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Australians' Experience of the COVID-19 Pandemic: Advantages and Challenges of Scaling Up Qualitative Research Using Large-Scale Rapid Analysis and Building Research Capacity Across Rural Australia

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Abstract

Australia responded to the emergence of the COVID-19 global pandemic in 2020 by initiating a border and bio-security zone lockdown and policies emphasising social distancing and hand hygiene. To understand the public response to this, Southern Queensland Rural Health commenced a two-phase research project exploring attitudes and practices towards the COVID-19 pandemic in Australia. An initial online survey foreshadowed 90 qualitative interviews with respondents to explore what the pandemic meant for everyday life. This paper details use of a qualitative approach by a national collaborative of investigators from 9 rural university departments in Australia who came together to research the qualitative phase of the project. Our methodological approach aligned with extant literature describing the management of large-scale interviewing and coding in the context of unfolding and dynamic contexts. The 'RITA' model (Rapid Identification of Themes from Audio recordings) entails a five-step process designed to progress from identifying research foci, through deductive and iterative coding to identify key concepts. We used a combination of coding templates, organisation and tagging of field notes and real-time sharing through a secure cloud drive to create a data set for immersive analysis and generation of ideas. Use of this method has added to the collective knowledge about successful rapid research investigations, recognising the inherent tension between speed and rigour. This is not a binary but a dialectic; trustworthiness is integral to qualitative research. However, use of fresh approaches is accommodated by new technologies and can preserve adequate rigour while enabling collaboration, research capacity building and increasing the pace of data collection and analysis. This project has presented methodological challenges and highlights some strengths of such an approach. It is hoped that reporting our approach and experiences is useful for the broader health and research community considering large-scale qualitative research.

Keywords

qualitative evaluation, qualitative methods , large-scale analysis, rural health, pandemic

The emergence of the COVID-19 pandemic in Australia in early 2020 prompted a surge of research projects across a broad range of perspectives. Scientific inquiries around epidemiology, public health and mass restriction of whole populations were prevalent[1]; however, explorations of what the pandemic meant for everyday life also needed consideration.

This paper will detail the methods employed by a national collaborative of University Departments of Rural Health in Australia who embarked on a project to explore the meaning

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and experiences of everyday life under national lockdown, through large-scale qualitative interviewing and data analysis. The collaborative used RITA, an emerging approach to qualitative analysis by exchanging verbatim transcription for rapid coding (Neal et al., 2015) and the use of digital tags in a shared secure cloud space. Rapid coding stands in contrast to more traditional qualitative methods of immersion, then coding through iterative cycles. In this method, an extra step is added: field notes are used to assign early codes to manage large volumes of data and identify emerging patterns as interviews continue. This enabled investigators located across Australia to access and utilise the 90 completed interviews undertaken, with opportunities as required for deep immersion in the full audio recording stored on the cloud. The paper will step out the processes of project management, data collection and data analysis, including the inherent challenges associated with attempting large-scale research across multiple investigators, some in long-term COVID-19 lockdown themselves, spread across several time zones, in the middle of a pandemic. This project has presented many methodological challenges and some new strengths, and it is hoped that reporting our approach and experiences is useful for the broader health and research community considering large-scale qualitative research.

The COVID-19 pandemic and subsequent restrictions on movement, congregating and travel have at times offered unknowable parameters; lockdowns were imposed quickly and sometimes ended abruptly, brief periods of apparent respite from new infections prompted a hope of impending resolution, sometimes to be shortly replaced by a new case or a new cluster. The landscape in which we researched demanded that we were able to rapidly review, tag and share our interview data before moving on to the next participant interview. There is a body of knowledge around rapid qualitative research, often used in unfolding public health emergencies where timely access to people's experiences is of high value (Beebe, 2014; McNall & Foster-Fishman, 2007).

