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Comparing In-Person and Remote Qualitative Data Collection Methods for Data Quality and Inclusion: A Scoping Review

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Abstract

Background: In-person data collection has long been considered the 'gold standard' for qualitative data collection. Societal changes and the rapid increase in the use of remote methods during the Covid-19 pandemic intensified debate about the limitations and opportunities of remote data collection, while reigniting questions about data quality and inclusion. **Objective:** We sought to map available evidence exploring the characteristics and quality of remotely collected qualitative data compared to in-person qualitative data. **Eligibility Criteria:** A scoping review was conducted of empirical research studies that employed both remote and in-person methods with similar participants, to address the same research question. **Sources of Evidence:** Searches were conducted in MEDLINE, CINHAL, Web of Science, Scopus and Applied Social Science Index and Abstracts (ASSIA). The review includes peer reviewed articles published in English since 2000. **Methods:** Data were extracted from included papers using a data extraction tool based on JBI guidance, adapted to address our research questions. **Results:** A total of 58 articles are included. These cover a range of research methods and participant groups. Overall, remotely collected data is likely to generate similar themes to data collected in person but more concisely. Sensitive topics may be the exception. Non-verbal data and interaction between participants may be lost but the significance of this for data quality is not as well understood as participants may disclose more information remotely. **Conclusions:** Researchers should consider the fit of epistemology, population and topic when making decisions about remote data collection. If the benefits of remote data collection for qualitative research are to be fully realised, further research is needed to identify which elements of in-person and remote qualitative data collection are most effective, with which populations and research topics, and how remote data differs from in-person data.

Keywords

remote data collection, qualitative research methods, inclusive research, scoping review, online research

Introduction

The onset of the COVID-19 pandemic in 2019/20 brought restrictions on travel and meeting in-person and many researchers were forced to rapidly convert their in-person data collection methods to remote equivalents. This was challenging, especially considering the significance of context, rapport and rich communication for qualitative researchers. Although remote methods have a long history in qualitative research, in-person data collection has typically been

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considered the 'gold-standard' (Novick, 2008), and concerns were raised about the trustworthiness of data when gathered remotely and the risk that digital poverty would exclude participants (Lai & Widmar, 2021).

However, an early report from the National Centre for Research Methods (Nind et al., 2021) found that social researchers were successfully adapting methods to pandemic restrictions to produce valid research data. Over time, this rapid expansion in experiences of remote data collection has led to shifting attitudes to remote methods and renewed focus on the opportunities they might afford (Keen et al., 2022). One such opportunity is the potential for a more inclusive research approach, particularly of vulnerable or marginalised groups, although challenges undoubtedly remain (Ayling & Mewse, 2009; Liddiard et al., 2019; Roberts et al., 2021; Topping et al., 2021).

As in-person data collection has resumed and continued use of remote methods is now a choice not a necessity, it is timely to review the literature comparing remote and in-person data collection to map the available evidence that evaluates the dimensions of quality on which remote and in-person data collection have been compared. Our focus is to map and synthesise literature where remote and in-person data were collected within a single study, with similar participants, and directly compared.

We define remote methods as technologically mediated and interactive methods of qualitative data collection where the researcher is physically removed from encounter/s with participants, and where there is an in-person equivalent method (Boardman et al., 2024). In-person methods are those where researchers and participants are co-located.

This review builds on three previously published reviews. Davies et al.'s (2020) review is restricted to *online* alternatives to interviews and focus groups omitting telephone interviews that still have a place in remote research (Van Nuil et al., 2023). They identify eleven articles published between 2001–2018. The review finds that, while online methods are likely to increase access to the desired sample, data quality in terms of content, relational satisfaction and consensus developed is lower as compared to in-person methods. Jones et al. (2022) reviewed the literature comparing in-person and remotely conducted focus groups, for which they identified 26 papers. They report on depth of data produced, participant interaction, duration and resource use. There is little consensus within the literature reviewed by Jones et al. and they conclude that individual researchers will need to consider the topic, context and participant characteristics before making a choice between remote or in-person focus groups. Dubé et al. (2023) reviewed the literature around qualitative, synchronous, virtual interviews and focus groups in health and social sciences, summarising benefits and challenges and providing practical guidance. One small section of the findings compares in-person and virtual data collection, concluding that the depth of data was similar although the quantity of data may be smaller online. The authors also note the potential exclusion of some groups from remote research and suggest mitigations.

We take a broader view than previous reviews, by including a range of remote methods and technologies (e.g., telephone, video conferencing, email, both synchronous and asynchronous) and we include both interviews and focus groups. We also bring the evidence synthesis up to date by including papers conducted after the onset of the pandemic.

This review also picks up and extends from the concerns of Davies et al. (2020), Jones et al. (2022) and Dubé et al. (2023) about the impact of remote data collection on inclusion by interrogating the literature for any available evidence about the way that opportunities and challenges of remote data collection may interact with differences between participants. The objective of this review is to map the available evidence that explores the characteristics and quality of remotely collected qualitative data compared to in-person qualitative data.

