Collaborative Coding in Multi-National Teams: Benefits, Challenges and Experiences Promoting Equitable Research

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Abstract

Within multi-national research collaborations, power dynamics often shape who is involved in which parts of the research process. The analysis phase of research has historically been framed as requiring expert perspective, excluding national or local researchers whose role is often limited to collecting data and transferring it to others to analyze. In this paper, we describe and reflect on the process of collaborative coding across a multi-national team based in Lebanon and the United Kingdom, as part of a broader approach to co-production. We explore the value and benefit of collaborative coding, reflecting on how coding together enabled greater inclusion, teamwork, improved analysis as well as improved future data collection. We also discuss the technical and logistical challenges we faced in coding within a team and using internet-based software, including the complications involved in navigating power dynamics between researchers and coming to final decisions about codes. Over time, we found collaborative coding became a smoother process, however working in this way is not straight-forward. Our paper contributes a reflexive analysis on the power dynamics and decision-making complexities involved in collaborative coding. It emphasizes the importance of investing in interpersonal relationships over time and prioritizing less-centralized decision-making within research collaborations.

Keywords

coding, power dynamics, collaboration, team-based, data analysis, reflexivity, co-production

Introduction

Data analysis is an important part of the research process. For qualitative research, data analysis involves understanding 'meanings' and 'interpretations' (Järvinen & Mik-Meyer, 2020, p. 3). Qualitative analysis enables 'new ways of seeing' (Bansal et al., 2018, p. 1189). Analyzing qualitative data is not a step-by-step procedure, rather, requires a 'nonlinear, iterative process' (Lester et al., 2020, p. 99). Guidance on how to conduct qualitative analysis has historically been limited, compared to guidance on quantitative analysis (Järvinen & Mik-Meyer, 2020).

Collaborative and team-based approaches to conducting research are becoming more common (Driedger et al., 2006), with recognition that including multiple perspectives in research analysis helps to improve trustworthiness (Patton, 2015) and may reduce the top-down hierarchies often present in research collaborations (Hall et al., 2005). In many cases, these hierarchies stem from differences in status and positions already present within academic research (Bryan et al., 2002), as well as from power dynamics such as race, ethnicity, gender and other social factors (Blumer et al., 2007; Bright & VanScoy, 2021). In humanitarian settings, these power hierarchies are linked to racial and colonial power dynamics (Sukarieh & Tannock, 2019).

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Scholars argue the process of establishing reliability in qualitative research is not solely scientific, but also social (Sanders & Cuneo, 2010), emphasizing the importance of coordinating work in a team setting and adjusting based on the work of others (Hall et al., 2005). Mauthner and Doucet suggest (2008) however that 'the social science community has been mostly unreflexive and uncritical in its adoption of team-based research models' pointing to the need for greater reflexivity on collaborative research (p. 972).

Within global health and humanitarian research, data analysis tends to be conducted by those outside of the research setting, including by decision-makers such as senior researchers in higher-income countries, who are not directly involved in data collection. This affects the quality of analysis and limits collaboration (Lokot & Wake, 2021). The exclusion of national or local actors from the analysis phase of research and from collaboration efforts in general, stems from long-standing research and funding models, where research funding is provided to academics in higher-income countries or humanitarian actors who then sub-contract 'local' research assistants to conduct data collection. Those collecting data are often alienated from the research process (Sukarieh & Tannock, 2019). These forms of subcontracted research labor are described as a form of 'hidden colonialism' that renders local research team members more vulnerable to exploitation whilst 'silencing' their contributions to knowledge production, such as in research publications (Sukarieh & Tannock, 2019, p. 666).

In this research note, we reflect on the experience of collaborative qualitative research (and specifically, collaborative coding) within a multi-national research team as part of the 'GOAL' project. 'Supporting government and partners in health system strengthening for better mental health of Syrian refugees and host communities in Lebanon,' or 'GOAL', is a 3-year research project funded by the United Kingdom's Global Challenges Research Fund. Within GOAL, our analysis approach was intentionally collaborative as part of a broader strategy in the project to incorporate co-production principles into our work. Co-production 'tackles unequal power dynamics, challenges existing knowledge production hierarchies, ensures more equal partnerships and shared decision making, emphasises reciprocity, promotes mutual capacity strengthening, ensures greater reflexivity and enables flexible ways of interacting and working across the research cycle' (Lokot & Wake, 2021, p. 9). In emphasizing collaborative analysis, we sought to mitigate against the structural inequities and colonial influences often present in research processes, especially multi-national research partnerships. Even when unintentional, these inequities can result in exploitative collaborations. Conducting collaborative coding was an intentional strategy within the research project, with the aim of ensuring all partners had an equal stake in the research and improving the quality of analysis through the inclusion of multiple perspectives.