In March 2020, Australia responded to the global COVID-19 pandemic by initiating a border and bio-security zone lockdown as well as a pandemic policy that emphasised social distancing and hand hygiene. To understand the public response to this, Southern Queensland Rural Health (SQRH) commenced a research project entitled 'Attitudes and practices towards the COVID-19 pandemic in Australia'. A cross-sectional online survey via Qualtrics™ was distributed nationwide through professional networks and social media, attracting 677 respondents. Given the core business of SQRH as a rurally oriented unit, large numbers of surveys were distributed through local rural networks. The outcome of such distribution was that 78.8% of respondents reported living outside metropolitan areas, and 78% of respondents were resident in Queensland. The survey sought to investigate concerns around transmission and compliance with isolation, hygiene and social distance measures implemented by the federal and state governments at the time of national lockdown. These themes were identified as forming the central public health message at the time and we were keen to explore community perceptions around this unprecedented event.

The survey ran throughout April and May 2020. Responses dropped sharply by end of May and although the survey remained open, it was decided to progress with preliminary data analysis to determine the interest of respondents in contributing to further research through interview. At this point, 416 out of 677 (61.4%) survey respondents had expressed interest in a follow-up interview.

Southern Queensland Rural Health is a member of the Australian Rural Health Education Network (ARHEN), and during quarterly meetings with ARHEN other members expressed keen interest in the project. Subsequently a decision was taken to form a national collaborative to undertake the qualitative phase of data collection across Australia, sharing the work of designing the approach to data collection, sampling, recruitment, interviewing and the resulting data immersion and analysis from July 2020 to July 2021.

Literature

Denzin and Lincoln (2017) argue that qualitative research is currently in a stage of transition; comfortable paradigms are in flux and several accepted methodological conventions overlap and jostle for position among increasing positivist approaches. This postmodern turn has introduced technology to qualitative data management and stimulated debate about how to honour a tradition of rich or 'thick' data in large-scale studies, across geographically disparate investigators who rely on computing to analyse, and share collected data (Coffey et al., 2010). Managing an amalgam of large data sets with temporal necessities has challenged previous investigators (Badstue et al., 2018; Hunt et al., 2011; Hoeber et al., 2017; Vindrola-Padros et al., 2020; Yang et al., 2018).

The use of interviews is so embedded in the qualitative landscape that it is arguably naturalised (Brinkmann, 2013). Interviews, in particular semi-structured interviews, allow an investigator and participant to explore a specific area of interest or concern, while concurrently allowing space for divergence into associated experiences and perspectives that the investigator may not have considered (Britten, 2006).

Project Methodology

The methodological approach to this large-scale qualitative project presented several considerations for the collaborative in areas of qualitative methods that are often uncomplicated and do not routinely require prolonged discussion and scrutiny, such as the use of interviews, field notes and coding. The use of these techniques is relatively routine in the qualitative methods landscape. As each methodological step created new challenges and creative ways of working, the strengths and limitations will be addressed one by one.

Theoretical Approach

The collaborative adopted a paradigm of Interpretivism/constructivism for the project. Interpretivism and constructivism positions the interview as a social construction, rejecting the concept of facts reporting (Willis, 2007). Such a theoretical lens is supported by Silverman (2017) and Charmaz (2017) who regard interviews as a clear co-construction between interviewer and interviewee – decidedly non-neutral, and not objective. Interpretivism is a perspective of qualitative research methodology that considers the broad and diverse meaning people give to their experiences, arguing in some sense that 'truth' is a relative concept (Pulla & Carter, 2018). The crux of Interpretivism is the recognition that both interviewer and interviewee make sense of the world in a way that is deeply influenced by history, location, social context and worldview (Schwandt, 1994). In essence, the project sought not to uncover any immutable 'truths' about peoples' experiences or perceptions of the pandemic, but to work with willing participants to explore this extraordinary time in history and develop meaning around both individual and collective experiences.

Reflexivity, or the self-reflective stance of the investigator (or group of investigators) as part of knowledge construction, underpins rigour in qualitative research (Darawsheh, 2014). Reflexivity promotes transparency and allows investigators to explore their own pre-conceptions or bias about the topic at hand. All investigators and interviewers had their own experience of the pandemic, largely gained through public media, professional reading and impositions upon their usual freedoms as part of emergency public health measures. The extent to which bracketing occurred and conclusions were drawn based upon the data is difficult to ascertain. Some investigators were themselves in lockdown while interviewing participants from different states, and some were in remote regions, free from COVID-19 cases and with minimal restrictions in place, while interviewing participants in areas with austere restrictions. To manage the variation of investigator experiences, the group committed to sustained reflexive practice by regular monthly check-ins throughout the project and discussions around interviews, and to contributing their own experiences of the pandemic and associated restrictions. This enabled assumptions and expectations to be brought to awareness and shared within the group, creating a joint understanding of the collaborative's influence on the process of data collection and analysis (Darawsheh, 2014).

