

General practice experiences of Australia's COVID-19 vaccine rollout: lessons for primary care reform

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ABSTRACT

Objective. The aim of this research was to explore the experiences of general practice in delivering Australia's coronavirus disease 2019 (COVID-19) vaccine, and the impact on practice finances and workforce. **Methods.** Eighteen semi-structured interviews with owners and practice managers of general practices in Greater Sydney between June and August 2021 were conducted. **Results.** Practices reported early enthusiasm for the vaccine rollout and engaged in large-scale staffing and infrastructure adaptations to manage increased vaccination workload. Although some practices reported increased income related to vaccination, nearly all reported increased costs. Lack of timely and transparent communication between primary care and policymakers was a major concern for practices. **Conclusions.** The success of Australia's COVID-19 vaccine rollout relied on the goodwill of general practices. Participation in the COVID-19 vaccine rollout resulted in increased stress, increased administration workload, and reduced financial viability for many practices.

Keywords: COVID-19, financial viability, general practice, health policy, health workforce, immunisation, primary care, vaccination.

Introduction

General practice ensured safe provision of health care throughout the coronavirus disease 2019 (COVID-19) pandemic. Building on experience with previous pandemics,¹ general practices played a crucial role in reducing the spread of COVID-19 infections, maintaining safe access to primary care and leading the COVID-19 vaccine rollout.^{2,3}

General practice was identified early as central to Australia's planned COVID-19 vaccine rollout.⁴ Following an expression of interest process conducted in January 2021, over 4500 of Australia's 6000+ general practices enrolled in the COVID-19 primary care vaccine rollout ('roll-out'), prior to release of logistics, financing and medicolegal details. The roll-out commenced on 22 March 2021 with the AstraZeneca Vaxveria vaccine, then the Pfizer Comirnaty vaccine from 5 July 2021.

General practices in Australia operate as private businesses and provide fee-for-service consultations, which are subsidised by Government payments determined by the Medicare Benefits Schedule (MBS). Over 85% of general practitioner (GP) consultations have been delivered with no out-of-pocket cost (known as 'bulk-billing') since 2018–19.⁵ From March 2021, more than 20 items were added to the MBS to reimburse general practices for administering COVID-19 vaccines. The value of reimbursement varied according to urban/rural location and dosage (first, second, or booster). These item numbers are valued less than a standard GP consultation and no out-of-pocket patient costs are permitted (i.e. 'bulk-billed'). For the first 6 months of the roll-out, additional payments through the Practice Incentives Payment (PIP) Program were available to compensate accredited practices for compulsory bulk-billing, including a AU\$10 bonus for providing both of the first two COVID-19 vaccines to a patient.⁶

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OPEN ACCESS

This paper explores the experiences of general practices in delivering Australia's COVID-19 vaccine program, while noting that COVID-19 vaccines were also provided by GP-led respiratory clinics established early in the pandemic, in State- and Territory-funded vaccine hubs and in pharmacies.

At the time of writing (26 June 2022), >95% of Australians aged >16 years have received two doses of an approved vaccine. General practices have provided the largest proportion of Australia's 60 151 749 vaccines, delivering just under 50% of the total vaccines, followed by State- and Territory-funded vaccine hubs (35.4% of total) and pharmacies (12.5%).⁷ The contribution of general practices to the COVID-19 vaccine rollout has been applauded, particularly in addressing patient concerns and reducing vaccine hesitancy.⁸ However, little is known about the financial and operational challenges faced by general practice in delivering the COVID-19 vaccine rollout.

Methods

Interviews were conducted as part of an ongoing mixed methods study of general practices and allied health practices on the impact of the COVID-19 pandemic and public health response on practices. As the aim of the research was to identify the financial and operational aspects of the COVID-19 pandemic response, practice owners and practice managers were interviewed.

Participants

Participants (general practice owners and practice managers) were recruited from general practices operating in Greater Sydney. Participants were recruited by email obtained from the sponsor primary health network (PHN) database, through social media posts and practice manager fora. Purposive sampling methods were used to include at least 10 general practices, with a range of practice sizes and ownership types. Interview participants received AU\$100 compensation. Signed consent was obtained online. Interviews continued until thematic saturation was achieved.