Methods

This scoping review was the first step in a wider research project to produce guidance for qualitative researchers to collect high-quality data remotely, and in an inclusive manner. Our review questions were:

1. What is the available evidence about the characteristics and quality of qualitative research data collected using remote methods in comparison to in-person methods?
2. What concepts, domains and characteristics of data have been reported in studies that compare qualitative data collected using remote methods in comparison to in-person methods?
3. How does the quality of qualitative research data collected using remote methods compare to qualitative data collected using in-person methods?

Our review inclusion criteria were as follows:

- empirical research studies that employ both remote and in-person methods with similar participants, to address the same research question.
- methodological articles that set out to compare qualitative data collection modes or empirical papers that compared modes within a research study.
- research undertaken in any context, but searches are limited to articles published in English, due to lack of resources for translation.
- research articles that compare data collected remotely with data collected in-person
- articles published between 1st January 2000 and seventh May 2024.

Reflection pieces that are not grounded in specific examples are excluded. Articles published before 2000 are excluded to ensure relevance to current technological landscape and social attitudes to technologically mediated communication. Review articles, protocols, theses, conference papers and other

grey literatures are also excluded to ensure the review could be achieved within available timeframe and resources.

A scoping review is the most appropriate method to our aims to map the breadth and depth evidence available, the key concepts in the field and how they have been studied (Arksey & O'Malley, 2005; Peters et al., 2020). Acknowledging the significant contribution of patient and public involvement (PPI) to health and social care research (Brett et al., 2014), eight members of the public were recruited to a public reference group (PRG) who informed the design and conduct of the review. Members represented a range of ethnicities, genders, ages, disabilities and held a range of views on the use of remote or in-person methods in research.

A definition of remote methods was co-produced with the PRG, that included technologically mediated and interactive methods of qualitative data collection where the researcher is physically removed from encounters with participants. Drawing on Salmons' (2022) typology of online data collection, we include data elicited using qualitative methods where the researcher prompts participants to share verbal, visual or written data. We include enacted data, where participants respond to a task or prompt such as vignettes, role plays, creative or arts-based research. These methods are traditionally conducted in person but can also be transferred online (Keen et al., 2022). Interaction between researcher and participants can be synchronous or asynchronous. Following advice from our PRG, we *excluded* extant data (e.g., unprompted data derived from websites, social media, chatrooms, forums etc.) that arguably do not have in-person equivalents.

Preliminary searches of PubMed, PsycInfo (EBSCO), Embase, CINAHL and Web of Science were conducted in 2021 during the process of applying for funding to familiarise the team with the contours of the literature and demonstrate feasibility of the review. Thirty-three articles were identified in this preliminary search, from a range of disciplines and topic areas. After familiarisation with this body of literature and consultation with a specialist librarian, the objectives, inclusion criteria and methods of this scoping review were specified and documented in a protocol (Boardman et al., 2023).

The review followed the Joanna Briggs Institute (JBI) manual for scoping reviews (Aromataris & Munn, 2020) and the PRISMA-ScR guidelines (Tricco et al., 2018). The following databases were searched systematically between August 2022 and February 2023: MEDLINE, CINAHL, Web of Science, Scopus and Applied Social Science Index and Abstracts (ASSIA) to ensure broad coverage and maximise literature found. Searches were updated for a final time on May 7th 2024 to bring the review up to date. An additional fifteen papers were identified in this final search. Long search periods enabled us to capture studies published before, during and after the height of the COVID-19 pandemic when remote methods were rapidly adopted.

An example search strategy is shown in Table 1.

Databases were chosen to cover a range of disciplines and topics, ensuring comprehensive search results. The reference lists of included papers were also searched. Search results were uploaded to Covidence, systematic review management software, and duplicates removed. Results were screened on title and abstract against the inclusion criteria by three team members. Each article was screened by two people independently. Disagreements were resolved by discussion with the wider research team. Potentially eligible papers were read in full by two independent reviewers and disagreements were similarly resolved, with reasons for exclusion recorded (Figure 1).

A Critical Appraisal Skills Programme (CASP) qualitative studies checklist was completed by one researcher for each included paper, however, in keeping with the scoping review method, papers were not excluded based on quality. Rather, the CASP checklist provided some insight into the overall quality of the evidence base.

Data were extracted from included papers using a data extraction tool based on JBI guidance, adapted to address our research questions (Appendix 1). The tool was piloted independently by two researchers. Data charting was done independently by the same two researchers and the extracted data checked for completeness. Key findings were extracted verbatim and pasted into separate Word documents before being uploaded to NVivo 1.6.1 to manage the analysis.

Each key findings document was deductively coded for the stage of the research process that was compared (e.g., recruitment, data collection) and method used. Finally, the text was inductively coded within each research stage to identify key findings relevant to our research questions. The PRG supported refinement of the analysis through online meetings where draft themes were discussed. Their contributions sensitised the research team to the concept of inclusivity within the analysis.

Results

Fifty-eight papers were identified for inclusion in the review. See Appendix 2 for a summary of included papers. Table 2 shows the geographical spread. The greatest number of studies were conducted in the USA (20). An equivalent number were conducted in European countries (20), including UK (10), Netherlands (2), Germany (2), Norway, Belgium, Switzerland, Italy, Czech Republic. Other papers came from a range of global locations. Two papers reported studies that spanned two or more countries, these are attributed to each country included in the study.

