A method to model aggregate decision-making processes across a group, community, or culture. <i>Example: How do mothers in your community decide whether to take a sick child to the doctor?</i>
Potential uses	<ul style="list-style-type: none"> <li>• To identify, document, and predict behavioral decision points</li> <li>• To strategize interventions (one to match each decision point)</li> </ul>
References	Gladwin (1989); Ryan & Bernard (2006)
Context	One-on-one

**Table 15.5** Data Management Activities for Qualitative Research

Keeping a record of events	When were data collected? By whom? When were data transcribed/translated? By whom? When were data coded? Using what version of the codebook? By whom? What summaries, matrices, or queries were created using data? When and by whom?
Maintaining standard labeling, organization, and storage procedures	What will study files be called? How will they be organized? (by date, number, subpopulation) Where will they be kept?
Monitoring data quality and study progress	Are data reflecting information that respond to research objectives? Are data of good quality? (appropriate probing, moderation, sufficient detail of field notes, etc.) Is recruitment on schedule with the study timeline? Are coding and analysis?

Additional details on qualitative data management are available in Schensul and LeCompte (2010), Bernard (2013), Guest et al. (2013), and McLellan-Lemal (2008). Public health-oriented data management processes and action plans are described in detail in the Centers for Disease Control and Prevention-supported RARE (Rapid Assessment, Response, and Evaluation) and I-RARE (International RARE) manuals and publications (Trotter et al., 2000; Trotter et al., 2001; Trotter & Singer, 2005).

## Qualitative Data Analysis

Qualitative analysis typically includes the systematic analysis of qualitative data (what, how, who, when, where) based either on an emergent (grounded) theory framework or on an existing culture theory framework (Bernard, 2012; Schensul, Schensul, & LeCompte, 2013). It also typically includes an exposition of the qualitative *why* factors in the data by providing a dual interpretation of the data from the perspective of the people who provided it and from the perspective of the researchers who analyzed it (Wolcott, 1994). A number of consistent, defensible approaches to qualitative analysis are tied to the various theoretical frameworks used to collect the data. Some researchers feel that an interpretivist perspective is more closely aligned with a grounded theory approach to qualitative data analysis. Grounded theory is a set of inductive and iterative techniques designed to identify categories and concepts within text that are then linked into formal theoretical models (Corbin & Strauss, 2008; Glaser & Strauss, 1967). A postpositivist approach may draw on the same type of thematic analysis, but will be more focused on supplying evidence (sometimes in the form of theme frequencies or advanced data visualizations) for any interpretations generated. Applied thematic analysis (Guest et al., 2012) borrows useful techniques from varied theoretical and methodological perspectives and adapts them to an applied research context—a context where ensuring the credibility of findings to an external audience is necessary, and achieving this goal is facilitated by systematic methods and procedures.

In most cases, the basic steps of a thematic analysis of qualitative data include the following:

- reading/reviewing data with research/analysis objectives in mind
- identifying key concepts, ideas, and themes in data
- defining and codifying important ideas and themes in a codebook
- coding data, preferably with two independent coders
- summarizing coded data by
  - looking for patterns and relationships among themes
  - identifying theme frequencies to help identify the most salient ideas across data
  - using quantitative data reduction techniques as appropriate
  - referring back to qualitative data, using quotes to emphasize findings

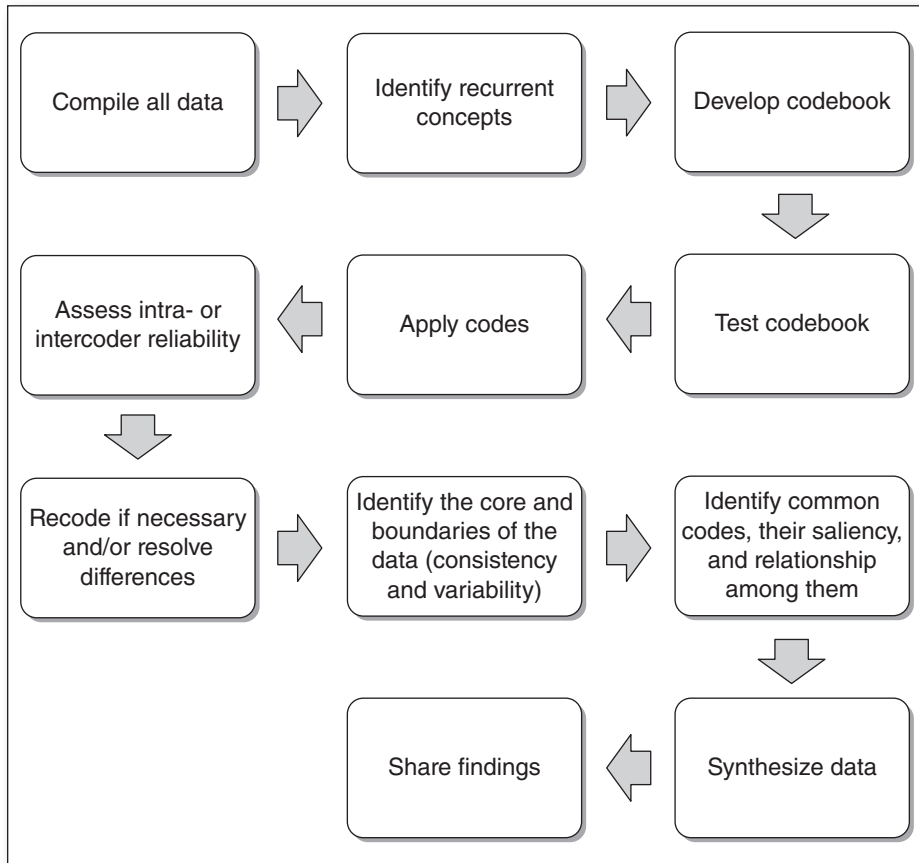
Figure 15.3 illustrates the general flow of the qualitative analysis process.