Interviews

Semi-structured telephone interviews were conducted between June and August 2021. Interview questions were developed in consultation with GPs, practice nurses, practice managers and PHN stakeholders. A flexible interview guide (Appendix 1) was designed to capture responses.

The interviews lasted between 30 and 60 min (mean 40 min), were digitally recorded and transcribed verbatim. Notes were made after each interview in relation to broad discussion points and any factors relating to interviewer/interviewee rapport and reactivity. The latter were reflected upon by the research team during analysis.

Data analysis

The analysis and reporting of the data follows the Consolidated Criteria for Reporting Qualitative research (COREQ) standards⁹ (Appendix 2). Thematic analysis systematically identified patterns within the data. Transcripts were coded iteratively to reflect participants' meanings. The research team reached agreement on the emerging themes through rigorous discussion of different interpretations of the data.

Ethics approval

This research received ethics approval under program ethics approval from the UTS Human Research Ethics Committee (UTS HREC REF NO. ETH18-2507) on 25 May 2021. This research was undertaken with informed consent of participants.

Results

Eighteen general practices located in Greater Sydney from a range of socioeconomic areas participated in an interview. The majority of interviewees were practice managers, and most practices were clinician-owned, well established, and medium to large in size (Table 1). At the time of being interviewed, all but three of the practices were operating under Sydney's 2021 lockdown restrictions, most practices had access to the AstraZeneca Vaxveria vaccine, with some having early access to the Pfizer Comirnaty vaccine.

Fifteen of the 18 participating general practices delivered at least one COVID-19 vaccine. Four themes emerged from the data, characterising participants' experiences in the COVID-19 vaccination program: (1) public service ethos; (2) financial impact of vaccination clinics; (3) managing the mismatch in demand and supply; and (4) impact of policy communication on general practice.

Table 1. Participating practices ($n = 18$).

Interviewee role		Practice ownership	
Practice Manager	11	Clinician	13
GP-Owner	4	Private	3
Owner (non-GP)	3	Corporate	2
Years in current location		Practice size	
<1	–	Solo practitioner	1
1–3	2	2–9 staff	–
3–5	1	10–19 staff	6
5–10	2	20–29 staff	6
10–20	5	30+ staff	5
>20	8	Mean staff size	23.3 staff

Data are presented as n .

Public service ethos – the goodwill of practices

General practices' desire to contribute to the pathway out of the COVID-19 pandemic was discussed as a key reason for involvement in the vaccination rollout. A public service ethos was evident with GPs and practice managers communicating a sense of duty to their patients and the broader community. Many reported that their participation in the COVID-19 vaccine rollout was valued by patients, especially those with difficulties attending other vaccination sites.

To be honest, we probably really do it as a community service and a goodwill exercise. And patients really appreciate it, patients are like, "Oh, thanks [name]. It's so great that you're doing this and that we can just come here." (GP02)

Many felt a particular duty to vaccinate their regular patients, and participated in the program despite concerns about negative impacts on practice finances.

When we first took up the vaccination process we really did ask ourselves, "do we want to be part of this?" because we literally don't make any money at it. Our GPs said this is a once-in-a-lifetime event, and we want to be involved ... it was purely goodwill that GPs entered into the vaccination process, and that goodwill has been significantly eroded to the point where when they asked us did we want to do an expression of interest for Pfizer a couple of months ago before the most recent lockdown, we initially said no. (GP06)

We knew that if we were going to do COVID vaccinations in the practice, that we would probably have a drop in revenue because of it. But, we were all very keen to do what's good for the community. (GP09)

However, there was a strong sense from all interviewees that the goodwill shown by general practice was not reciprocated by the Federal government in the development or communication of COVID-19 vaccine policy, and this lack of communication compromised vaccine rollout efficiency. Many perceived this stemmed from a lack of understanding of GPs' usual workflows and experience of delivering vaccinations.