The Collaborative Coding Approach

The use of collaborative approaches in qualitative research has been a growing phenomenon over the last few decades (Bryan et al., 2002). Shifting away from the idea of the 'lone researcher' conducting qualitative research isolated from their environment, the increased use of collaboration in research coincides with the emergence of theories and practices on the 'social nature of research', including shifts towards reflexivity and the consideration of social relations in the interpretation and analysis of data (Wasser & Bresler, 1996, pp. 5–6). Wasser and Bresler (1996) use the concept of the 'interpretive zone' to emphasize the value provided by drawing on multiple, differing perspectives to deepen the quality of analysis (Wasser & Bresler, 1996, p.6). Their approach reminds us that knowledge production is a social process, shaped by interaction.

The benefits of collaborative coding are numerous. Collaborative coding allows space for local interpretations and understandings to emerge – particularly important considering critiques of traditional approaches to analysing data that privilege the perspectives of 'international' actors outside the setting over local perspectives (Lokot & Wake, 2021). Collaborative coding generates knowledge that is not limited to individual perceptions, but which recognizes the nuances and complexities that multiple researchers bring. As such, as well as contributing to reducing the impact of power hierarchies within research processes, collaborative coding may improve research impact and research relevance (Wasser & Bresler, 1996). This is different to inter-coder reliability, which seeks to quantify the level of agreement on codes between researchers. While inter-coder reliability is often positioned as enhancing accountability and transparency, using quantification is not always suitable for qualitative research (Cornish et al., 2013). Inter-coder reliability is particularly unsuited to less structured interviews where participants are not asked the same questions in the same way. Fixating on determining inter-coder reliability can overlook the ways in which coding is 'interpretive', instead choosing to uphold a singular narrative (Morse, 1997, p. 446). In contrast, collaborative coding recognizes each researcher's unique perspective and rather than seeking to always identify one correct descriptor, holds differing perspectives in tension (Wasser & Bresler, 1996, p. 5).

In the case of collaborative coding, or 'multiple coding', the collaborative process moves beyond the 'mundane purpose of validation' and instead allows for a secondary analysis of other researchers' data sets and an expansion of explanations through dialogue (Barbour & Barbour, 2003, p. 85). In a case study of a multiple coding process using 'MAXqda' software, multiple coding was described to have value beyond inter-reliability ratings (Sweeney et al., 2013):

> Multiple coding can harness multiplicity by enabling discussion of individual team member's understandings of the same data. Through these discussions, the richness of the data and the

creativity and imagination needed for the craft of analysis remain integral. The analysts are exploring and discussing data from the position of having immersed themselves in it, and therefore have a rich understanding. In this way, the appropriate use of multiple coding enriches the analytic process (Sweeney et al., 2013, p. 10).

Multi-disciplinary teams, a common element of collaborative research, 'allow data to be subjected to a range of disciplinary gazes […] the ensuing exchanges and the resulting refinement of interpretations and explanations provide for a much more comprehensive and conceptually productive review than do traditional approaches based on *triangulation*, with its restrictive focus on internal validation' (Barbour & Barbour, 2003, p.185). Indeed, the notion of researcher objectivity or neutrality has been challenged as researchers increasingly recognize the value of reflexivity and acknowledging their own positionality in the research (Malejacq & Mukhopadhyay, 2016; Berger, 2015). Reflexivity is identified as a key element of collaborative research (Cornish et al., 2013; Hall et al., 2005), including collaborative coding, and particularly cross-cultural collaborative research (Easterby-Smith & Malina, 1999). Some challenges with collaborative coding identified in the literature include practical challenges related to resource and time management, issues related to the identity and positionality of the researchers, as well as challenges related to differences in status between research collaborators (Cornish et al., 2013).