## Qualitative Data Analysis Software

Qualitative data management and analysis can be facilitated by qualitative analysis software. There are several commercial varieties and a few free programs. Most share a core set of functions:

- facilitated application of a complex coding scheme that links segments of narrative to a theme, concept, or issue (a qualitative code)

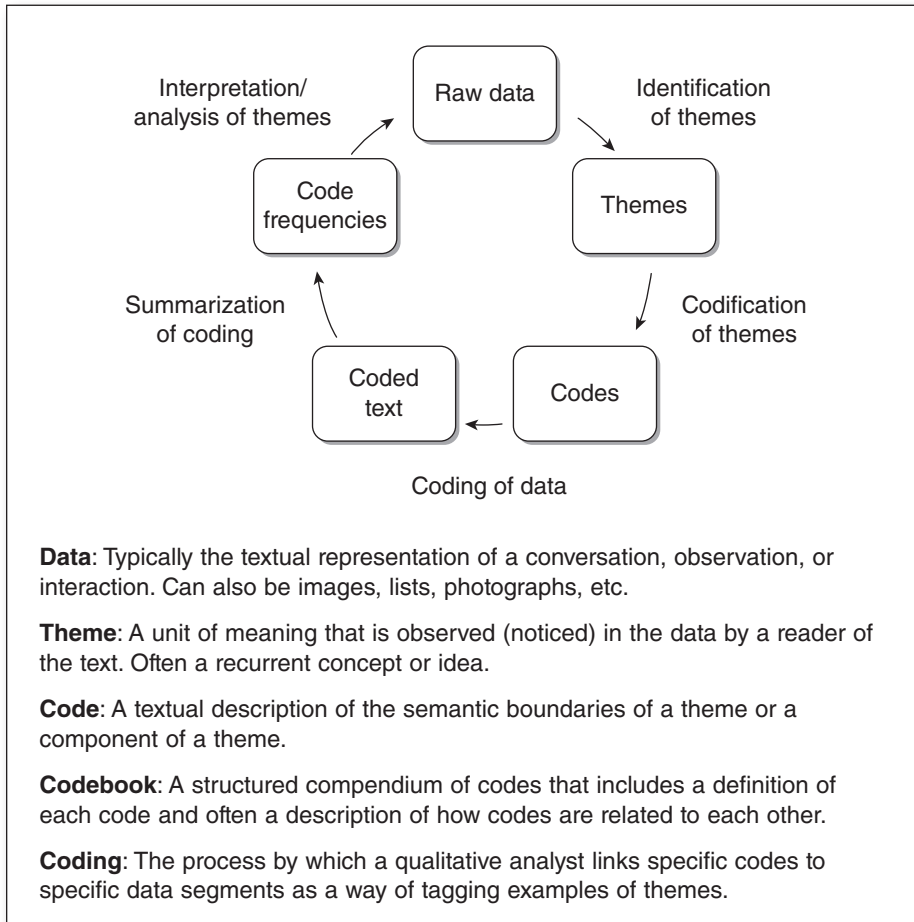
Figure 15.3 The Qualitative Analysis Process



- retrieval of key segments of textual data from large databases
- linkage of concepts and themes within and between interviews or other textual data
- linkage of external variables/data to each narrative (such as the demographic characteristics of the informants, or contextual variables that might have a bearing on the content of the interview)
- strong Boolean and proximity search capabilities that, if carefully and appropriately used, can accommodate highly quantitative content analysis processes

Note that qualitative data analysis software cannot *do* analysis for you. It helps you work with large amounts of data and the codes you create to tag and organize those data. Figure 15.4 illustrates how qualitative data and metadata (the codes and notes we add to data) are related, and it defines common terms.

**Figure 15.4** Definitions of and Relationships Among Data and Metadata Items in Qualitative Analysis



Source: Adapted from Guest et al. (2012, pp. 50, 139).

## APPLICATIONS OF QUALITATIVE RESEARCH METHODS TO PUBLIC HEALTH

To this point, we have provided a basic overview of qualitative research methods, focusing on the rationale and implementation of systematic qualitative research. Public health practitioners employ qualitative methods in various contexts, including study of health behaviors and behavior change; health communications; needs assessments; environmental scans; and monitoring and evaluation, to name a few. Table 15.6 links the rationale for and common usage of qualitative methods within these approaches, while the sections below provide examples of recent applications in public health. Note that

qualitative research is also often a component of community-based and participatory action research, with mapping, interview, and focus group activities used to assess community resources, strengths, and challenges. This application of qualitative methods is covered in the In Focus section at the end of Chapter 4.

