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Establishing trustworthiness and authenticity in qualitative pharmacy research



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A B S T R A C T

Spurred by the value it can add, the use of qualitative research methods has been steadily growing by social pharmacy researchers around the globe, either separately or as part of mixed methods research projects. Given this increase, it is important to provide guidance to assist researchers in ensuring quality when employing such methods. This commentary addresses both theoretical fundamentals as well as practical aspects of establishing quality in qualitative social pharmacy research. More specifically, it provides an explanation of each of the criteria of trustworthiness proposed by Lincoln and Guba (*credibility, transferability, dependability and confirmability*) and different techniques used in establishing them. It also provides a brief overview of authenticity, a more recent and less widely used set of criteria that involve demonstrating *fairness, ontological authenticity, educative authenticity, catalytic authenticity, and tactical authenticity*. For each of these terms, the commentary provides a definition, how it applies to social pharmacy research, and guidance on when and how to use them. These are accompanied by examples from the pharmacy literature where the criteria have been used. The commentary ends by providing a summary of competing viewpoints of establishing quality in the published literature while inviting the reader to reflect on how the presented criteria would apply to different qualitative research projects.

Introduction

Why qualitative approaches in social pharmacy research?

Four characteristics distinguish science from non-science. Science is theory-based, uses systematic research techniques, is cumulative and is predictive.¹ All science is embedded in belief systems known as paradigms, which are frameworks based on assumptions about ontology (nature of being) and epistemology (nature of knowledge and rationality of belief). Four paradigms are used most commonly: positivism, post-positivism, interpretivism, and critical theory,² each with their own important differences.^{2,3}

Research carried out within the positivist/post-positivist paradigm strives towards objectivity and neutrality and typically employs quantitative studies with a focus on numbers, precision, and generalizability.⁴ A positivist approach, however, may not be the best way to address some research questions. Hence, there has been a notable increase in interpretivist studies using qualitative methods in health

services research, including pharmacy research, to tackle questions that do not lend themselves to a positivist paradigm. Social pharmacy researchers have been using qualitative methods to understand, explain, discover, and explore patients' and health care practitioners' beliefs, perceptions, and feelings. With considerable variety in qualitative approaches,⁵ qualitative research provides considerable options for researchers to pick when approaching a research question.⁶

Qualitative research allows a researcher to provide an interpretation of observed experiences and actions of individuals and groups in different contexts.² It lends itself to health services research in general and social pharmacy research in particular, where an in-depth understanding of the participants' experiences is needed. As it pertains to more critical theoretical studies, qualitative methods can also be used for the "democratization" of research through carrying out studies that are more inclusive, collaborative, and involving partnerships and co-production.⁷ Indeed, such methods can provide a framework that is not only "about" or "on" participants but, rather, with and by participants as co-creators.⁸ This is particularly important, especially with the

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increasing calls for increased patient involvement in health services research.⁹

Quality in qualitative research

A number of articles have addressed issues related to the rigor of qualitative health services research in recent years. Recently, an insightful study highlighted the importance of demonstrating rigor in qualitative pharmacy research and briefly defined strategies to ensure its rigor.¹⁰ In that paper, Hadi and Closs¹⁰ included a brief review of pharmacy research that uncovered gaps in demonstrating rigor. In the field of pharmacy education, guidance for publishing qualitative research with checklists were provided¹¹ along with best practices of steps of designing, conducting, and reporting qualitative research in a step-wise approach using attributes of quality.¹² Another important manuscript provided recommendations for key components for conducting qualitative research, articulating the process, presentation and contextualization of results in pharmacy education studies.¹³

More generally, Tong et al.¹⁴ provide a consolidated set of criteria for reporting qualitative research (COREQ) comprising a 32-item checklist to help researchers and reviewers incorporate and assess how a qualitative research article describes aspects of the research team, methods, context, findings, analysis and interpretations. This and several critical appraisal instruments have been designed to facilitate an assessment of methodological quality of qualitative studies.¹⁵ While helpful for ensuring details about a project and its methods are assessable, checklists do not necessarily ensure quality in a qualitative project. A reflection of quality criteria and their use in pharmacy would help the reader better discern a strategy for establishing quality according to the specific project context including the research question and method used.

This paper adds to earlier work by providing a more detailed and thorough discussion of what qualitative quality criteria are, when and how to use each standard, their pros and cons, and concrete examples in the pharmacy literature to further demonstrate them. Additionally, this paper provides an overview of the authenticity criteria and adjacent sub-criteria, which have not been addressed in the context of qualitative social pharmacy research. This is done with the aim of providing clear and comprehensive guidance for pharmacy researchers who are invested in demonstrating rigor in their research. It is important to alert the reader that the criteria discussed in this commentary are not meant to be treated like a checklist. Strategies addressing criteria that will be discussed here should be considered in combination with the underlying problem and specific research question in each qualitative study. Thus, researchers are encouraged to reflect on those criteria and consider ways in which they could be of use in their qualitative or mixed methods research projects.

The paper begins by presenting techniques used for establishing *trustworthiness* subdivided into credibility, transferability, dependability and confirmability. These techniques are prolonged engagement and persistent observation, referential adequacy, member checking, triangulation, negative case analysis, thick contextual description, external audit/audit trail, and reflexivity and transparency. The second section of the paper provides a brief overview of the so-called authenticity criteria including fairness, ontological authenticity, educative authenticity, catalytic authenticity, and tactical authenticity and their value in social pharmacy research (see Table 1).

Trustworthiness

Prolonged engagement

Prolonged engagement is a technique that gets the researcher to spend adequate time to learn about the culture in which the research is conducted, build trust, and reflect on potential distortions introduced by the researcher and participants along with their impact.¹⁶ This

Table 1
Overview of naturalistic rigor criteria, sub-criteria, corresponding criteria from positivist paradigm.

Main criteria	Trustworthiness					Authenticity			
	Credibility	Transferability	Dependability	Confirmability	Fairness	Ontological authenticity (development of meaning)	Educative authenticity (development of meaning and learning potential)	Catalytic authenticity (potential for acting/ action)	Tactical authenticity (potential for learning and for changing)
Corresponding positivist/postpositivist quality criteria	Internal validity	External validity	Reliability	Objectivity	There are no equivalents for the authenticity criterion within the positivist paradigm				
Essential scientific validity criteria	Correspondence criteria	Usability (pragmatic criteria)	Coherence	Neutrality					
Applicable techniques	Prolonged engagement Persistent observation Triangulation Peer debriefing Negative case analysis Referential adequacy Member checking Reflexivity	Thick description Reflexivity	Audit including the audit trail Reflexivity	Audit including the audit trail Triangulation Reflexivity					

criteria is particularly worth noting since a common problem with qualitative pharmacy research has been spending inadequate time in a “culture” before researchers produced their understanding of a process. Quite often a researcher may conduct a number of interviews with pharmacy staff or patients and wrap the project hastily without allowing oneself the opportunity to get the full scope of issues under study. The reader may wonder on the amount of time that would be enough for a prolonged engagement. Lincoln and Guba¹⁶ posit that, while this is relative, there can be signs that prolonged engagement has been achieved. Those signs include being able to survive without a challenge in a culture and building trust with its members. As a technique, prolonged engagement involves researchers being cognizant of potential distortions coming from one's own prior formulations about an issue. Equally important for the researcher is to be cognizant of potential intended and unintended distortions coming from participants who, for example, can have “situated motives” including the motive to say things that would be more appropriate or please the researcher or can misconstrue the researchers' questions.¹⁶ One pitfall for prolonged engagement is described as “going native”. In particular, Lincoln and Guba¹⁶ caution that a researcher may “lose detached wonder” and become unable to discover something compared to a less involved researcher.