The literature on collaborative qualitative research provides insight into methodologies and team structures that facilitate collaboration (Cornish et al., 2013). Much of this literature involves the idea of multi-disciplinary teams (Barbour & Barbour, 2003; Hall et al., 2005; Sweeney et al., 2013). Fewer studies look at collaborative data analysis coding across multi-national teams, who rely almost solely on digital technologies to collaborate. This study aims to explore the power dynamics and decision-making processes involved in collaborative coding in multi-national teams.

Methods and Data Collection

Research Project

In our research project, we conducted two sets of semi-structured interviews. One set focused on researching the enablers, barriers and power relations for humanitarian actors in the Mental Health and Psychosocial Support (MHPSS) Taskforce. The MHPSS Taskforce is a coordination body for humanitarian actors involved in the MHPSS response in Lebanon. This involved 34 interviews with key government and non-governmental organization (NGO) actors working in the mental health field in Lebanon. The second set of interviews focused on exploring the participation of service users in mental health governance. At the time of writing this paper, we had conducted 10 interviews with key government and NGO actors, 6 interviews with Syrian refugees and 9 interviews with Lebanese citizens who are mental health service users. All semi-structured interviews took 45–60 minutes and were conducted and audio recorded using Zoom, in both Arabic and English. We translated and transcribed interviews into English, with some support from local translators. Transcriptions were checked by other members of the research team.

Research Team

The research team was located between the UK and Lebanon, and consisted of a senior researcher (ML) within an academic institution in the UK (London School of Hygiene and Tropical Medicine), research officers (BM, RA, JE) within a partner NGO (War Child Holland) operating across Lebanon, two research coordinators within the partner NGO in Lebanon (SC and RE), and a consultant based in Lebanon who is supporting the project (TZ). Members had varying backgrounds and levels of experience with qualitative research: the senior researcher at LSHTM (ML) was a researcher at her academic institution with a PhD and a background in feminist ethnographic research and 12 years of research experience, TZ was a service user with a higher degree in medical anthropology and 6 years of experience in qualitative health research. The research team from the partner NGO all have significant experience coordinating and managing MHPSS services and assessments in Lebanon, bringing unique knowledge about MHPSS service delivery. The partner NGO team consisted of SC who holds a higher degree in clinical psychology and 2 years of research experience pursuing a doctorate degree in her field; RE who holds a Master's in Public Health and 3 years research experience; BM, RA, and JE, who all had 3 years research experience and a variety of educational backgrounds and experience, including a psychology Bachelor's degree, a Bachelor's degree and background in social work, and a Bachelor's degree in accounting. BM, RA, and JE are also pursuing Master's degrees. Nearly all members of the research team were Lebanese, with the exception of ML based at LSHTM, who was Australian.

BM, RA, and JE had never been involved in coding qualitative data before and most of the research officers were newer to qualitative research, including data collection. The Lebanon-based consultant was hired due to her leadership role in the local mental health service user association, however she was considered an 'expert' service user researcher due to her academic and professional background (McLaughlin, 2010). No refugees were involved in the data collection or analysis. The senior researchers conducted capacity-building training sessions on qualitative research methods, including qualitative data collection and data analysis.

Collaborative Coding Process

Transcripts were uploaded into Dedoose, a cross-platform application used to analyze qualitative and mixed method data. Dedoose was chosen over other qualitative data analysis software due to its features enabling multiple users to code data simultaneously, insert notes or 'memos' into the data, as well as its cloud-based data storage, user-friendly interface and cost effectiveness (Salmona et al., 2019).

Analysis of the transcripts was carried out collaboratively using the blind coding feature offered by Dedoose. At the time of writing this paper, we had jointly coded around 60 transcripts. Coding was deductive and inductive and relied on the themes and conceptual framework specified in the research protocol as well as themes that emerged based on participant accounts. The themes were identified by ML, RE, and TZ, and these themes were compiled in a codebook. During the initial piloting of codes, we added additional codes based on the themes that emerged from the transcripts.

The collaborative coding process followed Hall et al.'s (2005) iterative process, which consists of two phases: a 'Preparation' phase with team building and reflexivity exercises. In our case team members were invited to reflect on their positionality in some exercises conducted during capacity-building training sessions on qualitative research. Team-building was also fostered through interactive exercises using 'Mural' at the start of meetings. The second phase described by Hall et al. (2005), 'Analysis', consists of the steps of individual analysis followed by comparison in pairs and then a full team analysis. This is then followed by an individual synthesis, a team meeting, and then writing and feedback (Paulus et al., 2008; Hall et al., 2005). As a result, the coding process during the analysis phase was not linear; rather, it followed an iterative and dialogic structure.