**Table 15.6** Strengths of Qualitative Research Methods for Common Public Health Approaches

<i>Public Health Area</i>	<i>Strengths of Qualitative Methods</i>	<i>Method(s) of Choice</i>
Behavior and behavior change	<ul style="list-style-type: none"> <li>• Identification of routines, motivations, behavioral triggers, and decision points</li> <li>• Ability to distinguish between public and nonpublic levels of personal narrative</li> </ul>	In-depth interviews for personal, individual-level; focus groups for public-level narrative; participant observation of current behavior where possible
Health communications	<ul style="list-style-type: none"> <li>• Identification of health beliefs, knowledge, and attitudes</li> <li>• Exploration of how and why current beliefs, knowledge, and attitudes came to be</li> <li>• Ability to involve target audience in message development and testing</li> </ul>	In-depth interviews for design and development; focus groups for testing messages
Needs assessments and environmental scans	<ul style="list-style-type: none"> <li>• Systematic overview of current context and activities</li> <li>• Open-ended identification of what is needed and why</li> <li>• Ability to describe range of facilitators and barriers</li> <li>• Inclusion of end users and stakeholders in discussion of how to best meet need(s)</li> </ul>	Observations for scanning; focus groups with end-users; in-depth interviews with key stakeholders

(Continued)



(Continued)

<i>Public Health Area</i>	<i>Strengths of Qualitative Methods</i>	<i>Method(s) of Choice</i>
Monitoring and evaluation	<ul style="list-style-type: none"> <li>• Documentation of what occurred during a program, campaign, or intervention</li> <li>• Examination of how participants or recipients experience(d) the project</li> <li>• Qualitative rapid assessment provides timely feedback</li> </ul>	Observation to collect data on ongoing activities; in-depth interviews or focus groups to ascertain progress during and after the project (from participants' view)

## Behavior and Behavior Change Research

Public health research into behavior and behavior change often focuses on questions of *how* (how do people wash their hands, how do mothers treat their newborns, how do aging adults keep track of their medications) and *why* (why don't people use condoms, why do teens take up smoking, why do people avoid annual check-ups), with an eye toward changing behavior or improving practice for a better public health result.

For example, Torres, Meetze, and Smithwick-Leone (2013) used Photovoice to engage Latina mothers in South Carolina in a conversation about increasing physical activity for their children. The purpose of the study was to have these mothers identify the barriers and opportunities for physical activity for Latino children in their community, reflect on their consensus findings, and then draft policy recommendations. The research team conducted 12 in-depth interviews with Latina mothers, who also took pictures of their families and communities for discussion, and 8 interviews with community stakeholders and school staff. In subsequent focus groups, the Latina mothers identified barriers to physical activity, such as lack of transportation, poor English skills, lack of knowledge about school-based opportunities, and anti-immigrant discrimination. They then developed solutions to address or mitigate these issues and presented their plans using their photos on flipcharts (Torres et al., 2013).

In another example, Lyerly, Namey, Gray, Swamy, and Faden (2012) used in-depth interviews with pregnant women who had received H1N1 vaccine in the context of a clinical trial during the height of the 2009 epidemic to better understand women's reasons for participating in research during pregnancy. They found "that women participated in order to obtain early access to vaccines, to do so in a situation where they would be closely monitored, and to do so in a way that would produce knowledge that might help other pregnant women" (p. 5). These data provide evidence that some pregnant

women see research participation as a benefit, and argue against the de facto exclusion of pregnant women from medical research.

## Health Communications Research

Qualitative research methods that allow respondents to answer questions using their own words, values, and behaviors can be particularly useful to public health practitioners trying to develop messages or campaigns to influence behaviors or motivate actions. Individual and group interview techniques provide a chance to understand *how* local communities express their understanding of an issue, *what* the important issues or topics are for a given subpopulation, along with information on *why* they are important. All of this feeds into culturally and socially relevant models of how best to package or disseminate information. The text box below highlights some common uses of qualitative methods in the development of effective health communications programs or podcasts.

A study undertaken by Wray and colleagues (2008) used focus groups and cognitive interviews to identify challenges in communicating with the public about emergent health threats. They were interested in assessing the public's baseline knowledge of nonconventional weapons and the health threats they posed. They also wanted to

### **Making Health Communication Programs Work: Common Uses of Qualitative Research Methods**

#### Developing a communication strategy

- Learning about feelings, motivators, and past experiences related to a health topic
- Exploring the feasibility of various potential actions (from the intended audience's viewpoint)
- Identifying barriers to those actions
- Exploring what benefits the intended audience members find compelling and what results they expect from taking a particular action
- Learning about the intended audience's use of settings, channels, and activities
- Capturing the language used by the intended audience to discuss issues

#### Exploring reactions to message concepts (concept testing)

- Identifying concepts that do or do not resonate and understanding why
- Identifying concepts that have a different meaning for participants than those anticipated (cognitive debriefing processes)
- Triggering the creative thinking of communication professionals
- Illustrating to others how the intended audience thinks and talks about a health issue

Source: Adapted from National Cancer Institute (2001).

understand the types of information that the public would want, expect, and react to in case of an emergency and the sources they would turn to for information. The research team found

limited public understanding of emerging biological, chemical, and radioactive materials threats and of the differences between them; demand for concrete, accurate, and consistent information about actions needed for protection of self and family; active information seeking from media, local authorities, and selected national sources; and areas in which current emergency messaging [could] be improved. (p. 2214)

These findings help public health officials plan and prepare for a threat situation by highlighting the types of content and delivery routes needed for future messages. Since qualitative data are usually collected in the way “real” people talk *in context*, we then also have information on key words or phrases to include in public health messaging.