Included papers report research on a range of topic areas and with a diverse range of participant groups. Included studies used interviews (25), focus groups and group discussions (27) or both (6). Fourteen (14) studies were conducted during pandemic restrictions. Data collection across included studies was mediated by a range of technologies,

Table 1. A Summary of Search Terms and Strategy for Applied Social Science Index and Abstract (ASSIA).

	Qualitative OR Interview* OR Focus Group*
AND	face-to-face OR "face to face" OR f2f OR ftf OR "in person" OR in-person
AND	online OR virtual OR digital OR remote OR videconferen* OR teleconferen* email OR skype OR "microsoft teams" OR ms teams OR whatsapp OR wechat OR zoom OR VOIP OR telephone OR phone OR text OR sms OR internet OR web* OR chat
AND	compare* OR versus OR "trade off*" OR "mode effect*" OR "mode comparison*" advantage* OR benefit* OR opportunit* OR challenge* OR disadvantage*

with varying degrees of detail given about the technology and its capabilities, and with some articles comparing more than one remote method with one in-person method. All included studies provided a clear statement of research aims, used appropriate qualitative methods for the study, and provided details about participants and a rigorous data analysis. The mode of data collection was not always clearly stated in the abstract and there was some unclear terminology. It was clear from the search results that despite combining remote and in-person data collection, researchers did not always report on similarities and differences in the data.

Where comparisons were made, the method of comparing in-person and remotely collected data was related to the dimensions of comparison; some were quantified (e.g., duration of interview; number of words; number of themes) while others used qualitative methods of analysis. Twenty (20) of the included papers used quantitative methods to compare the qualitative data collected using in-person compared to remote methods. Twenty-eight (28) papers used qualitative methods and ten (10) used mixed methods.

In the following sections, we present our synthesis of the included studies. These are presented in the order of the research process: Recruitment and retention, the data collection process, and data quality. We summarise the comparative evidence for remote and in-person qualitative data collection, paying particular attention to how the comparisons are made and any implications for data quality and inclusive research.

Recruitment, Sampling and Retention

Remote methods broaden the geographical remit of recruitment and therefore open up a wider and more diverse pool of potential participants, often relatively quickly (McCoyd & Kerson, 2006). Recruiting online (e.g., through forums, groups, social media and advertisements placed in the e-newsletter of relevant organisations) was found to produce larger samples than in-person methods. The exception is Desai et al.'s (2024) study of early school leavers in South Africa, that reported response rates lower for WhatsApp interviews compared to in-person interviews.

The flexibility to reschedule remote interviews may improve participation rates (Alsaggaf & Coyne, 2023). Remote data collection methods were found to be more inclusive for participants who did not have much time, who lacked transport, or who had caring responsibilities (Chen & Neo, 2019; Sturges & Hanrahan, 2004).

The use of remote data collection methods understandably raises questions about who is reached and who may be excluded. For example, it may be harder to build trust to recruit participants from some communities without in-person contact (Van Nuil et al., 2023).

Relatively few studies report differences in participants who selected in-person or remote methods. Evidence on age differences in modality preference is contradictory. Brubaker et al. (2013) and Rupert et al. (2017) found that remote participants were slightly younger on average than in-person participants, and more diverse in terms of ethnicity and educational background. Remote participants reported higher levels of daily Internet use but also worse health when compared to their in-person counterparts. Similarly, there may be differences between different technologies for remote data collection. For example, Rupert et al. (2017) found that nobody aged over 60 years participated in an audio-visual video call discussion but, in the alternative of a chat group. Close to 40% of participants were 61 years or older. Demographic differences will change over time. Post-pandemic, Harvey et al. (2024) found no difference by age. Marshall et al. (2023) found no difference in socio-demographic characteristics of participants between remote modalities.

However, Alsaggaf and Coyne (2023) suggest that conservative Islamic participants, especially women, may choose telephone interviews over audio-visual options because these will not require them to dress modestly. Similarly, Van Nuil et al. (2023) suggest that participants in Indonesia interviewed during the Covid pandemic, did not turn on their cameras because they perhaps did not want to show their living conditions. Taken together, although limited, these findings suggest that qualitative researchers require good knowledge of the target population(s) and their relationship with communication technologies at the study design stage.

A final consideration is retention. While online recruitment methods may rapidly produce larger samples, some remote studies (e.g., Van Nuil et al., 2023), particularly those that are text based, had higher rates of attrition than for their in-person counterparts (e.g., Kite & Phongsavan, 2017; Rupert et al., 2017).