Project Methods

Forming a research team

The original qualitative phase research team comprised 11 investigators, growing to 20 as investigators introduced research assistants to assist with completion of interviews and management of data collection. All of the paper's authors completed interviews in addition to the remaining team members. The original team was formed through the ARHEN network and consisted of experienced investigators, some directors of rural health departments and some at professorial level. The research assistants who joined the group ranged from three with research doctorates, three with bachelor's degrees and three undergraduate students whose involvement included interviews, analysis and writing under close supervision by a highly experienced researcher. Across this collaborative, some investigators were primarily working in qualitative research methods, and therefore support for understanding of qualitative methods was a consideration regardless of each individual's overall research expertise. Those team members identified as primarily qualitative methods experts, particularly the project coordinator, acted as mentors to the broader collaborative.

Participant Sampling and Recruitment

The investigators employed purposive and convenience sampling to determine a pool of participants for interview. Given the large number of potential participants (416) compared with the capacity for investigators to carry out interviews, initial filtering was required. There were 172 participants within this larger sample who reported living with a chronic illness at the time of completing the survey, and it was decided by the collaborative to recruit from this sample for interview. The survey had also asked about perception of vulnerability, but this generated inconsistent answers, some participants with chronic illness reported feeling vulnerable, and many did not.

The proposal to sample all respondents with chronic illness allowed the research team to focus in on the experiences of a group of Australians who were explicitly identified in public health and political messaging as being particularly vulnerable. Such targeted public health policy/advice towards this community group does not then necessarily translate to experience of vulnerability or even of positioning themselves as vulnerable, and it was of interest to the investigators. It was anticipated that those that did position their illness as core to their identity and/or experience of the pandemic would offer rich data about living through the pandemic/social restrictions as a person who may have recognised themselves as vulnerable.

The sampling of all participants with chronic illness remained broad. It encompassed diversity in age span (18–81 years), gender, education level and health/illness experiences, including but not limited to cancer, mental illness, diabetes, musculoskeletal and autoimmune disorders. The sample was spread across all states and territories, except the Australian Capital Territory, from metropolitan to remote areas. This wide-ranging sample allowed for a broad qualitative exploration, without being confined to the person's chronic illness. It was anticipated that some people may not refer to their illness at all or would minimise its effect on their experiences.

Table 1. Demographic data for proposed sample and interview participants (n=172) and those who completed interviews (n=90).

Rurality Classification		Proposed	Completed
Metropolitan	(MM1)	38	12
Major regional	(MM 2–3)	73	42
Rural	(MM 4–5)	32	17
Remote	(MM 6–7)	29	19
Gender			
Male		35	20
Female		137	70
Prefer not to say		0	0
Age (years)			
18–24		13	3
25–34		20	9
35–44		34	16
45–54		44	23
55–64		37	25
65+		23	13
Did not respond		1	1
State			
Victoria		10	7
NSW		16	8
Queensland		130	66
ACT		0	0
South Australia		5	1
Western Australia		6	5
Northern Territory		4	2
Tasmania		1	1

The collaborative deliberated the action of sampling according to metropolitan, rural or remote using the Modified Monash Model[2]; however, it was decided that the initial survey findings pointed to almost no statistical difference in practices, attitudes and perceptions across the Modified Monash (MMM) 1–7. Therefore, the sampling was designed to align with this finding by sampling a spread across regions and focusing on self-reported chronic illness rather than location. Each state and each MMM were represented in this sample, and we were able to generate data accordingly (Table 1).