The National Institute on Drug Abuse’s Cultural Epidemiology Working Group, concerned with both the emergence of new drugs and street uses of existing drugs, has consistently employed qualitative research methods to monitor epidemiological changes in drug use across the nation. As highlighted in their proceedings, “Qualitative information from ethnographic studies or local key informants is also used to describe drug use patterns and trends, and it may be particularly informative in the early identification of new issues or substances being misused or abused” (U.S. Department of Health and Human Services, 2012, p. 7). One key communication element of that monitoring is the constantly changing street names of drugs. Ongoing qualitative research provides street-level updates on naming conventions so that epidemiologists have critical linguistic equivalents that drug abuse respondents will recognize. Epidemiologists can then quantitatively monitor trends and changes in drug use regionally and nationwide by surveying respondents on a regular basis using the latest terms.

## Needs Assessment Research

One of the aims of public health practitioners is to make any new public health program or service relevant, significant, and sustainable (Centers for Disease Control and Prevention, 2009). Toward this end, needs assessments are conducted to document the needs of a community or population prior to implementing a new program. The use of qualitative methods during needs assessment activities helps ensure that those needs are not just enumerated, but explained and contextualized. For this reason, there is a growing trend among public and private funding sources to require mixed methods community needs assessment programs to elaborate both the perceived and evidence-based needs for communities. These approaches identify not only the level of need, but also the individuals in need (who), the kinds of needs they have (what), the distribution of those needs (where and when), and the local understanding of those needs (why). In many cases, public health practitioners will conduct a series of in-depth interviews with a range of local stakeholders—politicians, health care providers, clinic administrators,

religious leaders, first-responders—to develop a broader- and higher-level view of the issues to consider. These can happen prior to or concurrent with focus groups that bring together members of the end-user community, perhaps mothers, teenagers, teachers, or a specific cultural subpopulation.

Peragallo Urrutia and colleagues (2012) conducted a needs assessment in 2009, in Leogane, Haiti, as plans for a new donor-funded health clinic were being developed. Using a survey of existing health services in Leogane as a basis, the researchers conducted a series of focus groups to ask women from the community to identify their most pressing health needs, barriers to meeting those needs, and how they thought the community and outside organizations should be involved in addressing them. The Haiti earthquake of 2010 disrupted planning for this new clinic and necessitated a reprioritization of resources, though the health needs identified by the community—nutritious food and drink, access to affordable and available medical care, potable water, education/training, and improved sanitation—likely remained similar, if exacerbated. As one woman told the researchers, “We have not eaten anything since this morning . . . some parents do not have anything to give their children. They leave for school in the morning and come back home without eating anything” (p. 95).

The use of qualitative methods in this type of research helps to better match policy and programs to specific populations’ needs by soliciting the unconstrained opinions of those populations. Quotes like the one above can help to emotionally underscore the importance of the findings. The RARE method developed by Trotter and colleagues (2000, 2001), provides additional guidance for incorporating assessment activities into a wider framework of intervention development and program evaluation.

## Monitoring and Evaluation Research

Funding agencies often require high-quality evaluation of public health programs, initiatives, interventions, and education efforts. Qualitative methods are crucial for

- identifying and defining key stages of development, critical mileposts, and complex accomplishments;
- identifying the logical processes and connections implicit in the program; and
- creating feedback loops within the program for mid-course correction rather than after-the-fact criticism of program challenges and failures. “Quantitative measures can parsimoniously capture snapshots of pre- and post-states, even some interim steps, but qualitative methods are more appropriate for capturing evolutionary and transformational developmental dynamics” (Patton, 2002, p. 168).

Most state-of-the-art evaluation models incorporate both qualitative assessments and quantitative metrics to meet the standards for evaluation design. One example of a complex mixed methods evaluation design is the model developed for the Native American Cancer Prevention (NACP) Program, through a collaborative agreement between the University of Arizona Comprehensive Cancer Center and Northern Arizona

University (NCI U54). The basic design is a technological transfer from industry to public health (cancer prevention) called a *logic model plus* design (Trotter & Singer, 2005). As those familiar with public health monitoring and evaluation will note, an evaluation logic model is a required element of most program evaluations. The “plus” part of the design is the inclusion of qualitative research methods and a query-based approach that uses qualitative questions to monitor progress and identify the achievement of milestones. This approach allows evaluators to capture the initiative as a whole (short-, medium-, and long-term outcomes, plus impact) and also provides a way to target the unique evaluation needs of each specific NACP core, or specific project.

As mentioned in Chapter 1, the distinction between monitoring and evaluation (M&E) activities and research is sometimes a blurry one. Here we’ve only skimmed the surface of M&E to point out how qualitative methods can fit into the process. For additional information on monitoring and evaluation, see Wholey, Hatry, and Newcomer (2010), which includes chapters on the use of qualitative methods for evaluation.

## QUALITATIVE APPROACHES AND GLOBAL HEALTH ISSUES

Moving public health research across borders or between cultures presents additional considerations for planning and conducting qualitative research. As with other research methods, using qualitative research methods in an international or multi-site setting typically increases timelines and budgets and requires consideration of local context in areas such as informed consent and autonomy. The considerations for global health research that are specific to qualitative methods relate to translation, literally—because of the text-based nature of many of the data collection and analysis tasks—and more figuratively, in terms of translating the strengths of the methods presented in this chapter to appropriately reflect the cultural and social norms of the participant population.