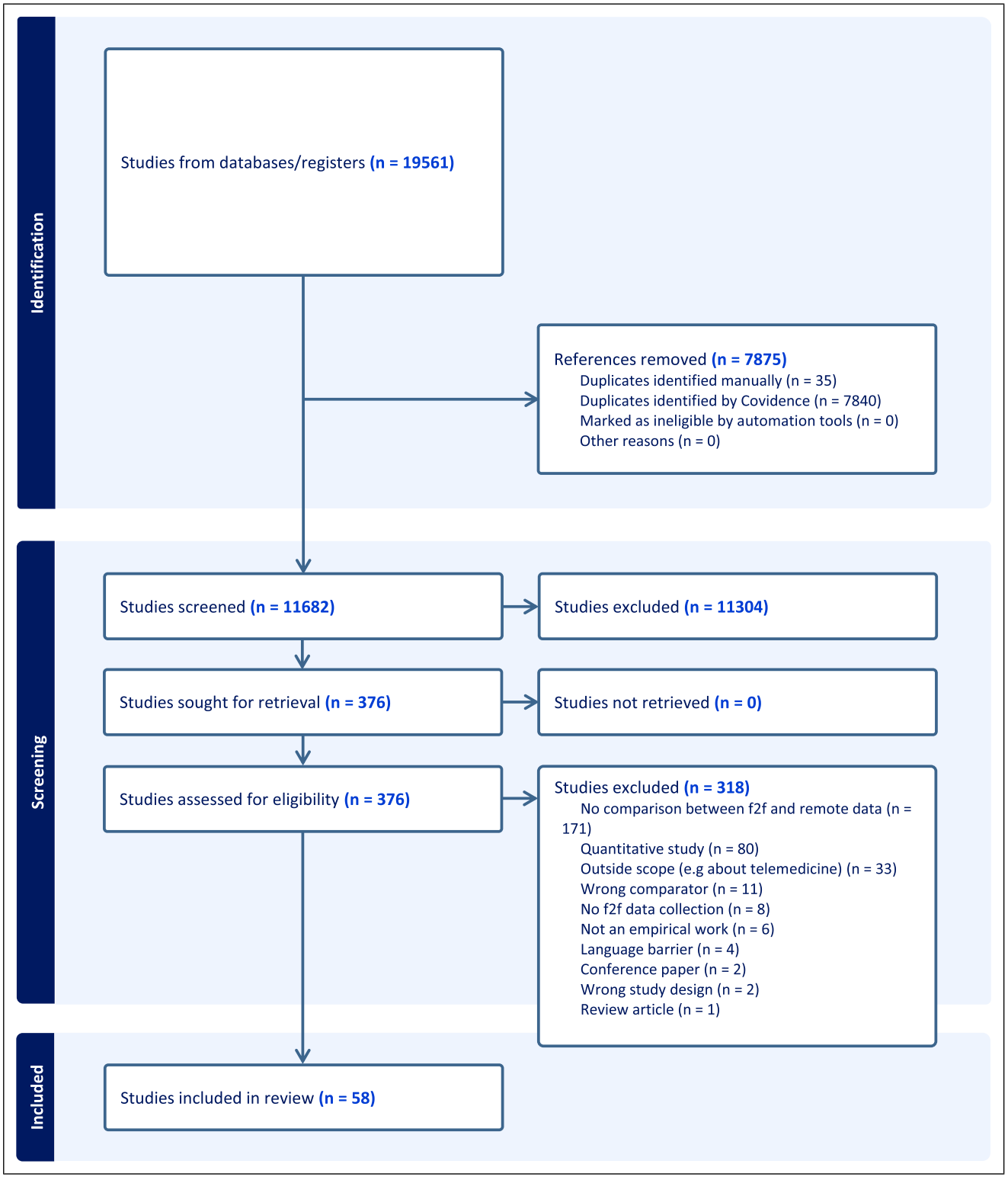

Figure 1. PRISMA flow diagram for article selection. [Supplied in separate file].

Table 2. Countries Where Research was Carried out (Some Studies Were Conducted in More Than One Country).

Country	Number of papers
USA	21
Europe	21
Canada	5
Australia and New Zealand	6
South and South East Asia	5
South and West Africa	2
Saudi Arabia	1
More than one country	2

Data Collection Process

Evidence around the process of remote, qualitative data collection clustered around two issues, logistical considerations for collecting data, and participants' experiences of taking part in remote, qualitative data collection.

Logistical Considerations. In-person methods have associated costs, potentially including venue hire, travel, accommodation, refreshments, recording and transcription fees. Remote methods may be less resource intensive by obviating the need for some of these expenses (Dodds & Hess, 2020; Kazmer & Xie, 2008; Ratislavová & Ratislav, 2014; Synnot et al., 2014). However, remote data collection can also incur costs. Rupert et al. (2017), in their study of type 2 diabetes, found that cost-saving was offset by the need to provide web cameras to participants and a secure platform within which to conduct focus groups. Audio quality may be poorer when the researcher has less control over the environment in which participants take part in the research (Kazmer & Xie, 2008) producing additional transcription costs. When participant and interviewer are in different time zones (Kazmer & Xie, 2008; Stephens, 2007), additional flexibility may be required to conduct data collection at a time convenient to participants. Finally, technical issues can lead to data taking unexpected forms. For example, if microphones are not working, participants may use the chat facility, resulting in an unanticipated mixture of audio-visual and text data (Kite & Phongsavan, 2017), or people being interviewed via instant messenger might send responses as attachments (Kazmer & Xie, 2008) resulting in data management challenges for researchers.