I think if the government had actually stopped and talked to general practice and practice managers and said, "Hey guys, what do you need from us?" If they'd actually taken the time to talk to us in the very beginning, and treated us with the respect that we know how to roll out immunisations. We've been doing it for a long time. (GP01)

Financial impact of vaccination clinics

Most practices established dedicated vaccine clinics prompted by the need to efficiently use multidose vials,

manage social distancing and monitoring requirements, and to best-utilise COVID-19 MBS items.

Practices reported capital costs such as laptops and vaccine fridges, new waiting room configurations, with most engaging a 'COVID marshal' to manage patient flow and maintain physical distance. However, all cited increased administrative staffing as the largest cost burden. Bookings, ensuring eligibility and informed consent increased workload, especially for new patients, and many practices invested in new online systems to help manage burgeoning paperwork and phone calls.

Most interviewees reported that vaccination clinics increased revenue, but the associated costs meant that most broke-even at best, or lost money. Four felt their practices had gained new patients from their involvement in the program and some reported that they made a small profit on out-of-hours clinics where the rebate was higher.

Well, it's a cost neutral or a cost draining exercise. I mean, we're really doing it because of our community-mindedness is my, I don't think there'd be very many practices that can roll it out at a big profit. I think you can be clever and make sure you certainly cover all your costs to make a bit, but it's not enticing for the doctors at all. (GP03)

Some practices reduced costs in vaccine delivery by engaging nurses rather than GPs. However, high demand for nurse vaccinators, and higher pay rates available at mass vaccination hubs meant these efficiency gains were limited.

It's unfinancial to use a GP to vaccinate. You can't use a GP. They're losing \$400 an hour to vaccinate to potentially earn \$300. It doesn't make sense. So we have to use nurses, when we can't get hold of them, or we have to pay a premium for them, it again means extra financial pressure on the practice. (GP01)

Mismatch between vaccine supply and demand

The financial viability of vaccine clinics relied on practices receiving an adequate and predictable supply of vaccines to match demand. This did not happen for many practices. Vaccine deliveries were unpredictable, with staff spending hours rescheduling appointments when expected shipments did not arrive. This mismatch between vaccine demand and supply created multiple challenges and added costs.

Well, it's logistically a nightmare... I can't say that every two weeks on Monday, I'm getting supplies. The vaccine turns up when the vaccine turns up... Because the phones are already so busy, we can't be booking people in and then calling them back and saying, "Oh, it didn't arrive. We're going to have to reschedule." It's painful... (GP14)

Interviews took place at the beginning of the Delta outbreak in Sydney, when there was limited supply of, but

strong community demand for, the Pfizer vaccine due to emerging safety concerns about the AstraZeneca vaccine. This led patients to ‘shop around’ and created further work in rescheduling appointments, wasted doses (especially AstraZeneca vaccine), and meant practices could not claim financial incentives (PIP) for giving both doses.

And it’s very nice that the government say they’ll give us a PIP payment of \$10 per patient when they’ve had two doses... but because we haven’t had the Pfizer [delivery], patients may have had their first dose with us and their second dose somewhere else or vice versa... Or it’s been an AZ patient who had their first dose and just gone, “oh no way I’m having the second dose. I’ll get a clot...” (GP16)

Practice managers reported a high administrative burden in the reporting obligations for vaccine usage and stock levels, and difficulty in obtaining assistance from the ‘Vaccines Operations Centre’.

Impact of policy communication on general practice

The challenges faced in managing vaccine demand and supply were compounded by unanticipated changes to eligibility guidelines and policy. Interviewees were critical of the Federal government’s communication on these changes. Practices increased staffing hours to deal with incoming calls and many installed additional phone lines.

We were inundated. It was insane. I had to turn the phones off and put them on message for an hour so we could all catch our breath. When the Prime Minister says something we all cop it the next day. (GP08)

All of the interviewees reported fear and desperation among the public, particularly in relation to the preference for, and short supply of, the Pfizer vaccine. Every practice involved in the study described experiences of patient deception about vaccine eligibility, pressure on GPs for medical exemptions, the verbal abuse of reception staff and occasions of physical threats.