In terms of research design, global health research contexts can guide or constrain your use of specific qualitative methods. If, for example, the political or social context is one of big brother–style surveillance, observation activities won’t be the best choice for collecting public health data—even if they would most efficiently provide the data necessary to meet study objectives. Similarly, the topic of interviewer-interviewee matching (having researcher and respondent be the same on some key characteristic like gender, age, or ethnic group) can take on increased importance in places where social norms prevent men and women from being in mixed company or where it would be impertinent to have a 20-something asking personal questions of an elder. In research we conducted in West Africa, for instance, we found during pretesting that female sex workers were actually more comfortable speaking to male interviewers than females. They provided two reasons for this: They dealt with men more regularly, as part of their business, and felt that men would be less judgmental about their profession than women would be. We therefore had the men on the research team conduct the interviews.

Contracting with local research agencies can help to overcome some of the translation and implementation challenges related to culture and language. Field teams trained

in the research objectives will likely be able to provide a better translation of consent forms, data collection instruments, and eventually the data themselves. Engagement of local researchers also provides an opportunity for capacity building, as training on specific research methods may be required.

## CURRENT ISSUES AND FUTURE DIRECTIONS

Qualitative research methodologies have evolved extensively in the last few decades, producing useful, empirically tested mid-range theories, scientifically justified sampling protocols, and analytical strategies that are useful and appropriate for public health practitioners. Using qualitative research methods, we can elicit a range and depth of opinions without having to predefine all of the potential options. We can also explore the context of those opinions and whether they translate to behaviors with public health consequences. Observation and interviewing techniques offer different ways of exploring health behaviors and opinions, but each focuses on selecting appropriate participants and letting them be the “experts” who show or tell us the important (or mundane) details and context of their experiences and beliefs. Qualitative research methods—whether stand-alone or part of a mixed methods design—facilitate explanations and understandings of issues important to the public’s health, by allowing us to explore global issues on a local (action) level.

At the same time, qualitative research faces some challenges that will need to be resolved through a continuing evolution of theory, methods, and analytical strategies. One of the continuing challenges for qualitative research is the issue of appropriately protecting both individuals and communities from unintended harm. Qualitative research is frequently “high touch,” up close and personal. Anonymity is normally impossible for any meaningful, longer-term qualitative data collection and community explorations, especially among vulnerable populations where the stakes are particularly high, and confidentiality must be maintained at the highest level possible. The continual evolution of human subject protections is an area for both current and future development of research practices and protections (see Whiteford & Trotter, 2008, for discussions of cross-cultural qualitative research ethics and vulnerable populations).

There are several emerging directions in qualitative research that are relevant to public health research. One that is particularly germane for this chapter is the growing utilization of technology in both the dissemination and the testing of public health prevention and intervention programs. There will be significant qualitative contributions to this rapidly changing field, including (1) formative research with end-user communities, populations, and individuals to construct socially and culturally congruent applications; (2) qualitative content explorations of existing websites and social media interactions to form baseline information on what is out there and what it means; and (3) direct contact qualitative research through electronic media and social media that parallels community-based research on similar topics. There are significant theoretical, methodological, and epistemological issues at play in this context. In addition, the need for field-based (ethnographic, participant observational, etc.) research on the use of technology (from medical telemetry, to Internet-based intervention programs, etc.) in “real life” is increasingly apparent. Many technology-based public health

programs are treating technology as a potential panacea for face-to-face contact, without investigating the context of use or the barriers to use in specific groups or communities. The interface between technology and people is a highly productive area for qualitative research in the public health context and will remain so as long as technology continues to change at its current pace (see also Chapter 21).

## ADDITIONAL RESOURCES

### Qualitative Methods for Public Health (general)

- Green, J., & Thorogood, N. (2009). *Qualitative methods for health research* (2nd ed.). Thousand Oaks, CA: Sage.
- Lindlof, T. R., & Taylor, B. C. (2010). *Qualitative methods for health communication* (3rd ed.). Thousand Oaks, CA: Sage.
- Patton, M. Q. (2001). *Qualitative research and evaluation methods*. Thousand Oaks, CA: Sage.
- Trotter, R. T., II, & Singer, M. (2005). Rapid assessment strategies for public health: Promise and problems. In E. Trickett & W. Pequegnat (Eds.), *Community Intervention and AIDS*. Oxford, UK: Oxford University Press.

### Qualitative Research Sampling

- Guest, G. (in press) Sampling and selecting participants in field research. In H. Bernard & C. Gravlee (Eds.), *Handbook of methods in cultural anthropology* (2nd ed.). Lanham, MD: Altamira.
- Guest, G., Namey, E., & Mitchell, M. (2013). *Collecting qualitative data: A field manual* (Chapter 2). Thousand Oaks, CA: Sage.
- Trotter, R. T., II (2012). Qualitative research sample design and sample size: Resolving and unresolved issues and inferential imperatives. *Preventative Medicine*, 55, 398–400.