Unfamiliarity with remote communication may cause stress to participants (Ddungu et al., 2023). Unstable internet can cause frustration and cut interviews short (Shah, 2024). While digital exclusion remains a challenge (Holmes & Burgess, 2022), relatively minor technological challenges may also interrupt the flow of conversation and impact on quality of qualitative data. Examples in the literature include a participant who typed a long response only for it to disappear (McCoyd & Kerson, 2006) or the family who had to pass one iPad around in order for them all to take part in a focus group (Dodds & Hess, 2020).

Participants' Experiences of Data Collection. Fourteen studies collected data on participants' views about different data collection modes. Some participants reported that the physical distance from the researcher lessened power differentials and increased feelings of anonymity (Desai et al., 2024). Being in a familiar, comfortable location helped participants feel 'safe' to disclose sensitive information:

> David (18 years) notes "you can say whatever you want" because you feel safe… Chris (parent) sums up "I think because of proximal distance or physical distance, people might feel safer to say things that might feel a little bit more risky or they might confess things that they would not confess face-to-face. (Dodds & Hess, 2020, p. 208).

One study found that children felt they could give more honest responses in an online, chat, focus group where they felt more anonymous than they would in person:

> I think that it is easier to share feelings online. I think I would either not answer questions or I would give answers that were a little less honest if I were in a face-to-face group. In the online group, everyone is the same and you can't see anyone's reaction to what you say (Nicholas et al., 2010, p. 116).

Similarly, for some adult participants, remote data collection was reported to pose less risk of embarrassment (Campbell et al., 2001) or emotional distress (McCoyd & Kerson, 2006). For stigmatised topics, such as visiting a relative in jail, remote data collection led to reduced anxiety about participating (Sturges & Hanrahan, 2004). These studies were all conducted in the USA. Recent research, in African contexts, provide contradictory evidence. Ddungu et al.'s (2023) research with the Sub-Saharan community living in Belgium, Undelikwo et al.'s (2023) research in Nigeria and Desai et al.'s (2024) research in South Africa all reported at least some participants doubted the confidentiality of online conversations.

Asynchronous data collection, in particular, gave participants time to think and more control over when and how they contributed data:

> Women…could do the interview in small 'chunks' in their own time… many referred to the fact that they could get on the computer at all times of night and find other women there to 'chat' with about their loss…women were responding at 3:00 and 4:00 am, a time many reported being awake as they worked to manage their grief (McCoyd & Kerson, 2006, p. 396).

However, some participants report frustrations with text-based interviews that could be long and slow-paced, especially if there

were issues with Internet connection (Desai et al., 2024; Harvey et al., 2024).

Data Quality

Included papers compared the quality of data collected by remote and in-person methods on a range of dimensions: quantity, validity, content (topics and themes), and data richness.

Quantity and Validity of Data. A number of studies found that remotely collected interviews tended to be shorter in duration and number of words compared to data collected in person. This was true for telephone interviews (Irvine, 2011; Irvine et al., 2013; Johnson et al., 2021; McCoyd & Kerson, 2006; Shapka et al., 2016) and video-call interviews (Dodds & Hess, 2020; Johnson et al., 2021; Krouwel et al., 2019; Nicholas et al., 2010). For example, Irvine (Irvine, 2011; Irvine et al., 2013) found that telephone interviews were on average 15 minutes shorter than in-person interviews. Krouwel et al. (2019) found that in-person interviews were 33% longer than interviews conducted over Skype. This difference was confirmed by word counts of transcripts and found to be statistically significant (Johnson et al., 2021, p. 8). Text-based interviews over WhatsApp took longer but resulted in fewer words than in-person interviews (Desai et al., 2024). Marshall et al. (2023) found that average length of photo elicitation interviews did not vary whether in-person or via videoconference.

For focus groups, in-person methods typically generated more words (Krol et al., 2014; Nicholas et al., 2010; Reid & Reid, 2005; Richard et al., 2021; Schneider et al., 2002; Woodyatt et al., 2016). The exceptions were two studies with professionals, that found remote data collection resulted in more words than in-person (Abrams et al., 2015; Cheng et al., 2009). As discussed above, this may be a result of time-poor participants finding remote data collection more convenient.

Topic may also be a mediating factor. Email interview transcripts with women who had experienced termination of pregnancy for anomaly were found to be 3–8 pages longer than in-person interviews and 6–12 pages longer than telephone interviews (McCoyd & Kerson, 2006). Women valued the relative anonymity provided by remote data collection and the control afforded by the asynchronous method to contribute when they felt in the 'right frame of mind' (McCoyd & Kerson, 2006, p. 397).

Data validity concerns emerged around the degree to which qualitative data were 'on topic'. Available evidence is contradictory. Six articles found that in-person data collection methods generated data that better aligned with the desired topic area and research question than remotely collected data (Abrams et al., 2015; Desai et al., 2024; Flynn et al., 2018; Kite & Phongsavan, 2017; Synnot et al., 2014; Woodyatt et al., 2016). Two studies found that remotely collected data was more 'on topic' (Brüggen & Willems, 2009; Nicholas et al., 2010) and a further two studies found no difference (Gothberg et al., 2013; Schneider et al., 2002). However, Desai et al. (2024) suggest that even 'off-topic' discussion has a value as a means to build rapport.