The purpose of collaborative coding was deepening our understanding of the data, as well as adhering to co-production principles including reciprocity, mutual capacity building, and reflecting on power. In our research project, each transcript was blind-coded on Dedoose by two research team members. Coding partners were designated based on levels of experience, with a more experienced researcher paired with someone with less research experience. The two coders met bilaterally to review the transcript, discuss their codes and reach consensus. Using the 'Memo' function in Dedoose, which allows users to attach a text file to the transcript, the two researchers discussed and outlined key themes from the transcript. The full research team met online monthly over 6 months (from September 2021 to February 2022) to discuss the key themes from each transcript. Both bilateral and team meetings took place over Zoom. Coordination took place over e-mail, or, more informally, over WhatsApp. Face-to-face meetings were not possible due to COVID-19 related lockdowns and travel restrictions.

Reflection Process

This paper reflects on the collaborative coding process conducted with individuals working remotely from multiple organizations across two countries – Lebanon and the United Kingdom. The reflective process was initiated during the second full-team meeting, in which, after the discussion of analysis, all research team members were invited to contribute their thoughts and perceptions of the data coding process anonymously using an online platform, 'Mural'. The exercise encouraged reflexivity about our participation in the analysis process, and about positionality. We reflected on our roles within smaller coding teams as well as within the larger research team.

All team members were informed previously that their contributions as well as the research process would be documented for the purpose of writing a paper. The themes and questions for reflection were specified by the senior researcher and the research consultant in a prior meeting. Team members were asked about what they liked about the process, what they found challenging, as well as their thoughts on the Dedoose software. All contributions were anonymous. The responses were added by team members onto 'Mural' - see Figure 1.

Through this process, five key themes were identified by the senior researcher and the research consultant, who also led the writing of this paper using direct quotes and feedback from the whole research team.

Key Themes

Improved Quality of Analysis and Interviews

During multiple meetings, team members stressed the perceived value of collaboratively coding, drawing attention to the reassurance gained by having someone else to work with: 'Doing it with a partner is different to doing it alone [*sic*]. There's another eye that looks at the transcript. It puts less pressure on one person.' Others also mentioned a 'comforting' sense of fairness as a result of the discussion to reach consensus, and the added value of recognizing different perspectives. Reaching consensus was also described to be an indicator of reliability or 'feeling on the right track.'

Team members reflected on the value of considering multiple perspectives when analyzing qualitative data. One team member added that sharing ideas out loud between two researchers did not only validate results but also 'widens [one's] perspective.' For most team members, the experience of working on qualitative research was also different compared to previous quantitative work. One team member reflected, 'It's interesting to see how someone else might interpret the same text and to realize how our perspectives might be different. This has helped me to have more of an open mind when I read transcripts'. Another team member

Figure 1. Mural reflection session.

added that 'having two people do the coding makes it [*sic*] a kind of a balance.'

Apart from the collaborative coding improving actual analysis, a few team members also reflected on how the process improved the interviews they were continuing to conduct. One team member commented, 'After the coding process, I started asking more questions and [*sic*] adding more probes when needed during interviews'. Another said, 'This definitely changes [*sic*] the way one is doing interviews and encourages more reflection throughout the whole process.' When the same team members are involved in both collecting and analyzing data, it can have impacts on the quality of the research, enabling learning to feed back into the data collection process.

Inclusion of Team Members

Team members spoke positively about the perceived benefits of collaboration within a multi-disciplinary team. Comments mentioned the added value of working in a multi-disciplinary team with varying levels of expertise and experience, as well as with members from different countries: 'It's really nice to be able to work with colleagues from another country to analyse it together. It makes me feel part of a team'. Another said, 'It's an added value and an added experience on the professional experience.' Team members also mentioned that researchers at the data collection level in this NGO are not usually engaged in analysis, and that being engaged allows for better interviews: 'Often, ROs [research officers] are not usually involved in the analysis phase. This makes us really able to be involved in a full research process from data collection, transcription to analysis.' In addition, a team member noted that being involved in both data collection as well as analysis 'gave a clear perspective when coding.' Collaborative coding helped to bridge divisions that can sometimes consign certain groups to fixed roles within the research process, opening up opportunities for skill-building and creating a greater sense of inclusion.