Invitations to a 30-minute interview and participant information forms were emailed in August 2020 to the 172 potential participants based on agreed sampling. Nine participants had been excluded as they did not provide any contact details. The emails were sent out by the project coordinator and advised participants to expect a follow-up phone call from a member of the investigator team. The project coordinator provided each investigator with the contact details (and basic demographic data such as town, sex and age) of a negotiated number of potential participants. To minimise conflict of interest, no investigators were allocated participants from their own region. In-person interviews were not offered for pragmatic reasons, not least ongoing public health COVID-19 concerns and constraints. There were 122 participants who responded to the opportunity for follow-up interview, and 50 either did not respond or declined the offer. Over the course of interviews and data collection, further withdrawals, often a result of personal and work demands, accounted for a loss of a further 42 participants, bringing the final number of conducted interviews nationally to 90.

Determination of data collection

Data were collected by telephone-based semi-structured interviews, determined to be appropriate to explore lived experience, without replicating the greater structure of the initial survey. Semi-structured interviews are accessible and effective ways of interacting with participants to construct understanding of their social contexts and in this case, perceptions of the pandemic (Nathan et al., 2019). The team prepared a series of questions that were used by all investigators to prompt discussion. The questions were designed to prompt consideration of the themes from the initial survey around social distancing, government guidelines, hygiene and personal experiences of life under lockdown and the pandemic. The interview questions were provided to each investigator as a part of a briefing document that provided information and support for novice qualitative interviewers, including rationale, approaches, tips and scholarly works around robust and reliable interviewing techniques. The briefing document was circulated by email, discussed via video-call with each investigator individually by the project coordinator, and then loaded into a folder on the shared secure drive where data were kept for ongoing reference. Interviews were audio recorded with the participant's permission, and verbal consent to recording was captured on the recording before commencing each interview. Investigators were also able to access contact details of support services on the shared drive, in the event participants became distressed during their interview. Recordings were uploaded to the secure shared drive under participant de-identified codes, available to the team for access and review. Recordings were checked for sound quality and replay capacity by the project coordinator.

Coordination and Data Custody

Establishing a shared and secure data repository for investigators from 9 institutions was accomplished by accessing University of Queensland's secure data repository and creating a secure digital notebook with editable access for all investigators. Prior to accessing the repository, all investigators were approved by the primary ethics committee, and provided the project coordinator with reciprocal ethics approval of their home university. The data space was requested by the project coordinator, and access and permissions to the digital notebook was provided after each investigator provided their reciprocal ethics approval.

The digital notebook was organised with folders for each investigator to store both interview recordings and primary/

initial analytical notes with a consistent file naming protocol using the participant unique identifier. All folders were available to all users, so that data sharing was facilitated from the commencement of data collection. The digital notebook provided a classification feature of 'tagging', and this feature was used to initially organise and classify field notes as they were entered over the course of collection. At the commencement, the collaborative agreed on a series of tags drawn from planned interview questions and survey themes, as well as some demographic data. Tagging was to be used by each investigator during upload of recordings and notes, in essence creating a searchable database of interviews.

New tags were added as the need was identified by investigators, and the entire team notified of their availability. Tags were wide ranging and included terms such as 'anxiety', 'cross-border', 'government guidelines' and 'isolation' among several others. Tags were not designed to determine final themes or represent immersive and detailed analysis. They were a function of classification to enable data searching during later analysis and collaboration for publication. The approach of using the tag library had limitations, however. Given the large amount of field notes and that those involved in analysis and writing had not conducted all the interviews, the team needed to rely on both tags and notes of interviews to identify relevant interviews and themes, and the quality of note-taking varied among investigators. The original instructions suggested using three tags per interview and this meant rich material was likely to have been missed; this recommendation was later changed to ameliorate such concerns.

Coding and Themes for Manuscript Generation

The unforeseen and escalating development of the pandemic and need to answer the research question quickly shifted the investigating team's focus from seeking funding sources for transcription to utilising previous experience in large-scale qualitative studies and rapid coding approaches. Early collaborative discussions revealed previous expertise among the lead investigators around large-scale qualitative studies and rapid coding and tagging (Boylan et al., 2013), and there is a modest body of literature addressing this approach (Beebe, 2014; Crichton & Childs, 2005; Evers, 2011; McNall & Foster-Fishman, 2007; Neal et al., 2015; Vindrola-Padros et al., 2020).