It is important for the researcher to consider this while reflecting on the epistemological perspective adopted. While these criteria were proposed with constructivism in mind, the notion that a researcher may “fail to discover a phenomenon” favors objectivism, embracing the belief that a researcher can come to one reality. Within a more constructivist approach, motives of researchers and participants are acknowledged and addressed in a transparent manner while discussing the choices that have been made (see the discussion of reflexivity and transparency below).

One example for prolonged engagement involved a study that addresses clinician patient communication and care in relation to Muslim patients considering fasting during Ramadan. Participants in this study included patients with chronic conditions representing different ethnic groups from two countries.¹⁷ In the US, some participants were recruited from Fort Wayne, Indiana, which houses a large Burmese population. Before data collection, two of the researchers connected with the Burmese Muslim Education and Community Center. They had discussions with members and leaders of the community about the topic, attended events organized by the community including an annual Iftar ceremony, and recruited translators from that community. This allowed for a strong relationship and trust between researchers and the community.

Persistent observation

*“If the purpose of prolonged engagement is to render the inquirer open to the multiple influences - the mutual shapers and contextual factors - that impinge upon the phenomenon being studied, the purpose of persistent observation is to identify those characteristics and elements in the situation that are most relevant to the problem or issue being pursued and focusing on them in detail. If prolonged engagement provides scope, persistent observation provides depth”*¹³ (p. 304).

Qualitative researchers would expectedly make analytical or at least contextual decisions from their data that are particularly salient to their research. Persistent observation helps a researcher become mindful of aspects that are particularly important to the research question and has them focus on those aspects in detail. As part of a constant process, the researcher should keep a record of what are believed to be salient factors and explore them in greater depth. Then, the researcher would ask oneself as to whether the analysis is superficial or erroneous. The process would be repeated and temporary labels revised in enough detail that the researcher would be able to describe the process. Thus, persistent observation provides “depth” as compared to prolonged engagement which provides “scope.” Prolonged engagement compels the

researcher to reflect on multiple influences shaping context, while persistent observation requires that researchers screen irrelevancies and explore in detail issues that are truly important. Lincoln and Guba¹⁶ caution against the so-called “premature closure” where a researcher hastily decides on what is determined to be salient for the study question. Ongoing healthy “skepticism” of participants' intentions should be practiced, particularly where concerns about deception are present. The reader may note that a researcher would need to exercise both prolonged engagement and persistent observation to allow for reflexivity and a thick description of data, which will be discussed further below.

A unique example of persistent observation and prolonged engagement is demonstrated in a study conducted by several and rather different researchers.¹⁸ The overall purpose of the study was to conduct a Health Technology Assessment (HTA) of automated dose dispensing in the Danish primary health care sector. The HTA research group carefully made notes throughout the study period, which lasted for several years. The professional background of the project members was in diverse fields such as nursing, social science, health economics, and social pharmacy. All but one researcher had worked in their field for more than 20 years. Because the HTA was conducted on technical, economic, organizational, and patient-related aspects of dose-dispensing, a variety of research methods were applied, including focus group and individual interviews, surveys, register-based calculations, health economic analysis and documentary material analysis. About half-way through the study, the project group realized that the majority of the problems experienced stakeholders were related to the dose-dispensing system, but there were quite a few that were not due to the technology itself. Rather, the use of technology acted as a magnifying glass for problems that already existed in the system. Reaching this conclusion would have been much more difficult had the researchers prematurely closed the project. Instead, they took their time and kept records of their presumptions, ideas, and doubts throughout the process. Their extensive knowledge from carrying out other studies focusing on problems in the Danish health care sectors also contributed to this level of depth.

Member checking

Member checking is recommended by Lincoln and Guba¹⁹ as a vital technique available for the qualitative researcher to strengthen the credibility of data. In the process of member checking the researcher returns data, analytic categories, data interpretations, and/or even conclusions to study participants. The argument is that by giving participants the opportunity to review research work, a researcher can claim that the work adequately presents ‘own and multiple realities’. As suggested by Lincoln and Guba (1985), member checking can be performed formally or informally.¹⁶ Informal member checking is more immediate and involves recordings or transcripts involving a participant being played back to that participant or observations from a set of participants tested with others. Informal member checking helps a researcher in a number of ways including the opportunity to assess intentionality, meaning that the participant actually intended to provide such information to researchers. It also provides the opportunity for a participant to recall additional points/ideas, correct errors, and provide context. Formal member checking, on the other hand, is more structured. It is important to note that the member checking team is asked as to examine whether constructions provided to them by the research team are viewed as fair even if they do not totally agree with them.¹⁶ Here, the researcher provides the study report to the member check team in advance, a process that can take one or more days. This team would include individuals from different groups included in the study. Feedback from the member checking team can be obtained using different modes according to the nature of the study and participants.^{19,20} The researcher might ask for written feedback or meet face-to-face to discuss any revisions and comments on the notes or analyzed data (i.e.

thematic summaries).²⁰

As the reader would note, member checking could be particularly relevant and feasible for many pharmaceutical health services research projects, which usually involve patients, physicians, and of course, pharmacists. A recent example of the use of member checking is a study that aimed to better understand prescription opioid abuse related communication among prescribers and pharmacists.²¹ That study described intraprofessional and interprofessional prescription opioid related communication among and between opioid prescribers and community pharmacists. To enhance credibility of the reported themes, member checking interviews were conducted with one participant from each of the five focus groups in the study. According to the authors, while member checking interviews did not result in major changes to themes, some were expanded upon to improve clarity of the report. A more comprehensive example on the use of member checking comes from a study that used grounded theory to describe patients' perspectives of medication-taking tasks associated with long-term medication use.²² It also contributed to an understanding of how these tasks relate to patients' medication information needs. In that study, the emergent framework was presented to participants who provided their input on how the emerging framework explained medication-taking practices and their education needs. Participants invited to participate in the member checking team came from groups who represented varied approaches to medication-taking practices. As part of the member checking process, members agreed that patients using medications for long intervals may undergo continuous change in how they think (logically) and feel (emotionally) about their medications because of changes in the patients' conditions and their situational context.²² They also felt that the presented model helped them understand perplexing actions and behaviors they observe with their patients that they could not understand or tackle before.²²