However, the varying backgrounds of the research team members also contributed to the power dynamics between coders, which will be discussed in the following theme.

Power Dynamics and Decision-Making

The comments from team members also included reflections on power, specifically on how differences in power between team members affected decision-making during the coding process. Our conversations about power were informed by training on positionality which was conducted at the start of the research. In this training, we reflected on how our individual backgrounds, perspectives, knowledge and experiences informed the way we analyzed data, reflecting also on intersections between different identities. For example, perhaps uniquely, each researcher in our project had specific expertise in the topic of mental health and/or work in humanitarian settings. This meant we each brought different knowledge and insights informed by our professional work. To some extent, this may have made it easier to accept differing perspectives of researchers during the coding process, making some of the power dynamics slightly easier to navigate.

In the Mural exercise, comments addressed the idea that unequal power dynamics could affect the analysis. One team member described feeling 'a bit awkward due to the power dynamics, and feeling self-conscious and trying to overcompensate for the power differential by not being assertive.' Power dynamics between coders may also explain the willingness to engage in more discussion about divergent codes, as one team member suggested: 'Some of the coders easily give up on their choices of codes… the other coder may not always try to explain why they chose a certain code and directly agree with the suggestions of the other coder'. We recognize these behaviors represent intersections between educational level, age and seniority/job title, as less experienced coders were intentionally paired with more experienced coders. The power hierarchies between a UK-based academic institution and local staff in an NGO based in Lebanon are also entangled in the power dynamics associated with education, age and seniority.

During our reflection sessions, we recognized the differing levels of power held by team members. Those who were newer to coding were more likely to agree quickly with the codes designated by a more experienced team member, avoiding discussion with their partners in the case of a dispute in the coding. Those with more experience felt concerned about how their questions might be perceived: 'I worry about suggesting that someone else's code may not be quite right' because this 'might affect the relationship' or cause another team member to feel that a more experienced researcher was using power in a negative or controlling way. However, seniority/job title was not the sole lens affecting power hierarchies during coding discussions; age and educational level also influenced how decision-making about codes occurred. Consensus was sometimes described as difficult due to confusion about when codes should be used as well as long disagreements, which were described as 'time consuming.' One team member stated, 'Sometimes I agree just not to keep disagreeing.' Often, compromises involved double-coding sections of transcripts rather than choosing one or the other code – helping us recognize that there is not always one clear interpretation.

Navigating these power dynamics was particularly challenging at the start of the coding process, as we familiarized ourselves with the codes and discussed how to interpret transcripts. Most of us had not directly worked with each other previously, or never met in person, which required additional adjustment to working styles and personalities while working remotely. The findings also suggest that power differentials may not only affect interpersonal interactions, but also the final interpretation and analysis of the data itself, such as when researchers are unable to reach consensus and concessions are made for the purpose of avoiding conflict or being perceived as exerting power. This finding serves to emphasize the importance of addressing power imbalances in collaborative qualitative research.

Software and Internet Access

Some challenges were identified related to the Dedoose software, but most were technical issues that were described as easily resolved. Other challenges were related to Internet and electricity difficulties for research team members based in Lebanon, which were described as adding frustration and delaying the collaborative process. The challenges related to relying on internet-based tools (Dedoose for coding, Zoom for meetings) in situations of unstable Internet and electricity provision went beyond technical difficulties and were described as even affecting the research and analysis process. One team member mentioned that 'when a meeting that should take 20 minutes takes an hour due to the Internet, it makes me not want to make the effort.' Another mentioned that the process of reaching consensus was also affected by positing: 'Maybe we just concede to make the meeting end because the Internet keeps cutting.' Another team member confessed that 'I considered cheating and not hiding my partners' codes,' referring to not using the double-blind feature that allows users to code their transcripts individually without seeing their partner's codes during the process. This comment was attributed to frustration from the Dedoose software shutting down due to Internet connection issues. The comment was flanked by two other smaller comments expressing agreement, emphasizing that access to the Internet can be a significant factor that affects the quality of coding when using software. In our discussions as a research team, we also recognized how access to Internet and electricity are part of differential access to resources, and part of the ongoing challenges in Lebanon, where this access varied between the different regions in the country that team members were based in as well.