Content, Topics, and Themes. Eighteen studies included in this review found that remote, qualitative data collection generated similar ideas, themes and topics as in-person data collection (Brubaker et al., 2013; Cahill et al., 2021; Desai et al., 2024; Fairweather et al., 2012; Frazier et al., 2010; Kite & Phongsavan, 2017; Krouwel et al., 2019; Lynch & Mah, 2018; Marshall et al., 2023; Namey et al., 2020; Reid & Reid, 2005; Richard et al., 2021; Shapka et al., 2016; Suslow et al., 2021; Synnot et al., 2014; Undelikwo et al., 2023; Underhill & Olmsted, 2003; Vogl, 2013; Woodyatt et al., 2016). However, differences are evident in research on sensitive themes. Studies found that participants disclosed more sensitive information remotely compared to in-person, whether data was collected by online interviews (Dodds & Hess, 2020), email interviews (McCoyd & Kerson, 2006), telephone focus groups (Gothberg et al., 2013), social media and online forums (Lynch & Mah, 2018) or WhatsApp (Desai et al., 2024). There are exceptions in the literature that are suggestive of cultural differences. Netfa et al. (2023) interviewing mothers of Arabic speaking backgrounds about a sensitive topic, found that participants were less inhibited in in-person interviews, and speculated that this was because they were away from family members. Similarly, Shah (2024) interviewing women who were breadwinners in their families in Pakistan, found they were able to be more open when interviewed in-person in their workplace.

Data Richness. Qualitative research is characterised by rich data. Braun and Clarke offer a definition:

> Shallow or 'thin' data are those which only really access the surface of the topic, the everyday or obvious stories about it; rich data are those which offer a more thorough, thoughtful, or unexpected commentary on the topic…they are data which reach below the surface, and allow the researcher to gain a deep understanding of the topic of interest (Braun & Clarke, 2013, p. 34).

Under the heading of data richness, we group together a number of related themes that were inductively identified in the literature: depth, the level of disclosure by participants, the availability of non-verbal data and the levels of and equality of interaction between participants or between participant and researcher.

In terms of depth of data, Sturges and Hanrahan (2004) qualitatively assess that depth did not differ between telephone and in-person interviews, although what they mean by depth is not well defined. Similarly, Gothberg et al. (2013) found only very small differences in depth between in-person and telephone focus groups, when they examined linguistic markers associated with depth (operationalised specifically as

prepositional phrases, conjunctions, exclusions, cognitive mechanical words); they found fewer markers of depth in video-call focus groups compared to both. Johnson et al. (2021), who found that in-person interviews were longer and judged to be more detailed and of higher-quality than either telephone or *Skype* interviews, explain these differences as a result of technical issues and background distractions during remote data collection that disrupt the flow of conversation and reduce the time available for the interview. These are not inevitable in remote data collection, nor is in-person data collection immune to technical difficulties (e.g., with recording equipment) or background noise. Krouwel et al. (2019), in common with other papers (see above) found that similar codes were identified in both remote and in-person interview data, however codes from in-person interviews were based on a higher number of statements. How an individual statement is identified and bounded is unclear, but they argue that this is evidence of greater depth in in-person interviews. Taking these four studies together, we might tentatively conclude that in-person interviews offer greater depth of data compared to remote (telephone or video-call) data collection methods.

We also find contradictory conclusions in the literature around text-based, remote data collection. van Eeden-Moorefield et al. (2008) found that synchronous interviews and focus group data about couple relationships among Gay men collected in a private, online chat room received moderately higher depth scores than data collected in focus groups in person. They define depth as 'the extent to which the participant answered the question in a way that conveyed context and detail' (p195) and allocated a score of 1–10 to each participant statement. They suggest that it is the relative anonymity offered by online data collection that facilitates depth of data. In contrast, Davis et al. (2004), in their research about seeking sex through the Internet and transmission of HIV, found that the style of communication that they observed in synchronous, online interviews was poorly suited to exploring the meaning of social or sexual experiences. Frequent break downs in turn-taking and misunderstandings inhibited the flow of the interview and negatively impacted depth compared to in-person interviews. Although these studies included similar populations, the topics are different and different platforms were used to host the data collection; norms of communication on these platforms may have influenced the data. van Eeden-Moorefield et al. (2008) recruited via LGBT organisations, and this may have increased trust in the research and therefore impacted on the depth of data provided.

Asynchronous, text-based data collection has distinct features. Participants have time to craft their responses making them 'less spontaneous' but this may result in more 'compelling and detailed' accounts (Cahill et al., 2021, p. 507). Kazmer and Xie (2008) argue that while asynchronous, remote data collection provides depth in terms of detailed accounts, it gives insufficient access to participants' thought processes. They contrast this with the synchronous remote method of telephone interviews where insights were gained by 'hearing participants struggle to remember and ask for time to think about the question' (Kazmer & Xie, 2008, p. 270).