The incoming telephone calls increased a lot. And as a result, the staff were quite stressed. The calls are coming in incessantly, people are demanding and they are often abusing us as well, because we had a limited supply of Pfizer. And since the demand was outstripping the supply... we bear the brunt of patient abuse. (GP18)

Discussion

The outcome of Australia’s vaccine program has been positive, with high vaccination rates by international standards.¹⁰

The majority of Australian general practices participated in the COVID-19 vaccine roll-out and have led Australia’s vaccination effort. Participants interviewed in this research indicated large scale adaptation of practices to deliver vaccines; investing in online systems; upgrading telephony systems; and developing processes for high volume clinics. This may have long-term benefits for viability and efficiency of primary care, but in the short-term, has increased financial and workforce pressure on practices.

Despite its central role in the COVID-19 vaccine rollout, interviewees reported that general practice was often not treated as an implementation partner. The failure to share transparent and timely information about vaccine availability was universally reported as creating widespread stress for practices and reduced public confidence in the program. These findings identify a clear need to improve two-way communication channels between frontline primary care services, their advocate organisations and policy-makers.

These results indicate that the success of the rollout relied on the initial goodwill of practices. This goodwill was eroded with the unreliable supply, rapidly changing policy settings, and the reality of financial and workload impacts. For many practice owners and practice managers, business costs exceeded increases in Medicare remuneration, and the rollout has had negative financial impacts for most participating practices interviewed. This is consistent with international findings that primary care provided most vaccinations but reported negative impacts on practice finances and viability.¹¹ Surveys of Australian general practice staff have identified increasing burnout^{12,13} and decreasing enthusiasm for involvement in further vaccine provision.¹⁴ The erosion of goodwill may have future impacts on general practices’ willingness to participate in public health campaigns, both directly related to the COVID-19 pandemic and more broadly.

Government support for businesses during the pandemic focused on targeting underutilisation via JobKeeper payments.¹⁵ This approach appears to have been less helpful to support general practices dealing with excess workload combined with unanticipated staffing and capital costs. A recent UK evaluation found that COVID-19 vaccines administered by GPs and pharmacies provided better value for money than larger vaccination centres.¹⁶ Improved understanding of general practice workflow and costs is needed to inform how practices might be more appropriately remunerated – not only for vaccination but for resuming care and health system reforms otherwise delayed by the COVID-19 pandemic.^{17,18}

Strengths and limitations

Strengths of this research include stakeholder involvement in design and piloting of interview schedules, recruitment of a variety of practice ownership and sizes, sample size to obtain data saturation, participants being interviewed with

minimal direction, and the use of an experienced qualitative researcher to oversee and provide rigour for this research. These findings provide results from the initial COVID-19 vaccine rollout, and interviews at a later time during the COVID-19 pandemic may provide different results.

Conclusion

These results provide insights into the impact of the COVID-19 pandemic and vaccine rollout on the financial viability of general practices. Success of the COVID-19 vaccine rollout relied on the goodwill of general practices, but was hindered by communication and logistics issues. Practices showed great innovation in adapting to rapidly changing needs. The findings of GP leadership in the vaccine rollout and challenges of adaptation are consistent with emerging international experience and are potentially transferable. The impacts on practice finances reported by participants may have long-term effects on the viability and efficiency of the Australian primary care workforce, and also influence their willingness to participate in future vaccination programs. This may affect the capacity of primary care to resume regular care delayed by the COVID-19 pandemic, and the financial viability of primary care practices may require additional support. These results may inform practices and policy-makers of considerations needed when introducing rapid reform into primary care services. Future programs will require improved logistics and communications and sufficient payments to compensate for increased costs and management challenges.

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Data availability. The data that support this study cannot be publicly shared due to ethical or privacy reasons and may be shared upon reasonable request to the corresponding author if appropriate.

Conflicts of interest. Dr Wright is Deputy Chair of RACGP NSW/ACT Faculty Council, Board Chair of Central and Eastern Sydney Primary Health Network. All other authors declare no conflicts of interest.

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Appendix I. Interview guide

Practice Background

Clarify information provided in online consent form.

P1: **Job Title/Role**

P2: What is this practice's **main business**?

Any other services? e.g. pathology

P3: Including you, **how many people work here**?