Participants in qualitative research are always part of the data generation in qualitative research. For example, in qualitative interviews, it is common to test preliminary hypothesis and analysis with the informants.²³ Despite this fact and the argument that member checking can be a key process in establishing the credibility of the collected data, there are some disputes about its use. Morse,²⁴ for example, does not recommend member checking as a strategy. She argues that since the analysis would usually involve a synthesis of different interviews, a participant would not easily recognize their own story in the presented text. The participant's ability to critique the methods and outcomes used is at play here. The issue of favoring participants with better literacy is not exclusive to qualitative research – a research participant may find it hard to check and comment on quantitative data, particularly those involving complex statistical analysis. This could partially be tackled through doing member checking in a more tailored manner that purposefully provides opportunities for underprivileged participants to contribute.

A researcher could show results to a participant and ask him/her to “find oneself” in the results. Instead of having participants point their own quotes, which could breach participants' confidentiality, participants would be asked more nuanced questions: Do the results make sense? Does the approach itself make sense? Having lived the experience, such as, for example, illness and medication use, a participant is in a position to provide a unique perspective on data that a researcher may not be able to bring no matter how trained and experienced in the topic he/she is. This could provide a more nuanced or even different view of reality, which is particularly important to address in qualitative research. A researcher might face a tough decision when the participant does not feel the analysis is correct. Should changes be made even if the researcher “outranks the participant as a judge” of the conceptual framework and research methods used in analysis? While there may not be a preferred way of integrating participants' input in the analysis, ideally, the perspective of participants should be given equal weight to allow for *fairness* as will be described below. This is particularly important if the interpretation of a participant varies with that of the

researcher. As the practice of modern medicine moves towards patient-centered care, involving patients in research is becoming critical. In fact, the US Patient-Centered Outcomes Research Institute (PCORI) requires funded applicants to involve patients and relevant stakeholders in different phases of a study including helping to interpret findings.⁹ While PCORI does not put a condition that involved patients are recruited from the ones who are being studied, some might argue that member checking would create a unique opportunity for patient involvement.

Another concern is that some study participants might refuse to be part of this process of member checking. Participants who agree to participate might concur with the researcher's interpretation of the analyzed data and might not oppose the researcher's interpretation due to politeness or other reasons. When carrying out this process, Lincoln and Guba¹⁶ particularly caution researchers to be cognizant of this, which could lead to “reconstructing an average or typical position”, defeating the purpose of a qualitative study.

Lastly, the kind of training that is provided to the formal member checking team is worth reflecting. While providing such training could help researchers provide a report that adheres to requirements by the researcher, this training may inadvertently lead to the loss of authenticity in the feedback provided thus defeating a key value for member checking. Researchers should be cognizant of this issue when providing instructions or training to the member checking team. One approach of addressing this issue is to break the member checking team into two halves and train one of them while leaving the other with minimal instructions. Striking this balance, however, may be resource intensive and may not be feasible in smaller studies.

Triangulation

Triangulation is a general approach to check and establish the credibility of qualitative findings by analyzing a research question from more than one perspective.²⁵ Triangulation can be categorized into four classical types: methodological, data, investigator, and theoretical triangulation, along with a growingly important and prevalent fifth one called environmental triangulation.^{26,27}

Methodological triangulation: With this frequently used approach to triangulation, the researcher uses more than one method or a combination of methods to compensate for the limitations of one approach with the strengths of another, aiming to improve the credibility of the findings when these are broadly convergent.^{26,27} According to Bryman,²⁸ there is within-method triangulation and between-method triangulation. The first uses assortments of the same method; for example, conducting an open-ended, drawing-based interview as well as a semi-structured interview with the same asthmatic children.²⁹ The second uses contrasting methods, such as combining interviews with observation.³⁰ Pharmaceutical education has been a fertile field for methodological triangulation approaches. An interesting example comes from an introductory, team-based, interprofessional education course for first-year students that used small-group methods for health-professions students' learning of interprofessional collaboration.³¹ A triangulation of assessment involved conjoint use of quantitative and qualitative methods. This enabled researchers to effectively assess various outcomes including students' self-ratings of attaining learning objectives, perceptions of other professions obtained from word cloud responses, and student satisfaction through end-of-course evaluations.

Data triangulation: The researcher promotes data collection through different sampling strategies, such as different times and/or contexts for the same or varying participants. An example is demonstrated in a study that attempted to understand why antibiotics were dispensed injudiciously in community pharmacies.³² In that study, 13 pharmacy staff members were recruited from community pharmacies that dispensed antibiotics, while two were recruited from pharmacies that did not dispense antibiotics as identified by simulated client visits in the quantitative phase of the study.³³ Perceptions of pharmacy staff

members who do not dispense antibiotics injudiciously allowed for a better understanding of factors driving the process. Data were also obtained, not just from pharmacists, but also from pharmacy assistants who provided valuable information on their role in the provision of antibiotics. This complemented the data generated from interviews with pharmacists.

Investigator triangulation: This type of triangulation applies to qualitative studies in which data output emerges from researchers' analytical work. To allow for credibility, several different researchers within the field study are involved. It is expected that team members, applying the same technique, arrive to the same results.^{26,27} Using teams of researchers with different backgrounds (e.g. demographic and/or professional) may be used to check the process of data collection and/or interpretation. It should be noted, however, that an enhancement in credibility should not be viewed as the only goal of investigator triangulation. Qualitative researchers have used this technique to ensure that the analysis is rich, comprehensive, and inclusive of insights and interpretations by different researchers. The researcher is encouraged to apply this technique with these two applications in mind. The study addressing injudicious dispensing of antibiotics described above involved three authors with an interest in public health. The first author was a former practicing pharmacist with an interest in research exploring pharmacists' behavior. The second author was a non-practicing physician with an interest in public health and antimicrobials, while the third author was a primary care practitioner.³² The presence of practitioners and non-practitioners, a pharmacist along with physicians, meant that a diversity of perspectives were used allowing for credibility and a richer interpretations when analyzing data. So, for example, research physicians and the research pharmacist recognized the role of patient pressure in providing antibiotics to patients, which improved credibility in that finding. On the other hand, the researcher with pharmacy background provided additional insights on the role of the ministry of health inspection mechanisms in relation to community pharmacists, which were related to his prior experience.