Changes Over Time

During reflection sessions about the collaboration process, we observed changes in our relationships and ways of working

over time. One team member observed, 'Once we have coded together once, it becomes easier to code with the same person in the future, since the relationship has been built more'. During a discussion of the themes of this paper, a team member noted that building relationships over time facilitated the coding process: 'when you get used to how the other person views things, it indirectly affects you so you can come to a conclusion and agree to something faster knowing how the person processes things and how they see things.'

However, even when we switched partners, we still found coding to be easier a few months into the process. In the early weeks of coding, one team member reflected, 'I am not sure if the other person has understood the code'. Another observed, 'everyone interprets [sic] certain codes differently'. During the following monthly meeting, the collaborative process was described as faster and easier: 'When we first started coding, there were many more conflicts, but now we seem more aligned'. This improvement was attributed to increased familiarity with the codebook, practice, and 'smoother' discussions in the case of disputes. Building relationships with coding partners and also changing partners were also referred to as facilitators for the collaborative process, adding to 'a better shared understanding of the codes across the whole team'.

The monthly coding meetings involving all team members were also described as helpful. There was more consensus in codes over time, helped by larger team meetings each month to discuss key themes within transcripts as well as challenges in coding. However, one team member reflected on the need to ensure that choosing the right code didn't become a rigid process: 'I hope that everyone sees the process as an evolving, dynamic way of analysing data rather than a clinical process where we choose the "right" code'. This points to a particular challenge in qualitative research, where there may not be a 'right' answer or a singular interpretation.

Conclusion

Our experience in implementing collaborative coding of qualitative data in a multi-national and multi-disciplinary team has shown us that collaborative analysis is a worthwhile endeavor, despite its difficulties. Our paper contributes a reflexive analysis of the complexities in navigating power dynamics during collaborative coding, building on existing literature about the importance of the 'social' in the analysis process (Sanders & Cuneo, 2010). We recognize the role of educational, age, seniority as well as international-local power dynamics in shaping the coding process. The presence of these power dynamics requires researchers to engage in reflexivity throughout the process of analysis (Easterby-Smith & Malina, 1999).

Our experience echoes existing analysis that collaborative coding requires significant investment in time as well as capacity (Cornish et al., 2013), but has important benefits in creating a sense of teamwork and inclusion. Collaborative coding can be helpful for research teams looking to integrate co-production principles into later stages of the research process. We found that collaborative coding can improve not only the quality of analysis, but also the way future interviews are conducted. For team members who are not usually involved in analysis, collaborative coding can be an opportunity to learn, widen perspectives and grow professionally. On an inter-personal level, involving all team members in collaborative research requires the suspension of judgments about who should be responsible for specific parts of the research process, and specifically, data analysis. It also challenges the overvaluing of technical experience over other forms of experience.

Collaborative coding also presents specific challenges. Limitations in resources and time are made more difficult across multi-national teams, especially when working within contexts with limited Internet or electricity access. Although not explicitly discussed by our reflection sessions, language barriers may also be a challenge in coding transcripts collaboratively over multi-national teams. In forming the multi-disciplinary research team, more effort could have been made during in the planning process to ensure that the multi-disciplinary team also consisted of members of the local participant group, which in our case were service users or refugees. Ensuring the representation and inclusion of refugees in research teams may also be made more difficult by existing labor laws preventing refugees from being paid for their work and structural barriers including legal status and safety. Some of these challenges can be addressed through planning in the research design process, however other structural barriers are more challenging. In the overarching research project (GOAL), we had sought to co-produce research with policy-makers. Modalities of including these actors in the analysis process while balancing power dynamics could be considered for future exercises.

We find that collaborative analysis holds potential for changing traditional approaches to knowledge production within research (Cornish et al., 2013). Even then, our experience has shown that the process cannot always be perfectly equitable, and may at times require executive decision-making in order to move things forward. While we did not generally adopt a centralized decision-making model for our coding process, on occasion we found that the process of 'coordination with mutual adjustment' described by Hall and colleagues (2005) is not always a perfect or straightforward one. In qualitative research, there is not always one 'right' answer, which further complicates the process. In spite of these challenges, dialogue and collaboration had valuable impacts within the team. The coding process became smoother, especially over time as we invested in interpersonal relationships and became more familiar with each other and with the coding process. With the appropriate investment in time, resources, and capacity, collaborative coding can be a fruitful and valuable approach to qualitative research.

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