We aligned our methodological approach with the work of Neal et al. (2015) who described the management of large-scale interviewing and coding in the context of unfolding and dynamic contexts. Titled the 'RITA' model (Rapid Identification of Themes from Audio recordings), it details a five-step process designed to progress from identifying research foci, through deductive and iterative coding, to the assessment of coding reliability between investigators.

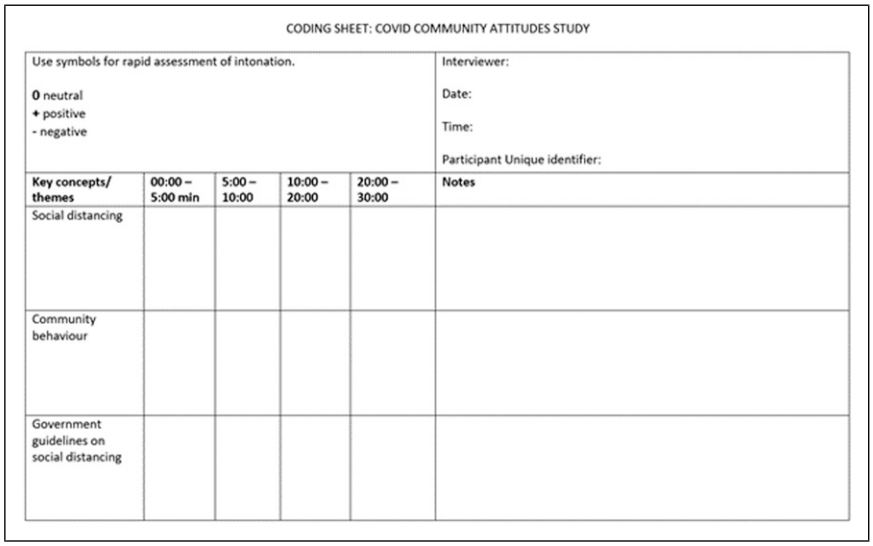
A coding template was developed in accordance with Neal et al.'s (2015) methods and supplied to each investigator. The template was pre-populated with the project's agreed focus. Neal and colleagues consider identifying the research foci as the first step and recommend foci are restricted to aspects of the project where expeditious feedback is needed (Neal et al., 2015). Each investigator was given training in the use of the template. The template, an exemplar and the Neal paper were also loaded onto the shared drive and were available to all investigators for the duration of the study. The coding template was presented and discussed at two group collaborative meetings to ensure investigators were sufficiently prepared to undertake coding.

Our template (see Figure 1) divided the interview into time segments of 5–10 minutes as per the RITA model and provided a legend to assist the investigator to record and identify intonation and auditory cues, providing a window into emotional valence, inconsistencies, pauses and potential areas of further interest. Some investigators wrote reflective notes at the bottom of the coding template, reflecting on the mood, preoccupations and concerns expressed by the participant. During later data immersion, investigators were able to review field notes with precision and parse a number of interviews for corresponding ideas.

The aim of RITA is to facilitate rapid coding as a first layer of analysis whilst simultaneously support the researcher to revisit the data repeatedly for detailed notes and analysis. Rich data is determined by the investigator working with the interview, and it can be argued that re-visiting recordings and extensive note-taking both during and after the interview provides a rich and nuanced medium for deeper analysis (Brinkmann, 2013).

Based on Neal et al.'s (2015) work, we added an additional step of rapid coding to the typical process of immersion in the data. We included the normative steps of reading and re-reading, coding, establishment of links between codes and categorisation of codes to deductively develop emergent themes *after* rapid data collection and coding of field notes were completed. The immersive approach was not side-stepped but was preceded by a rapid coding and tagging approach. Given the breadth of the authorship groups, the more traditional processes of data analysis ensued after interviews were completed, and the collaborative agreed on a number of key analytical outcomes. Investigators then returned to work in teams with the field notes and recordings to contextualise and develop deeper insight through an inductive approach.