Theoretical triangulation: When using theoretical pluralism, the researcher combines multiple perspectives and frameworks to explore and make sense of a single data set. Contrasting with the data and investigator triangulation, this method usually involves using experts outside the study main area, from different disciplines or positions. When interpretations are convergent, research findings are assumed to be credible.^{26,27} One example that demonstrates this, is a study where Kotter's model of change management was used simultaneously with the normalization process theory, a sociological tool, to explore the implementation and sustainability of medication reviews in older patients by clinical pharmacists.³⁴ This combination provided a more rigorous support to explore events, actions as well as other factors involved in the investigated process.

Environmental triangulation: Somewhat similar in concept to data or methodological triangulation, this type of triangulation is seldom employed.³⁵ This method uses a range of different settings, such as varying locations, times, days, seasons, and other relevant factors related to the 'ecosystem' in which the study takes place. Again, if the findings endure across varying environmental conditions, then the researcher can be more confident in the evidence found. One example is given by a pharmaceutical education intervention study, in which Introductory Pharmacy Practice Experience (IPPE) students and Advanced Pharmacy Practice Experience (APPE) students experienced a layered learning model (LLM) for developing ambulatory clinical skills.³⁶ Both IPPE and APPE students, who participated in the LLM completed a mixed methods course evaluation addressing their experiences in three traditional semesters. Each semester comprised a different environment where the schedule varied with some IPPE students attending alone or in pairs, which provided a more comprehensive understanding of the impact of the LLM. As a note, environmental triangulation should not be understood as an ecological triangulation, with the latter being conceptualized as an approach to qualitative meta-synthesis.³⁷

Benefits of triangulation is the increase in findings' credibility as well as a providing a richer and more elaborate understanding of the phenomenon under investigation. If the researcher is looking for assembling findings on to the same conclusion, triangulation contributes to improved credibility by overlapping data sources, checking, and confirmation.²⁴ However, when interpretive, critical, or postmodern paradigms are predominant, reality is viewed as multiple, fractured, and/or socially constructed. In this case, study credibility should emerge from crystallization rather than triangulation, i.e. the practice of using multiple data sources, researchers and lenses contributes to a more complex understanding where multiple truths are being constructed.³⁸ In Patton's words, "*data inconsistencies should not be seen as weaken evidence, but an opportunity to uncover deeper meanings*".³⁹ So, for example, if a number of researchers are identifying transcribed data where analysts agree on a certain interpretation, this would be a good indicator of reliability. However, when one of the analysts provides a view that is different from what the majority of the team comprehended, the "minority" view should not be ignored or shunned. Instead, this point of view should be closely discussed, examined and further explored to make sure it is equally presented in the final report. All researchers would discuss not just the interpretations they reached but also how they reached them allowing for transparency. This is particularly important since qualitative researchers often approach their research questions with relativist ontology where that reality is to be constructed through the meanings and understandings that are developed socially and experientially. It also contributes to the authenticity of the study as will be discussed below.

Perhaps the main disadvantage of triangulation is that it can be resource consuming, by adding layers of time, effort, and expense. Furthermore, while valuable, contradictory findings from different sources pose additional challenges leading to analytical tension and latent conflict between research team members when reporting results.²⁸

Peer debriefing

Peer debriefing is a technique used to establish a study's credibility. It involves the researcher exposing oneself to a disinterested peer who would examine aspects that may remain implicit in the researcher's mind.¹⁶ By answering questions from the peer debriefer, a researcher can reflect on biases affecting different aspects of the research process including the research question formulation, methodological design and interpretation. Ideally, the peer debriefer should have considerable knowledge of the studied topic and the method used to investigate it. Also, the peer debriefer should be of equal status; so for example, having a committee member serve as a doctoral student's peer debriefer would not be recommended. While the peer debriefer should be playing the role of the devil's advocate, Lincoln and Guba¹⁶ encourage a peer debriefer to be empathic when providing feedback to a fellow researcher. Peer debriefing sessions themselves should be documented to be a reference for the researcher and to help with the audit trail as will be explained below.

While a peer debriefing may appear similar in some aspects to investigator triangulation in having multiple parties contribute to the research process, it is important to note the differences. Unlike in peer debriefing, investor triangulation does not require the fellow investigator be of equal status. So, with investigator triangulation, a more seasoned researcher can contribute to a research project that is led by a novice researcher with all their interpretations equally considered. Moreover, a peer reviewer is likely to take a broader look at the various details of the research project beyond the analysis. A peer debriefer should be a disinterested party, which is not the case of the fellow investigator employed in investigator triangulation who would likely be a partner in the entire research process.

Peer debriefing has been mentioned in a study assessing perspectives of children and parents regarding pediatric patients' knowledge

and medication use experiences for chronic conditions and community pharmacist-provided counselling.⁴⁰ It was also used in a study examining stakeholders' experiences and views on the logistics of setting up and maintaining pharmacy services in general practice in the UK.⁴¹ The second study specifically used peer debriefing for feedback on interviews and in the development of understandings of the examined processes.

Negative case analysis

Negative case analysis, also called the analysis of deviant cases, involves deliberate sampling, searching for, and discussing of elements in the data that do not support or appear to contradict the findings emerging from data analysis.¹⁶ It is a process for refining the analysis until it is possible to explain or account for all known cases, actually broadening and confirming the patterns emerging from data analysis.¹⁶ By actively seeking cases that contradict or conflict with the predominant theory, the researcher develops an understanding about why these outliers exist, amplifying their understanding of the data strengths and weaknesses, and reinforcing the study findings trustworthiness.⁴² Negative cases often provide the key to recognize the norm and are critical to understand the whole phenomenon.²⁴

There are few examples of actual studies reporting overtly negative case analysis in pharmacy research. One example concerns how pharmacists' ethical attention, reasoning, intention, and action may contribute to decision-making; the predominant ethical inaction and passivity emerged from negative opposite cases of ethical attention and action.⁴³ Two related papers, one describing pharmacists' isolation and subordination to physicians as explanatory factors of ethical inactivity and a previous paper exploring the nature of pharmacists' ethical dilemmas, also made use of deviant cases, with these exceptions actually lending further support to data analysis.^{44,45} Rieck and Pettigrew⁴⁶ assessed physicians' and community pharmacists' (CPs) perceptions of the CPs' role in Australian primary care and how these perceptions may influence the quality of physician/CPs chronic disease management programs. Here, the negative cases were recruited purposively by the interviewer being made aware during previous interviews, enabling the emergence of a more complete description of physician/CPs collaboration.⁴⁶

The advantages described previously are mostly based on the gap between the expected outcome and the explanation sparked off by the deviant cases.⁴⁷ These draw the researcher's focus on to why the outcome predicted by the previous results or a theory did not occur, which is often more useful to study credibility than a repeated examination of positive cases. The detailed empirical knowledge of a single case may be a fruitful mechanism to discern credibility, knowing that dissimilarity improves the understanding of new principles when compared to no variation underlying generalization. A second advantage relates to the easier distinction between important and irrelevant events, processes, structures, and patterns; in practice, these are much more difficult to confirm when there are negative cases, since all cases actually contributed to the outcome.⁴⁷ The main disadvantage from negative case analysis is similar to that described in the triangulation section, especially additional resources consumption, mostly associated with the need to perform an efficient search for deviant cases, which may be hard for the researcher to locate.