For some researchers, data depth is related to the availability of non-verbal cues (van Eeden-Moorefield et al., 2008). This is most problematic for telephone or audio-only calls (Calzari et al., 2024; Ddungu et al., 2023; McCoyd & Kerson, 2006; Thompson et al., 2023) although 't Hart (2023) argues that even in audio-visual mediums, a great deal of non-verbal communication is lost and the interviewer's ability to interpret any non-verbal data that is observed is compromised by the lack of emotional connection.

The absence of non-verbal cues can also impact interviewers who may feel less confident raising sensitive issues in the absence of non-verbal cues to judge participants' reactions (Harvey et al., 2024) or find it harder to judge when a participant is considering adding more to their answer (Suslow et al., 2021). Silences may be shorter ('t Hart, 2023). All of these may result in a loss of data.

Conversely, remotely collected, text-based data could include emoticons, capitalisation and other elements to stand in for non-verbal data. These can be explicit statements, (e.g., 'I agree', 'crying now') or emoticons (Desai et al., 2024; McCoyd & Kerson, 2006; van Eeden-Moorefield et al., 2008). Interpretation of these may be easier as they are more overt (Kazmer & Xie, 2008; McCoyd & Kerson, 2006) but may rely on researchers' knowledge of the remote communication platform and appropriate lexicon. Clarification may be needed from participants (Donovan et al., 2023).

Interaction between participants is a key dimension of qualitative data richness for focus groups (Kitzinger, 1994). Eight studies identified differences in the amount of interaction between participants in remote focus groups compared to focus groups conducted in person, with interaction identified as most frequent in in-person scenarios (de Souza et al., 2024; Gothberg et al., 2013; Graffigna & Bosio, 2006; Graffigna et al., 2008; Ingram & Steger, 2015; Nicholas et al., 2010). Graffigna and Bosio (2006) found their online chat forum to be characterized by monologues, and frenetic, fragmented conversations:

> Pt1: I don't have sex
>
> Pt2: prevention!!!!!
>
> Pt3: I think it's very unusual for young people to talk about AIDS
>
> Pt4: I think we know enough about the virus...
>
> Pt1: I was joking ;-))!
>
> Pt3: Ehi guys . . . what are we talking about???? I got lost!!
>
> (Graffigna & Bosio, 2006, p. 66)

While something may be lost in this communication style, Graffigna and Bosio (2006) and Schneider et al. (2002) suggest that online, text-based data collection may have the potential to democratise participation and achieve greater equality of participation between participants. This may be because there is less opportunity for any individual to dominate and contributions are less limited by time. Interaction between participants is an important factor in the richness of focus group data (Wilkinson, 1998), and there may be less interaction between participants and a greater role for the moderator online (de Souza et al., 2024).

The fifty-eight papers included in this review represent a diverse body of literature that directly compared qualitative data collected in person with data collected by remote methods. Authors have compared the two modes in relation to recruitment, sampling and retention, the logistics and experience of data collection, and the characteristics of the data collected. In sum, remote data collection has some advantages in terms of being less resource intensive and more flexible and this can enhance recruitment, although evidence suggests participants are more likely to drop out of remote studies than in-person ones. The evidence is clear that remote methods generate data that can be coded for similar topics, themes and ideas to that collected in-person. However, data maybe shorter (in time duration or number of words). The exception is for sensitive topics where a greater sense of anonymity leads to greater sharing of experiences in remote interactions. There is less consensus about the comparative depth and richness of data collected in the two modes and how to evaluate this.

Discussion

The review identified a long history of research comparing in-person and remote qualitative data collection but also a growing literature to come out of the shifts in research methods occasioned by pandemic restrictions in 2020. The literature to date has been dominated by accounts from the USA and Europe. Literature published in 2023 onwards has increased the range of national contexts within the evidence base and make valuable contributions to understanding.

Examining the concepts, domains and characteristics of data that are reported in the literature, raises questions about how we compare remote and in-person data collection. The prime example is the finding that for most participants and topics, remotely collected qualitative data will be shorter (in time or word count) but is likely to include similar themes and topics as data collected in person. The relevance of this quantity reduction to the qualitative research paradigm (where data richness is generally valued over data quantity) is debatable (Shapka et al., 2016). Comparisons of data quantity have the benefit of providing information on the extent and scale of differences between data collection modes, but there is arisk that such analyses lack a 'qualitative sensibility' (Braun & Clarke, 2022) and mean that qualitative data are measured against criteria inappropriate for their paradigmatic origin. An understanding of the mechanisms by which this difference in data outputs occurs is key to recognising its impact on data quality. Indeed, differences in data volume may be accounted for by norms of communication specific to remote communication methods or participant groups as well as the cultural positioning of the technology (Anderdal Bakken, 2022). Video-calls, for example, may be regarded as a more formal medium (given their widespread use in workplaces and healthcare during and since the pandemic) than online/app-based mediums that have their own conventions of abbreviation, symbols, texts and quick-fire chat. Significantly, the reduction in data quantity is not replicated in research about sensitive topics, where the majority of studies report that remote methods give participants a greater sense of anonymity and facilitate greater disclosure (Desai et al., 2024; Dodds & Hess, 2020; Gothberg et al., 2013; Lynch & Mah, 2018; McCoyd & Kerson, 2006). Additionally, some of the most recent literature suggests further nuance in the form of cultural differences in the level of trust in digital communication (Netfa et al., 2023; Shah, 2024) and socioeconomic differences in trust (Barbosa & Milan, 2019; Parkin et al., 2021) that may influence participation and disclosure.