We diverged from the RITA method by combining Neal and colleagues' steps of clustering recordings into subsets and themes. We collaborated during and at the completion of interviews to develop themes which surfaced and were broader than our original research foci. Each investigator was 3 encouraged to explore other emergent concepts with the participants in the spirit of semi-structured interviews, and the addition of such concepts was tracked by use of tagging in the shared data drive. An agreed tag library was circulated to each investigator and placed on the shared drive at the commencement of interviews and was the result of



CODING SHEET: COVID COMMUNITY ATTITUDES STUDY

Use symbols for rapid assessment of intonation. **0** neutral **+** positive - negative					Interviewer: Date: Time: Participant Unique identifier:
Key concepts/ themes	**00:00 – 5:00 min**	**5:00 – 10:00**	**10:00 – 20:00**	**20:00 – 30:00**	**Notes**
Social distancing					
Community behaviour					
Government guidelines on social distancing					

Figure 1. Extract of coding template for interview field notes.

collaborative agreement. The tags, similar to Neal's codes, provided the research foci and supported the pre-populated coding template.

Discussion

Given the rapidly changing status of the pandemic and public health policies surrounding its management, it was critical that our methods for collecting and analysing the qualitative data added to the growing body of evidence on expeditious and rigorous approaches. As suggested by Neal et al. (2015) and more recently Vindrola-Padros et al. (2020), we needed to embrace the trade-off between nuanced but more ponderous approach, and a need to work with a potentially large qualitative data set in a rapidly evolving situation. Rapid Identification of Themes from Audio recordings has been proposed as a qualitative approach that facilitates sufficient interview detail (including tone) while supporting rapid analysis. Neal and colleagues present their model as flexible and adaptable and urged investigators to consider their unique contexts, adjusting their stepped approach to avoid 'drowning in the data' (Neal et al., 2015). Such a recommendation was appealing given the pandemic circumstance and allowed the collaborative to move forward with confidence in the trustworthiness and rigour of our approach. In our deliberation of an unfolding pandemic, we considered the temporal necessity of researching an evolving situation with a method that would allow rapid coding and the creation of an available pool of data for further immersive engagement and analysis.

Traditionally, qualitative research papers were often authored by only one or two authors who had undertaken face-to-face interviews with recordings supplemented by observations, field notes and careful documentation of their reflections of their engagement with participants. The interviewers and authors were generally the same people, enhancing their familiarity with and deep immersion in the data. However, there is evidence that the number of authors in qualitative research is changing (Henriksen, 2018). The contribution to the project from investigators with a range of expertise in qualitative research presents both strengths and challenges (Sattin-Bajaj, 2018).

The strengths of the collaborative approach lay in the mix and structure of the group. A project coordinator from a qualitative research background was in place from the beginning of the project and built relationships with each investigator as well as the collaborative, meeting with individuals and the team both regularly, and as required. The project coordinator was also accessible by phone and acted as a conduit for information dissemination among the collaborative in between scheduled meetings. Highly experienced investigators within the collaborative were able to support the group by offering reassurance and experience around the rapid coding model and the organisation of a growing data set in the shared secure cloud.

There were clear benefits to forming and nurturing a highly functioning collaborative throughout the project. Novice investigators were able to access informal supervision and develop qualitative research skills in a high-support environment, in addition to being able to access a number of highly experienced senior investigators from several Australian universities. The whole collaborative, located across Australia, were able to draw on each other to explore their own reflexive stance as they researched, lived through, and made sense of the pandemic themselves. The large group of course presented several challenges. The project required large-scale project management and where the work around rapid coding was time efficient for working through large-scale data collection, the coordination of this approach was time-consuming. However,

we found that we were able to be remarkably innovative in the way we created and sustained an inclusive, diverse, and highly productive team without compromising rigour across several states, territories and university departments. The size of the collaborative was considered and deliberate, aligning with the needs and pace of the project and aspirations for building capacity in a rural research network, and is well-supported in extant literature around an increasingly collaborative qualitative research landscape (Abraham et al., 2020; Brower et al., 2019).

Managing quality and consistency across the interviews presented a conundrum. While acknowledging the constructivist approach (Charmaz, 2017; Silverman, 2017) qualitative data collection requires consistent, agreed approach (Roulston, 2010; Sattin-Bajaj, 2018). This need was ameliorated in multiple ways. Firstly, the use of a question guide for the semi-structured interviews ensured that all interviews collected a baseline of information around the agreed key research foci. Secondly, the provision of a coding template which served as a data collection table for in vivo analysis ensured that all data collection was managed consistently. Thirdly, the provision of the investigator guide ensured the interviews were conducted in a similar way.