One way to apply a negative case analysis begins with sampling, i.e. to purposively select participants that are known to provide opposing viewpoints. Their opinions are carefully analyzed, and additional cases are sought and compared, aiming to reach saturation.²⁴ Saturation means that no new or additional data are found by which a researcher can develop attributes of a category.⁴⁸ It has attained widespread acceptance as a methodological principle in qualitative research and is widely viewed in health services research. Worth noting, however, is that saturation's position as a gold standard in assessing quality has been questioned. Another debate is whether saturation should be

viewed as an event or a process. Saunders et al.⁴⁸ argue that considering saturation as a process would encourage authors to provide evidence for saturation rather simply stating the number of participants with whom saturation has been reached. In that sense, an analysis would not unexpectedly become 'rich' or 'insightful' after that one particular interview but, instead, would become richer or more insightful. To encourage the use of saturation in such a way that meets the aims of the research, Saunders et al.⁴⁸ described four models of saturation that vary in the extent to which an inductive or a deductive logic is followed and the relative prominence of data collection, data analysis, and theorizing. When used, saturation models should be operationalized in a way that is reflecting of the research question, theoretical position, and analytic framework.⁴⁸ Additionally, pharmacy researchers, especially those with interest in grounded theory, might benefit from being familiar with *abduction*, an inferential process that utilizes surprising research evidence in producing new hypotheses and theories.⁴⁹ This approach fits with grounded theory, since it involves moving back and forth between data and theory iteratively; it also fits within the constructivist paradigm where anomalies would be investigated with great detail rather than shunned.

Thick contextual description

With qualitative research, transferring the results of a study is ultimately the responsibility of the reader.¹⁶ The reader, however, should not be alone in this endeavor, and this is where thick description comes into importance. The qualitative researcher has the challenging task of providing thick descriptions of the setting, subjects, and other persons involved, quotes, and other data compelling interpretation and synthesis to position the reader to (if deemed applicable) transfer the findings to their own context.

Transferability in qualitative research, perhaps especially in an applied field like social pharmacy, can be hindered by a superficial investigation of the issue of interest. Qualitative studies in pharmacy may limit reporting to categories like barriers and facilitators that are presented for a very specific context. Such articles may not contain the requisite thick description about the phenomena, motivations, and social meaning of those involved to leave the specific pharmacy setting. Ideally, a study would add to a deep understanding within pharmacy settings and even transcend to other health professions and other helping professions like education or social work. While not every qualitative study in pharmacy has the potential to transcend fields, researchers must push themselves to dig further and seek deep understandings (thick interpretations) of persons and their systems.

Qualitative researchers aim to leverage the time spent carefully collecting, interpreting, and reporting data to lead to meaningful findings that are useful to stakeholders and others, add depth to how issues and phenomena are understood, and make theoretical insights about people and systems that can be applied, and thus transferred, beyond the original context. Transferability, sometimes referred to as applicability,^{16,50} is the aspirational product of rigorous qualitative studies that contain thick description and thick interpretation.

Thick description is often used in describing qualitative research methods but too often without apparent substance. Denzin⁵¹ described thick description as going beyond facts and surface appearances. He suggests thick description should illuminate social interactions and their meanings. Situations should be presented in a way that the significance of the background and context to communicate the significance of what is going on. Thick descriptions lend themselves to thick interpretations.⁵² This is important for two main reasons. First, thick description is seen as a form of building trustworthiness and validity. The reader can see for themselves the depth of the data and analyses. Second, the depth of the descriptions allows the reader to determine how the study findings may transfer to other situations.

One way to consider the concept of thick description is in contrast to thin description.⁵² An example of thin description may be a study

yielding “time constraints” as a barrier with little depth to the meaning of the concept with regard to how it affects actors and their motivations, changes over time, or how the interplay of different persons and systems contribute to an overall picture. A more in-depth exploration of a “time barrier” may yield that there are conflicting priorities at the site and that someone in power is aligning incentives for the pharmacist to engage in other activities, thus contributing to detachment among employees. Thin description presents itself in studies that simply list codes with little or no integration, as if topics voiced in interviews were independent and exist in a vacuum. Thin description may be an indication that the researchers needed more time in the field, more subjects, and more observations. On the other hand, as noted above, persistent observation and prolonged engagement serve for a thick description that advances our knowledge of a certain topic.

A potential misconception about thick description is that it is all about providing copious details about the setting, that it was a rainy day or that there was a large stack of manila folders in the interview room. Ample detail should be included, especially in the methods and communicated to the reader as a means to establish credibility. However, through persistent observation, researchers should carefully consider what detail is needed to so they can be privy to people's motivations, intentions, or the social system being analyzed. While details should be provided to give the reader a vivid experience, this can be difficult due to the temptation to tell rather than show or demonstrate to the reader.³⁸

External audit/audit trail

An audit is a unique technique for trustworthiness, in the fact that like reflexivity, it can be used to establish more than one of the trustworthiness sub-criteria. Lincoln and Guba¹⁶ encourage the reader to compare an audit for a qualitative study to a fiscal audit, which involves an official financial inspection of an organization's accounts by an independent auditor. By examining the *process* by which the research has been carried out, the auditor can corroborate the study's *dependability*. While by examining the *product*, emerging data and interpretations, *confirmability* can be established. Ideally, the auditor should be disinterested, experienced in the methods and the topic studied, and reasonably close in status to the auditee that no one dominates the other. A key part in the external audit process is the establishment of an audit trail, which in its own can contribute to a researcher being cognizant of decisions being made. An audit trail is a residue of records originating from a research endeavor.⁵³ The Halpern audit trail categories are 1) raw data, including recordings, field notes, and other documents; 2) data reduction and analysis products, including summaries; 3) data reconstruction and synthesis product, including themes, results, conclusions, and reports; 4) process notes, including notes related to methods used and trustworthiness; 5) materials addressing intentions and dispositions, including reflexive notes; 6) instrument development information, including pilot forms and observation charts.⁵³

The audit process itself consists of 1) *preentry*, where the auditor and the auditee meet and see if the audit would be useful and accordingly decide if they want to continue, continue conditionally or discontinue the audit; 2) *determination of auditability*, where the auditor familiarizes him/herself with the study and determines if the audit trail is comprehensible, complete, and useful; 3) *formal agreement*, which should include a timeline for the audit, audit's specific goals, roles of auditor, and auditee; logistics; and format of the audit report; 4) *determination of trustworthiness criteria*, where confirmability, dependability, and possibly, credibility are assessed; and 5) *closure*, where the auditor meets the auditee and provides feedback before writing a structured final report.