### Qualitative Data Collection

- Angrosino, M. (2008). *Doing ethnographic and observational research*. Thousand Oaks, CA: Sage.
- Guest, G., Namey, E., & Mitchell, M. (2013). *Collecting qualitative data: A field manual*. Thousand Oaks, CA: Sage.
- Kreuger, R. A., & Casey, M. A. (2009). *Focus groups: A practical guide for applied research*. Thousand Oaks, CA: Sage.
- Rubin, H. J., & Rubin, I. S. (2012). *Qualitative interviewing: The art of hearing data*. Thousand Oaks, CA: Sage.

### Qualitative Data Analysis

- Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. Thousand Oaks, CA: Sage.



- Corbin, J., & Strauss, A. (2008). *Basics of qualitative research: Techniques and procedures for developing grounded theory*. Thousand Oaks, CA: Sage.
- Guest, G., MacQueen, K. M., & Namey, E. (2012). *Applied thematic analysis*. Thousand Oaks, CA: Sage.

## Web Resources

- Qualitative Research Consultants Association, <http://www.qrca.org/>
- Social Research Solutions, <http://www.socialresearchsolutions.com>
- Qualitative Health Research*, <http://qhr.sagepub.com/>
- The Qualitative Report*, <http://www.nova.edu/ssss/QR/qualres.html>
- Qualitative Research Resources - University of Georgia, <http://www.qualitativeresearch.uga.edu/QualPage/>
- Qualitative Research Resources - University of Manchester, <http://www.socialsciences.manchester.ac.uk/morgancentre/realities/teaching/>
- Qualitative Research and Resource Center - York University, <http://www.yorku.ca/laps/soci/qrrc/>

## REFERENCES

- ACAPS. (2012). *Qualitative and Quantitative research techniques for humanitarian needs assessment: An introductory brief*. Geneva, Switzerland: Author. Retrieved from [http://www.parkdatabase.org/documents/download/qualitative\\_and\\_quantitative\\_research\\_techniques.pdf](http://www.parkdatabase.org/documents/download/qualitative_and_quantitative_research_techniques.pdf).
- Bagnoli, A. (2009). Beyond the standard interview: The use of graphic elicitation and arts-based methods. *Qualitative Research*, 9, 547–570.
- Banks, M. (2001). *Visual methods in social research*. Thousand Oaks, CA: Sage.
- Banks, M. (2007). *Using visual data in qualitative research*. Thousand Oaks, CA: Sage.
- Barbour, R. (2007). *Doing focus groups*. London, UK: Sage.
- Baum, F. (1995). Researching public health: Behind the qualitative-quantitative methodological debate. *Social Science & Medicine*, 40, 459–468.
- Bernard, H. R. (2000). *Social research methods: Qualitative and quantitative approaches*. Thousand Oaks, CA: Sage.
- Bernard, H. R. (2011). *Research methods in anthropology: Qualitative and quantitative approaches* (5th ed.). Lanham, MD: Altamira.
- Bernard, H. R. (2013). *Social research methods: Qualitative and quantitative approaches* (2nd ed.). Thousand Oaks, CA: Sage.
- Bernard, H. R., & Ryan, G. (2010). *Qualitative data analysis: Systematic approaches*. Thousand Oaks, CA: Sage.
- Blackman, A. (2007). *The PhotoVoice manual: A guide to designing and running participatory photography projects*. London, UK: PhotoVoice.
- Bluthenthal, R. N., & Watters, J. K. (1995). Multimethod research from targeted sampling to HIV risk. *NIDA Research Monograph*, 157, 212–230.
- Borgatti, S. (1999). Elicitation techniques for cultural domain analysis. In J. Schensul & M. LeCompte (Eds.), *The ethnographer's toolkit: Vol. 3* (pp. 115–151). Walnut Creek, CA: Altamira Press.
- Centers for Disease Control and Prevention, Healthy Communities Program. (2009). *A sustainability planning guide for healthy communities*. Atlanta, GA: Author. Retrieved from [http://www.cdc.gov/healthycommunitiesprogram/pdf/sustainability\\_guide.pdf](http://www.cdc.gov/healthycommunitiesprogram/pdf/sustainability_guide.pdf)
- Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. Thousand Oaks, CA: Sage.