All investigators in the project were inducted to understand the background to the project and while we were not able to provide in-depth qualitative training for those who were new to the area, the project coordinator and another experienced qualitative research fellow met with each investigator who had limited qualitative experience. Those who were inexperienced in qualitative research were provided with a background and briefing document around interview methods and an introduction to qualitative methods. They were also provided with scholarly papers to assist with their development before interviews began (Jacob & Furgerson, 2012; Neal et al., 2015; Serry & LIamputtong, 2016; Silverman, 2010, 2017). Each inexperienced researcher was given orientation, resources and a one-to-one meeting with the project coordinator before commencing any data collection.

The successful implementation of the RITA approach was evidenced by an expeditious and efficient activity and handling large amounts of data by a large and diverse group of investigators, many of whom had not met or worked together before the creation of the collaborative. As with most innovation, this new approach presented challenges around learning new research techniques, yet the team remained engaged and thoughtful as they progressed through the interview, field-note and tagging phases of data collection. Constant contact with the project coordinator ensured an open flow of information and support for each investigator, ranging from qualitative methods assistance, technological assistance with the shared notebook and tag management.

Our use of RITA diverged at the point of collaborative identification of key analytical outcomes following data upload (field notes and recordings). Where Neal and colleagues recommend the investigators complete their data collection and analysis process by coding all interviews together as a team, our collaborative formed several smaller writing teams based on our deliberation of key themes. Each writing team, through whole collaborative discussion, were elected to each theme for immersive analysis and manuscript construction. Despite the re-organisation of the team into smaller working parties, the overall approach remained collaborative. The collaborative continues to meet monthly to discuss data analysis and share manuscript development. Rapid Identification of Themes from Audio recordings provided this collaborative with an expedited yet rigorous process, achieving a 'balance of speed and trustworthiness', an approach supported by more recent researchers working with large data in dynamic research contexts (Abraham et al., 2020; McNall & Foster-Fishman, 2007; White et al., 2012).

There is an acknowledgement that there could be a reduction in control of quality processes, once a collaborative re-organises into smaller groups to undertake deeper analysis and write manuscripts. However, with regular meetings and the maintenance of communication channels both between each team and the project coordinator, and the whole collaborative at scheduled meetings, all investigators are continuing to work with all of the emergent themes as a group. Such practices have built confidence within the collaborative that the whole data set is being handled, used and shared among the investigation team.

The temporal aspects of the project presented unique challenges to the team; interviews were spread over 3 months, across different jurisdictions and places, including rural and urban settings. Further, we acknowledge that both interviewee and investigator experience of COVID-19 was both place and time based, in particular around the chronology of the epidemic, and what was emerging locally, nationally and internationally, including in the scientific understanding of transmission and consequences of the virus. To manage the impact of this on the project, the primary investigator and project coordinator monitored the evolving social landscape and circulated updated state and territory restrictions and guidelines, as well as key global directives as they emerged. At each meeting, the collaborative reflected on the ways such directives impacted on the community and recognised that such a dynamic situation impacted upon data collection. Despite such shifting contexts, the team were able to work with certainty around their work in capturing the voices of participants across Australia, across a diverse range of pandemic experiences.

While it was not identified as a particular limitation of the research, interviewers and the investigators at the point of utilising the data several weeks or months after its initial collection may not have an immediate sense of where an interview was positioned in terms of the advice and restrictions that a person was experiencing at that time. For example, the initial interviews occurred at a time when there was considerable focus on surfaces and unclean hands as a major means of transmission, whereas interviews only a few months later occurred when there was increasing understanding of the evidence that aerosol transmission was particularly important.

Implications for Practice

Our use of Neal at al.'s (2015) RITA method has added to the collective knowledge about successful rapid research investigations. There were a number of ingredients for success. It required a high-functioning team with a shared vision and a preparedness to try new approaches to data collection and analysis. Further, as described by Neal et al. (2015) it required us to work with the inherent tension between speed and rigour. This is not conceptualised as a binary of opposites, but a dialectic; trustworthiness is integral to qualitative research, but fresh approaches suggest this can be preserved while increasing the pace of data collection and analysis.