While the process may appear to be onerous to some researchers, Lincoln and Guba¹⁶ argue that even in sophisticated projects, it can be done in seven to ten days. Other than effort and logistics, external audit presents a unique challenge. If the auditor is contacted at the end of a

project and finds issues with its trustworthiness, it would be too late to make changes to salvage the study. On the other hand, if the auditor is brought earlier, the auditor may be “coopted” into a role different from the one intended by the researcher calling disinterestedness into question.

While the authors have not been able to identify an example of a pharmacy study using external audit and audit trail, a few examples from other areas of health services research may be useful to the reader. Using grounded theory, researchers explored perceptions of prevention practitioners regarding their new role in the Building on Existing Tools to Improve Chronic Disease Prevention and Screening in Family Practice (BETTER) Trial. This included the development of the practitioners' role, perceived barriers, facilitators, benefits, and disadvantages as well as exploring the feasibility and sustainability of this approach for chronic disease prevention and screening (CDPS).⁵⁴ In that study, researchers documented their activities through an audit trail, journals, field notes, and memos. The audit trail consisted of a “step-by-step chronological accounting of the project activities including interviews, discussions and decisions.”⁵⁴ Another example comes from a study that aimed to provide an in-depth understating of “the conditions of engagement” necessary for a therapeutic relationship between physiotherapists and their patients.⁵⁵ In addition to maintaining an audit trail, researchers reported employing an external audit on completion of the project, which confirmed that the described research process was complete and the quality and nature of the results were in harmony with the described process.⁵⁵ Researchers properly acknowledged the contribution of the external auditor in their paper.

Reflexivity

Reflexivity is unique in the fact that it can be used for establishing all trustworthiness sub-criteria. It provides researchers with means to deal with the inherent influence that the researcher brings to this type of investigation. It is both the positioning of the researcher⁵⁶ and a systematic approach for the researcher to be attentive to their role in the construction of knowledge during each step of the research process.⁵⁷ Qualitative research has struggled with how to deal with a positivist approach to knowledge construction. Accordingly, reflexivity is expected and logically argued to have become a standard for evincing rigor in qualitative investigations.⁵⁷ The situated nature of qualitative knowledge construction, the uncertainties and incompleteness, and the context and conditions under which knowledge is produced become more available for the reader to interpret for themselves when reflexivity is properly attended to in research.⁵⁶

It may be argued that all research is reflexive, as awareness of one's own reality is the only avenue by which we may come to know, interpret, or understand any reality. Reflexivity accounts for these researcher preconceptions during each stage of the research process, including choice of research domain, question, methodology, data collection, data analysis, and in the writing and presentation of findings.⁵⁶ Bias would not be eliminated, but it can be accounted for in this process. The issue of subjectivity emerges as an issue if the effect of the researcher is not taken into consideration.⁵⁷ This is particularly important since researchers do not enter the field naively.⁵⁸ They bring a background of experience, both personal and professional, to the investigation including beliefs about reality, what needs to be investigated, qualifications to do so, and theoretical and educational interests.⁵⁷ Any preconceptions of how things are perceived must be accounted for prior to and during the research process so that any influence can be transparently noted. These personal sources of interest can be strengths, as long as they are accounted for in the research. With proper attention to reflection and awareness, the researcher is co-constructing knowledge, deeper insights and, thus, potentially richer understanding of a given human experience.

As researchers, we must account for these reflections in our writing to frame limitations and strengths and transferability of findings.⁵⁹ The

tension for the researcher is the openness to criticism that may ensue with the vulnerability that reflexive writing and process may provide.⁵⁷ In the end, we collaborate with our research participants. As in any relationships, feelings may emerge that are important to account for, as they may provide insight into our understanding of the topic. On the flip side, we may have blind spots that compromise our ability to detect aspects influencing our understanding. Additionally, the disciplinary or theoretical perspectives chosen for the research may influence how the data are analyzed and presented, and, thus, influence outcomes.⁵⁶ Reflexivity executed, and then communicated via the text, has the potential to provide a credible and trustworthy account of the research process and knowledge produced.

The practice of reflexivity is encouraged through the use of effective record keeping. Throughout the research process, all assumptions, decisions, interpretations, and reflections should be documented.⁵⁶ Several techniques may facilitate this process, including careful notetaking regarding choices available, decisions made and why, changing directions, and personal reactions. For example, one can look at the research question and how it is framed for insight, motivations for interest in a particular topic, the basis for selection of interviewees and choice of interview questions, and expectations about what the research may yield.⁶⁰ Carefully used, posing “why” questions such as “Why this?” and “Why not that?” may allow the researcher to delve more deeply into the underlying motivations for choosing a topic or engaging a particular aspect of research in order to better understand the effects this may have on the research process.⁶⁰ During the data collection phase, personal thoughts and feelings that may be prompted during this process should be collected to encompass the differing reactions that likely arise for the researcher with different participants. This will inform the analysis alongside the research collected data.⁶⁰ Throughout, one should ask difficult questions of oneself⁶⁰ and maintain these reflections as well as thoughts and experiences in a research diary or journal before, during, and after data collection and analysis.⁶¹ These insights may provide the basis for competing conclusions from the findings.⁵¹ Alternatively, they may occur only once then can be justifiably ignored later if their relevance is lacking. These insights should, however, be captured unedited and followed through.

A number of studies described the use of reflexivity in the social pharmacy literature. Witry and Doucette⁶² acknowledge their position as pharmacists with an interest to advance the pharmacy profession. They employed contact summary forms, check coding, and regular meetings as strategies to help foster reflexivity, which helped assist in reflection and documentation of the process as well as assisted in being cognizant of and in managing inherent biases.⁶² Garcia et al.⁶³ discuss the possible influence that the undergraduate master pharmacy student may have had on their study findings. The student's background as an inexperienced qualitative researcher who had positive perceptions about the program may lead to different findings than an experienced qualitative researcher, someone with negative perceptions about the program, or someone with a different professional background.⁶³ In another instance, Hanna et al.⁶⁴ discuss how the use of debrief meetings was used to accomplish reflexivity as a team. While it was encouraging to find a number of social pharmacy studies mentioning reflexivity as trustworthiness technique, discussions were often too brief and did not elaborate on the impact that reflexivity had on findings. To be meaningful for the reader, we suggest reflexivity be discussed in detail to shed light not just on how it was employed, but also on its possible influence and to help situate findings.