- Corbin, J., & Strauss, A. (2008). *Basics of qualitative research: Techniques and procedures for developing grounded theory*. Thousand Oaks, CA: Sage.
- Creswell, J. W. (2006). *Qualitative inquiry and research design: Choosing among five approaches*. Thousand Oaks, CA: Sage.
- Creswell, J. W., Klassen, A. C., Plano Clark, V. I., & Clegg Smith, K. (2011). *Best practices for mixed methods research in health sciences*. Washington, DC: U.S. Department of Health and Human Services, Office of Behavioral and Social Sciences Research.
- Curtis, S., Gesler, W., Smith, G., & Washburn, S. (2000). Approaches to sampling and case selection in qualitative research: Examples in the geography of health. *Social Science & Medicine*, 50, 1001–1014.
- DeWalt, K. M., & DeWalt, B. R. (2011). *Participant observation: A guide for fieldworkers* (2nd ed.). Lanham, MD: AltaMira.
- Frank, O., & Snijders, T. (1994). Estimating the size of hidden populations using snowball sampling. *Journal of Official Statistics*, 10, 53–67.
- Gladwin, C. (1989). *Ethnographic decision tree modeling*. Newbury Park, CA: Sage.
- Glaser, B., & Strauss, A. (1967). *The discovery of grounded theory: Strategies for qualitative research*. New York, NY: Aldine.
- Green, J., & Thorogood, N. (2009). *Qualitative methods for health research* (2nd ed.). Thousand Oaks, CA: Sage.
- Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field Methods*, 18, 59–82.
- Guest, G., MacQueen, K. M., & Namey, E. (2012). *Applied thematic analysis*. Thousand Oaks, CA: Sage.
- Guest, G., Namey, E., & Mitchell, M. (2013). Sampling. In *Collecting qualitative data: A field manual for applied research* (pp. 41–74). Thousand Oaks, CA: Sage.
- Hammersley, M. (2008). Context and contextuality. In L. Given (Ed.), *The SAGE encyclopedia of qualitative research methods* (pp. 122–123). Thousand Oaks, CA: Sage.
- Heckathorn, D. D. (1997). Respondent driven sampling: A new approach to the study of hidden populations. *Social Problems*, 44(2), 174–199.
- Johnson, J. C. (1990). *Selecting ethnographic informants*. Thousand Oaks, CA: Sage.
- Koester, S., & Hoffer, L. (1994). Indirect sharing: Additional risks associated with drug injection. *AIDS and Public Policy*, 9(2), 100–105.
- Kuznar, L. A., & Werner, O. (2001). Ethnographic mapmaking: Part 1. Principles. *Field Methods*, 13, 204–213.
- Luborsky, M. R., & Rubinstein, R. L. (1995). Sampling in qualitative research: Rationale, issues, and methods. *Research on Aging*, 17(1), 89–114.
- Lyerly, A. D. (2013). *A good birth: Finding the positive and profound in your childbirth experience*. New York, NY: Avery.
- Lyerly, A. D., Namey, E., Gray, B., Swamy, G., & Faden, R. R. (2012). Women's views about participating in research while pregnant. *IRB Ethics and Human Research*, 34(4), 1–8.
- Lyerly, A. D., Steinhauer, K., Namey, E., Tulsy, J., Cook-Deegan, R., Sugarman, J., . . . Wallach, E. (2006). Factors that affect decision making about frozen embryo disposition: Infertility patient perspectives. *Fertility and Sterility*, 85, 1620–1630.
- Lyerly, A. D., Steinhauer, K., Voils, C., Namey, E., Alexander, C., Bankowski, B., . . . Wallach, E. (2010). Fertility patients' views about frozen embryo disposition: Results of a multi-institutional U.S. survey. *Fertility and Sterility*, 93, 499–509.
- Mack, N., Woodsong, MacQueen, Guest, & Namey. (2005). *Qualitative research methods: A data collector's field guide*. Research Triangle Park, NC: Family Health International.
- McLellan-Lemal, E. (2008). Qualitative data management. In G. Guest & K. M. MacQueen (Eds.), *Handbook for team-based qualitative research* (pp. 165–188). Lanham, MD: Altamira.

- Morrill, M., Lukacz, E. S., Lawrence, J. M., Nager, C. W., Contreras, R., & Lubner, K. M. (2007). Seeking healthcare for pelvic floor disorders: A population-based study. *American Journal of Obstetrics and Gynecology*, *197*(1), e81–86.
- Namey, E., & Lyster, A. D. (2010). The meaning of “control” for childbearing women in the US. *Social Science and Medicine*, *71*, 769–776.
- National Cancer Institute. (2001). *Making health communication programs work: A planner's guide* (Rev. ed.). Bethesda, MD: Author. Retrieved from <http://www.cancer.gov/cancertopics/cancerlibrary/pinkbook>
- National Institutes of Health. (2000). *Qualitative methods in health research: Opportunities and considerations in application and review*. Washington, DC: National Institutes of Health, Office of Behavioral and Social Sciences Research. Retrieved from <http://obsr.od.nih.gov/pdf/qualitative.pdf>
- Nkwi, P., Nyamongo, I., & Ryan, G. (2001). *Field research into socio-cultural issues: Methodological guidelines*. Yaounde, Cameroon: International Center for Applied Social Sciences, Research, and Training/UNFPA.
- Page, J. B., & Evans, S. (2003). Cigars, cigarillos, and youth. *Journal of Ethnicity in Substance Abuse*, *2*(4), 63–76.
- Patton, M. Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage.
- Peragallo Urrutia, R., Merisier, D., Small, M., Urrutia, E., Tinfo, N., & Walmer, D. (2012). Unmet health needs identified by Haitian women as priorities for attention: A qualitative study. *Reproductive Health Matters*, *20*(39), 93–103.
- Perkins, C. (2007). Community mapping. *Cartographic Journal*, *44*(2), 127–137.
- Pink, S. (2007). *Doing visual ethnography* (2nd ed.). Thousand Oaks, CA: Sage.
- Reynolds, T., & Gutman, J. (1988). Laddering theory, method, analysis, and interpretation. *Journal of Advertising Research*, *28*, 11–31.
- Robinson, W. T., Risser, J. M. H., McGoy, S., Becker, A. B., Rehman, H., Jefferson, M., . . . Tortu, S. (2006). Recruiting injection drug users: A three-site comparison of results and experiences with respondent-driven and targeted sampling procedures. *Journal of Urban Health*, *83*(1), 29–38.
- Romney, A. K., Weller, S. C., & Batchelder, W. H. (1986). Culture as consensus: A theory of culture and informant accuracy. *American Anthropologist*, *88*, 313–338.
- Ryan, G., & Bernard, H. (2006). Testing an ethnographic decision tree model on a national sample: Recycling beverage cans. *Human Organization*, *65*, 103–114.
- Salganik, M. J., & Heckathorn, D. D. (2004). Sampling and estimation in hidden populations using respondent-driven sampling. *Sociological Methodology*, *34*, 193–239.
- Schensul, J. J., & LeCompte, M. D. (2010). *Designing and conducting ethnographic research: An introduction*. Walnut Creek, CA: Altamira Press.
- Schensul, S. L., Schensul, J. J., & LeCompte, M. D. (1999). Essential ethnographic methods: Observations, interviews, and questionnaires. *Book 3: The Ethnographers Tool Kit*. Walnut Creek, CA: Altamira Press.
- Schensul, S. L., Schensul, J. J., & LeCompte, M. D. (2013). *Initiating ethnographic research: A mixed methods approach*. Plymouth, UK: AltaMira Press.
- Seidman, I. (2006). *Interviewing as qualitative research*. New York, NY: Teachers College Press.
- Siddiqui, N., Ammarell, N., Namey, E., Wu, J. M., Sandoval, J. S., & Bosworth, H. B. (n.d.). *Urinary incontinence and health seeking behavior among White, Black, and Latina women*. Manuscript in preparation.
- Soley, L., & Smith, A. (2008). *Projective techniques for social science and business research*. Milwaukee, WI: Southshore Press.