The need for attentive and consistent project coordination was crucial to success. Busy research academics will inevitably rely on leadership and organisation of all the key dimensions of a research project, including team formation and establishment of communication channels, coordinating, and allocating participants, managing a shared data cloud, and organising group and sub-group analysis and manuscript generation.

The use of tags was experienced by the group as both a limitation and a strength. While building a tag library from the commencement of interviews provided some grounding in expected topics and concepts, it is difficult to be confident about how tags were used, and which tags were decided upon at any given time. As we researched an emergent situation, some tags became redundant and new tags were required. The management of the tag library by the project coordinator relied heavily on voluntary communication from investigators in the field and the collaborative recommends future teams considering this approach to create a shared cloud space for real-time updates of tags, rather than our process of awaiting emails or telephone calls to request the creation of new tags, and then the dissemination of that new information to the collaborative. Our shared cloud space has a notes function for the team to talk to each other, but this was not widely used. In retrospect, this notes function would have provided an even stronger line of 'real-time' communication across those in the field, perhaps capturing emergent data and allowing for early coding to be shared quickly. This may have provided us with emergent themes earlier in the interview phase, allowing for question adjustment if required.

Finally, some unintended benefits of the project included the provision of new and worthwhile opportunities for the collaborative. Rurally distributed investigators are prone to a sense of isolation (29) and prospects of peer collaboration are often rare outside of each researcher's rural area. Introducing a number of junior and/or inexperienced qualitative investigators provided new opportunities for development for all collaborative members. Experienced qualitative practitioners provided mentorship for others, and for those who had not worked in this space, advice and support was readily available. The capacity building approach enhanced the collaboration of rurally based investigators around Australia, and even experienced investigators were exposed to new ways approaches to data storage, sharing information, analysis and writing.

Conclusion

The collaborative's adoption of RITA for rapid coding yielded positive experiences for the research team and the collection of data. This method has a demonstrated value in the implementation of large-scale research in time-critical landscapes and has allowed us to conduct valuable research across Australia for what is an unprecedented social context. Experiences ranged from positive to provocative, devastating to bewildering. There was no single theme or truth about the pandemic, and so this remains; a disease of umbrella global impact has been experienced in a multitude of ways.

The response to interviews was positive and encompassed most parts of Australia. The use of a secure, shared university-hosted cloud-based data archive allowed ready access to project protocols, resources, interview recording and notes for all investigators, and although new and at times challenging, tag-based searching allowed investigators to explore colleague notes and recordings to compare, identify emerging themes and share field notes. This shared space allowed investigators to utilise many interviews and draw on diversity of experiences reflected in the data during early manuscript preparation, and a collaborative process throughout data collection assisted in distillation of themes as interview progressed. The project coordinator worked with individual investigators as well as facilitating whole group meetings to continuously connect emergent themes and establish both a diversity and a commonality of experiences across the country. The collaborative approach to the project was sustained throughout, from the process of ethics to manuscript preparation. Major decisions were taken by the collaborative as a whole including the establishment of key analytical outcomes, manuscript allocation, publication targets and authorship.

Shared projects established with good governance and coordination offer excellent opportunities for training and development through collaborative approach and have enhanced rurally distributed investigators learning from each other.

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Ethics Approval and Consent to Participate

The original project was approved by the University of Queensland Human Research Ethics Committee (Approval number 2020000800). This ethics application was amended once the detail of the qualitative approach was finalised, and for the national collaborative further reciprocal human ethics approvals were acquired from the investigators' respective institutions: Darling Downs Health Service, Flinders University, The University of Melbourne, LaTrobe University, Deakin University, James Cook University, The University of Western Australia and Torrens University. Both written and verbal consent was obtained from all participants.

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Notes

1. The population of Australia is currently estimated at 25,798,874. Approximately 28% or 7 million people live in rural areas according to the Australian Bureau of Statistics (2020).
2. Modified Monash Model (MMM) is a classification of remoteness in Australia, using indicators such as geographical isolation, population and healthcare to ascertain level of remoteness. The scale runs from MM 1 (metropolitan) to MM7 (very remote).

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