Transparency

While not described separately as part of trustworthiness criteria, it is important for qualitative pharmacy researchers to reflect on transparency, the principle that researchers should make key components of their work visible to peers, as a key indicator of quality. In arguing for transparency as a precondition for quality, Moravcsik⁶⁵ cautions that

without it, many key aspects of the research including perceptions, beliefs, interests, processes, and even choices would be assumed or implied than actually depicted in an empirical manner. He argues that transparency has three dimensions: data, analytic, and production transparency. *Data transparency* gives readers access to the evidence and data that a researcher has used when making research claims. Transparency with data allows readers to consider the richness and nuance of what sources say, assess how they relate to claims made, and evaluate whether data have been interpreted and analyzed in a sound manner. Second is *analytic transparency*, which involves the provision of information about data analysis-how the researcher addressed interpretation and inferred that the evidence supports a specific claim. Going through this process would allow the researcher to consider multiple interpretations and one's own motives. This would serve quality by having the research team weigh alternative sources and interpretations and assess ambiguities, strains, contradictions, as well as synergies that exist among them. Finally, *production transparency* provides readers with access to information about ways by which specific cited evidence, arguments, and methods were selected from among the full body of possible choices. Thus, production transparency requires that researchers would explain how choices of evidence, theory, and method were made. This would be particularly significant with some projects where researchers report the use a certain method, such as focus groups for example, without providing any elaboration on such choice.

Authenticity

Lincoln and Guba⁶⁶ argue that trustworthiness criteria make an incomplete set because they deal only with issues that loom important from a positivist paradigm. The positivist standard criteria are primarily *methodological*, overlooking such issues as power, pluralism, multiple values, representation, empowerment, and accountability. To address these issues Guba and Lincoln⁶⁶ proposed the term authenticity. This addition takes the influence of context into consideration by addressing additional intrinsic naturalistic criteria. Certain initial conditions are prerequisite to achieve authenticity sub-criteria, including fairness, ontological authenticity, educative authenticity, catalytic authenticity and tactical authenticity. First, respondents ideally are to be drawn from all at-risk groups, fully informed consent is to be in place, caring and trusting relationships are to be nurtured, inquiry procedures are to be rendered transparent to all participants and audiences, and participant-inquirer collaboration has to be built into every step, with full agreement on the rules to govern the inquiry and with information fully shared. Besides, the inquiry report is to be available to all respondents and audiences. Finally, a clear mechanism is to be established in cases of conflict or disagreement.⁶⁶ What follows is a brief discussion of each of the sub-criteria, together with recommended procedures/techniques to establish them as they are described by Guba,⁶⁷ followed by concrete examples of where the specific sub-criterion has been applied or might fruitfully be applied.

Fairness

Fairness is defined as “the extent to which all competing constructions of reality, as well as their underlying value structures, have been accessed, exposed, deconstructed, and taken into account in shaping the inquiry product, that is, the emergent reconstruction”. Of all criteria of authenticity, *fairness* is considered to be most important.⁶⁷ It is particularly relevant in a qualitative study since, in a “value bound” inquiry, a researcher has to make every attempt to avoid a situation where some values are suppressed with their holders exploited and that others will be enhanced with their holders advantaged. Noting “value-pluralism”, a researcher attempts to clarify and honor constructions in a balanced, impartial way as attested by multiple parties.⁶⁶ One should ask about the way analysts proceeded with their tasks. This would not be

guaranteeing balance (since nothing can), but at least it would improve the likelihood that balance is well approximated.⁶⁶ Specific procedures/techniques should be followed to fulfill a balanced view that presents all possible constructions and the values that uphold them. All the previous constructions of participants and researchers are to be obtained, compared, and contrasted, with each enjoying similar privilege; respondents and inquirers are to negotiate the kind of data to be collected, methods that will be employed, interpretations to be made, modes of reporting, recommendations, and actions to be proposed. Additionally, introspective statements about changes experienced by participants and researchers are to be collected, and the extent of empowerment felt by participants, such as patients, is to be assessed.⁶⁷ Procedures would include a “negotiation”; that is, ideally open, carried out from equal positions of power, and under circumstances that allow all sides to possess equally complete information and carried out by “bargainers” of equal skill.⁶⁶ The negotiation should focus on all relevant matters with rules that are agreed upon. Techniques that serve fairness included member checks, thick description along with peer debriefers and auditors. Other steps include continuous fully informed consent with respect to an evaluation's procedures and constant member-checking as described earlier. Finally, *fairness* would require defining mechanisms that should be agreed upon if one party senses that agreed upon rules have not been observed by others.⁶⁶

An attempt to incorporate *fairness* as a criterion in a pharmacy practice study might be the above described study by Herborg, Haugbølle and Lee¹⁸ on dose-dispensing. The fairness criterion was addressed in the study in several ways. First, all interviews were guided by the same detailed interview guide -though adjusted depending on developing meanings and on whether the interview was performed at the user level, a practitioner level, or at decision maker level. This gave all participants the chance to make their opinion heard on different aspects of the issue. Second, the same social constructivist theoretical approach was used to analyze all interviews. Most importantly, the three discourse types identified in the study were not labelled as “truths”, but as social constructions true for the specific relevant group embedded in the discourses. Last but not least, the authors explicitly mention that they are also “voices” in the discourse system having selected, described, and discussed the most meaningful interpretations possible to establish encompassing the empirical material.¹⁸

Ontological authenticity

Ontological authenticity is defined as “the extent to which individual respondents' (and the inquirer's) early *constructions are improved*, matured, expanded, and elaborated, so that all parties possess *more information*, become more sophisticated in its use, and get their consciousness raised”.⁶⁷ In some cases this will entail “realization of contextual shaping”, while in others it will mean better appreciation of complexities previously not accounted for adequately or at all.⁶⁶ Helpful procedures for fulfilling the ontological authenticity criterion include establishing clarity of participants' and researchers' a priori positions; comparison of participants' earlier and later constructions; solicitation of participants' and the researcher's introspective statements about their growth, as well as the testimony of selected participants regarding their changing constructions; and the establishment of an audit trail demonstrating changes made.⁶⁷ Examples of ontological authenticity applied to social pharmacy research can be found in phenomenologically and/or hermeneutically based studies. An interesting example addressed ontological understandings of consultant nurses and midwives in how they approach patient care delivery in difficult situations.⁶⁸ The authors describe how participants came to an understanding that they must develop new pathways to being clinically effective. When they sensed that the effectiveness of patient care was jeopardized, they then chose to break through barriers and introduce changes for themselves and for the organization.

Educative authenticity

Educative authenticity is defined as “the extent to which individual respondents (and the inquirer) possess *enhanced understanding* of, appreciation for, and tolerance of the constructions of others outside their own stakeholding group”.⁶⁷ Helpful procedures include: having a peer debriefer and an external audit, comparison of participant's and researcher's assessments of the constructions held, introspective statements about their understandings of others' constructions, participant testimony, and maintenance of an audit trail.⁶⁷ An example of a social pharmacy study in which educative authenticity was an explicit quality criterion is a pharmacy-based, action-oriented study on cognitive services conducted by pharmacy interns.⁶⁹ The basic tenet of the project was the *learning* for all parties that were involved. The study steering group considered pharmacy preceptors' practical knowledge and researchers' theoretical knowledge as equal prerequisites for being able to carry out the study. When learning was investigated among different parties, it was found that not all of them had learned equally. Whereas researchers and pharmacy preceptors in the steering group entered into a lengthy learning process, the individual pharmacies tended to see the study as just one of many options offered to them, which discouraged them from wanting to take on further obligations. Similarly, the pharmacy interns found participating in the study during the duration of their internship to be appealing as long as it did not demand too much of their time.