Assessments of the richness of the resulting data are more contradictory. For some research, descriptive, fact-based accounts will be adequate to address the research question. Some research will require detailed, personal accounts that go beyond a surface understanding of participants' experiences. Whether the latter can be achieved using remote methods is likely to depend on the 'fit' between the remote methods, the research topic and the population. 'Meeting' your participants in online spaces where they are already talking about the topic may have benefits in terms of both access and data richness but may also require considerable skill in participating appropriately (Anderdal Bakken, 2022; Howlett, 2022). In contrast, inviting participants into online spaces created by researchers to conduct one-off interviews or focus groups might result in quite different kinds of data (Barratt, 2012). This requires further investigation. The relevance of some of the differences between in-person and remotely collected data – and determining the suitability of remote methods - may need to be assessed in the light of the underpinning epistemology of the research. For example, the status of interview data is different in positivist and interpretive traditions (Smith & Elger, 2014). Post-positivist research is likely to use more structured approaches to data collection, where data richness is less critical; in contrast, interpretive researchers will likely see interviews as opportunities for 'joint-meaning construction' and value the depth and richness of narratives (Smith & Elger, 2014). However, epistemology has so far been neglected in the literature and further theorising is warranted.

There is emerging evidence of remote methods working particularly well for certain participant groups and topics, and less well for others. The use of remote qualitative data collection methods can facilitate the inclusion of participants who would otherwise be excluded from qualitative research by

offering greater sense of anonymity and the possibility of participating from a comfortable and safe space. However, constraints still exist around access to technology, digital skills and trust in remote communication (Digital Poverty Alliance, 2022). Whilst improved inclusivity and the potential to access previously unheard voices have been identified as key benefit of remote methods (Karadzhov, 2021; Oltmann, 2016) selecting the most appropriate method depends, to a large degree, on the researcher having a comprehensive understanding of both the target populations' needs and their familiarity with any given remote technology, how participants might be supported to use it in a way that addresses the research aims, and an in-depth understanding of the ethical implications. For example, whilst remote methods may provide opportunities for people with disabilities or those with high health/social care support needs to participate in research that would otherwise have been inaccessible to them (Budworth, 2023), the same remote methods could introduce new risks or unseen harms to other groups of participants, for example, those experiencing domestic abuse (Bhatia et al., 2022). The guidance resulting from the wider project (Boardman et al., 2024) explores these issues in greater depth.

Conclusion

The scoping review extends understanding of the impact of remote collection on qualitative data across methods, topics and participant groups, underscoring the highly contingent nature of many of the identified benefits of remote methods. Their successful implementation depends on various factors including the population and topic under study, familiarity with and access to remote technologies (of both researcher and participants), accessibility, and the social and cultural norms and values that surround remote communication. The latter have shifted considerably during the Covid-19 pandemic. This is the first review to include research conducted under Covid-19 pandemic restrictions. Fourteen such studies are included (see appendix 2). The inclusion of this literature broadens the geographical scope of the review and brings new insights into geographical and cultural differences. Despite concerns about increasing use of remote methods by qualitative researchers, this paper broadly demonstrates the equivalence of qualitative data when collected remotely compared to in-person, albeit under particular conditions. There are a range of factors including population of interest, technology access and familiarity as well as social and cultural factors that have to be navigated in order to produce high quality data, whilst also ensuring that research is inclusive and attentive to the needs of participants.

It remains to be seen whether the qualitative research community will sustain use of remote methods in the future. Remote data collection offers opportunities for greater flexibility and inclusivity. In the course of the wider study (Boardman et al., 2024), some researchers and public contributors expressed concern that remote methods may become the default option, especially where cost savings are perceived to be achievable. However, the evidence suggests that meeting participants' needs includes offering in-person as well as a range of remote methods.

The evidence base surrounding *which* remote methods work best, *for whom* and *under what circumstances* is still emerging. Further research is now urgently required to identify these mechanisms that produce high-quality, remotely gathered data (as well as those that have a deleterious effect on data quality) in order to support researchers in the design and implementation of qualitative studies that harness the full range of benefits of remote data collection and promote high quality remote qualitative data.

Limitations

Gray literature was excluded to ensure the review could be completed within available time and resources. Although the JBI scoping review method recommends as broad a search as possible, limiting searches to published literature is a recognised means to ensure reviews are manageable.

Only one included paper described using visual or creative methods for data collection (photo elicitation), limiting the transferability of its findings to these contexts. Further research is indicated that compares use of these methods across remote and in-person contexts to inform future research practice. This is important because creative and flexible approaches are beneficial for research with seldom-heard communities and may be more participant-centred than more traditional question-and-answer formats (Grant et al., 2019; Neag, 2019).

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Supplemental Material

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