- Steckler, A. (2005). Foreword. In P. R. Ulin, E. T. Robinson, & E. E. Tolley, *Qualitative methods in public health* (p. xiii). San Francisco, CA: Jossey-Bass.
- Torres, M. E., Meetze, E. G., & Smithwick-Leone, J. (2013). Latina voices in childhood obesity: A pilot study using photovoice in South Carolina. *American Journal of Preventive Medicine, 44*, S225–S231.
- Trotter, R. T., II. (1997). Anthropological midrange theories in mental health research: Selected theory, methods, and systematic approaches to at-risk populations. *Ethos, 25*, 259–274.
- Trotter, R. T., II. (2012). Qualitative research sample design and sample size: Resolving and unresolved issues and inferential imperatives. *Preventative Medicine, 55*, 398–400.
- Trotter, R. T., II, & Medina Mora, M. A. (2000). Qualitative methods. In *Guide to drug abuse epidemiology* (pp. 93–123). Geneva, Switzerland: World Health Organization, Non-communicable Disease and Mental Health Cluster.
- Trotter, R. T., II, Needle, R. H., Goosby, E., Bates, C., & Singer, M. (2001). A methodological model for rapid assessment, response, and evaluation: The RARE program in public health. *Field Methods, 13*(2), 137–159.
- Trotter, R. T., II, Needle, R. H., Goosby, E., Bates, C., & von Zinkernagel, D. (2000). *RARE evaluation protocols manual*. Washington, DC: U.S. Department of Health and Human Services, Office of Public Health and Science, Office of HIV/AIDS Policy.
- Trotter, R. T., II, & Singer, M. (2005). Rapid assessment strategies for public health: Promise and problems. In E. Trickett & W. Pequegnat (Eds.), *Community intervention and AIDS* (pp. 130–152). Oxford, UK: Oxford University Press.
- U.S. Department of Health and Human Services, National Institutes of Health, National Institute on Drug Abuse. (2012). *Epidemiologic trends in drug abuse: Proceedings of the community epidemiology work group*. Bethesda, MD: Author. Retrieved from [http://www.drugabuse.gov/sites/default/files/cewg\\_january\\_2012\\_tagged\\_v2.pdf](http://www.drugabuse.gov/sites/default/files/cewg_january_2012_tagged_v2.pdf)
- Wang, C. (1999). Photovoice: A participatory action research strategy applied to women's health. *Journal of Women's Health, 8*, 185–192.
- Wang, C., Yi, W., Tao, Z., & Carovano, K. (1998). Photovoice as a participatory health promotion strategy. *Health Promotion International, 13*, 75–86.
- Watters, J. K., & Biernacki, P. (1989). Targeted sampling: Options for the study of hidden populations. *Social Problems, 36*, 416–430.
- Weiss, R. S. (1994). *Learning from strangers: The art and method of qualitative interview studies*. New York, NY: Free Press.
- Weller, S., & Romney, A. (1988). *Systematic data collection*. Thousand Oaks, CA: Sage.
- Werner, O. & Kuznar, L.A. (2001). Ethnographic mapmaking: Part 2 practical concerns and triangulation. *Field Methods, 13*: 291–296.
- Whiteford, L. M., & Trotter, R. T., II. (2008). *Ethics for anthropological research and practice*. Boston, MA: Wadsworth.
- Wholey, J., Hatry, H., & Newcomer, K. (2010). *Handbook of practical program evaluation* (3rd ed.). San Francisco, CA: Jossey-Bass.
- Wolcott, H. F. (1994). *Transforming qualitative data: Description, analysis, and interpretation*. Thousand Oaks, CA: Sage.
- Wray, R. J., Becker, S. M., Henderson, N., Glik, D., Jupka, K., Middleton, S., . . . Mitchell, E. W. (2008). Communicating with the public about emerging health threats: Lessons from the pre-event message development project. *American Journal of Public Health, 98*, 2214–2222.