Catalytic authenticity

Catalytic authenticity is defined as “the extent to which *action* (clarifying the focus at issue, moving to eliminate or ameliorate the problem, and/or sharpening values) is stimulated and facilitated by the research being carried out”.⁶⁷ The argument for catalytic authenticity is that knowledge in and of itself is insufficient to deal with the different issues that participants raise during the research process. Thus, for elucidation, deliberate action must also be described. Useful procedures include: developing a joint construction that aims at consensus when possible or an explication of conflicting values, including the assignment of responsibility and authority for upcoming action(s); plans for participant-researcher collaboration; accessibility of the produced report; and evidence of practical applications. A well-planned follow-up over time to assess the sustainability of outcomes and gathering testimonies of a sample of participants would also be helpful techniques. The pharmacy practice example of catalytic authenticity comes from the action study mentioned above, this time described in Haugbølle et al.⁷⁰ The paper specifically maps actions taken and decisions made in study pharmacies as to changing counselling practices towards angina pectoris patients. In 29 (85% of the participating) pharmacies, decisions were made following the study to develop and implement different activities for angina pectoris patients. Two main types of activities were suggested by the 29 pharmacies, namely different staff-oriented and patient-oriented activities. Staff-oriented activities were organizing and holding meetings for pharmacy staff, developing or adapting brief instructions to staff on angina pectoris, and developing or changing policies and instructions on counter procedures were initiated in 23 pharmacies. Patient-oriented activities such as handing out pamphlets, improving over-the-counter counselling and holding open meetings for pharmacy customers were initiated in nine pharmacies.

Tactical authenticity

Tactical authenticity is defined as “the degree to which all participants are *empowered* to take the action(s) that the inquiry implies or proposes.”⁶⁷ Useful procedures/techniques applicable when striving towards tactical authenticity include confidentiality, negotiations addressing the kind of data that would be collected, how these data will be interpreted and reported; using elaborate and clear consent forms;

member checking; and early agreements about power. As the reader would imagine, participants' and stakeholders' testimonials indicating they were empowered during the study and afterwards during follow-up activities would serve as the best indicator of tactical authenticity. Tactical authenticity bears resemblance with the design action research, described above in a study by Sørensen and Haugbølle.^{65,66,71} An action-oriented (or co-construction based) study which does not empower and/or raise collective awareness among specific, selected group (patients, vulnerable groups, selected group of health care practitioners, etc.) does not fulfill the tactical authenticity criteria.

Guba and Lincoln⁶⁷ argue that perhaps the most significant accomplishment to date related to the authenticity criteria is simply its existence, a demonstration of the fact that it is possible to think outside in more creative and suitable ways about quality assessments.

Final thoughts

While this commentary provides guidance on promoting rigor in qualitative research, it is not meant to be a comprehensive manual on conducting qualitative research methods. The reader is encouraged to review some of the classic texts cited in this manuscript for guidance on how to design and conduct qualitative research.

Second, this commentary does not expound upon the importance of sound conceptual and/or theoretical underpinnings as critical to the success of qualitative research endeavors. That has been explained elsewhere, including within this journal⁷³; so to that end, it will not be elaborated upon further in this commentary beyond stating that the authors herein and the journal, itself, firmly believe in the importance of a theoretical basis or in some cases the induction of theory from qualitative inquiries. In considering trustworthiness and the techniques used to discern it, the need for a solid and sound basis for the qualitative study becomes apparent, as the various techniques discussed here, including triangulation, negative case analyses, reflexivity, and thick description will be more successful under the auspices of a solid theoretical foundation. It is difficult to imagine thick description and its resultant transferability in the absence of such a foundation, or, likewise, how the results of a negative case analysis will not become muddled, even impossible to make sense of, without a sound basis for inquiry. Likewise, a strong foundation also assists with the establishment of authenticity, an emerging facet to establishing the rigor in a qualitative study.

Third, the reader should also be made aware that other ways of establishing rigor have been suggested by others. Some qualitative researchers share the view that no set of criteria should be used in evaluating qualitative research. Hammersley,⁷² for example, argues that qualitative research should focus on political action rather than production of knowledge. Notwithstanding, he suggests that “certain” criteria, in the form of “guidelines,” can contribute to improved rigor of qualitative research. Others propose an approach to qualitative research evaluation that further emphasizes pluralism through reflexive dialogue and agenda based on engagement, processing, interpretation, and (self-)critique while dealing in a reflexive manner with preconditions and consequences of research, critique, usefulness, relevance, and ethics.⁷⁴

The reader is encouraged to examine those other guidelines and make a choice of the approach that would establish rigor in qualitative study he or she is planning. However, one way or other, the author is expected to demonstrate evidence of rigor in a manuscript describing qualitative research.

Finally, the authors would like to alert the reader that it is not expected for one study to apply all the trustworthiness or authenticity criteria concomitantly. That is practically not feasible. According to Creswell,⁷⁵ researchers should utilize more than one in any qualitative study. As Morse²⁴ recommends, we encourage authors to study all those sub-criteria carefully and make decisions on why and how they have been used. While it was encouraging to see social pharmacy articles

mentioning the use of the described quality criteria, quite often the description of how they were utilized and how they impacted the research inquiry was lacking. These details should be included in qualitative manuscripts along with philosophical/paradigmatic standpoints of authors. The underlying point is that documenting the evidence of trustworthiness and authenticity provides the reader with greater confidence in the study results. In no one type of study can 100% confidence be inspired, regardless of methodological approach used or discipline/area in which the study was conducted. More [evidence] is better, but given the nature of science, all [complete evidence] is not possible.

Conclusion

This commentary provided an explanation of each of the criteria of trustworthiness proposed by Lincoln and Guba (*credibility, transferability, dependability and confirmability*) and different techniques used in establishing them. It also provided an overview of authenticity, a more recent and less widely used set of criteria that has been specifically designed for qualitative research. Those included *fairness, ontological authenticity, educative authenticity, catalytic authenticity, and tactical authenticity*. For each of these terms, the commentary provided examples from the literature where the criteria have been used.

Research in Social and Administrative Pharmacy (RSAP) was founded as a vehicle to advance the discipline by publishing theory-driven and methods-intensive research. It is hoped that this commentary contributes to this message by providing guidance that assists authors, reviewers, editors, and even readers when considering the quality of qualitative research manuscripts addressing social pharmacy issues.

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