GPs

Nurses

Allied Health Provider

Practice Manager

Reception Staff

Other

P4: Who **owns the majority** of the practice? (i.e. 50% or more)

Clinicians

A corporate entity

Other, please state

P5: Please tell me a little about the **area** the practice is located in, and the **patients** it serves.

Suburban? Socio-economic

P3: **How long** has the practice been in this location?

Adaptations to the COVID-19 pandemic

These questions ask about the adaptations your practice made during the lockdowns in 2020 (**March–May**), what happened in between, and how things for the current lockdown.

1. How did the **volume of services** change at the practice? **Why** do you think that is?

(a) 2020 Lockdown

(b) In between

(c) This lockdown

2. Can you tell me about how the practice **implemented telehealth** in the 2020 lockdown and why?

Who got seen F2F?

Investment in technology

Patient/clinician attitudes

(a) Did services return to 'normal' in-between?

(b) What has happened this time? Learn anything?

3. Did you make any other **changes to services**?

Opening hours?
Group therapies?

4. **Infrastructure and equipment**

(a) What investment did you have to make in infrastructure and equipment during the pandemic to support service changes or infection control?

(b) Did you receive any financial or other support for these investments?

If so, did it help?

If not, what would have helped?

5. **Staffing**

(a) Did you have to make changes to staffing during 2020 lockdowns?

(b) Did you access Jobkeeper? *If not, why not?*

(c) Did staffing returned to 'normal'? How is it now?

6. Did you have challenges managing **other outgoings/expenses**?

Rent

7. What is the **usual billing practice**?

Private

Medicare Bulk-billed

Other e.g. NDIS, Worker's Comp

8. How did **billing practices change during 2020 lockdown**?

(a) Were there any challenges in changing billing practices?

familiarity with new items, clinician resistance, temporary status of Medicare items, Co-payments for telehealth.

(b) Has billing returned to 'normal'? Why?

9. Other than JobKeeper, did the practice receive any other financial support? *e.g. tax relief, PIP payments, rent relief*
COVID vaccination (GP only)

10. Is the practice involved in the vaccination program?

11. How has it impacted on practice finances and staff?

Medicare rebate level

Investment in infrastructure – physical and IT

Workload – administration processes

Nursing staff – availability/cost

Patient perceptions

Practice viability and resilience

12. Overall, what impact has the pandemic had on the financial viability of this practice and why?

Profitability – income and outgoings? Initially and now?

13. Were there any changes to the practice you were planning to make, but couldn't because of the pressures of the pandemic?
14. How optimistic are you about the future of the practice?
15. How did responding to the pandemic impact you and your colleagues?

Personal finances, stress, uncertainty

16. How do you rate how the **communication from the government and peak bodies** during the pandemic? **Your experience** of managing the information.

- (c) NSW Health
 (d) Federal government
 (e) Your PHN
 (f) Professional Associations

17. Is there anything else you would like to say to about practice viability and resilience, or the government response to the pandemic?

Appendix 2. Reporting against consolidated criteria for reporting qualitative research (COREQ) 32-item checklist.⁹

Domain 1: research team and reflexivity

Personal characteristics

1. Interviewer/facilitator	Which author/s conducted the interview or focus group?	Author 1 (MW – male/GP/researcher) was project leader and is an experienced researcher and clinician. Lead qualitative researcher with 20 years of qualitative research experience was Researcher 2 – (SW – female/qualitative researcher) who was also an interviewer. Researcher 3 (JP – male/chiropractor/researcher) and author 4 (RH – female/GP/researcher) were both interviewers with qualitative research experience.
2. Credentials	What were the researcher's credentials? (E.g. PhD, MD)	Three of the four members of the research team have a PhD in medical and/or health science research. Researcher 4 has a Masters qualification and is a current PhD student.
3. Occupation	What was their occupation at the time of the study?	Various, including academic researchers, GP and allied health clinicians.
4. Gender	Was the researcher male or female?	Mix of male and female.
5. Experience and training	What experience or training did the researcher have?	The main interviewer (SW) had over 20 years' experience in designing and conducting qualitative research prior to this study, and oversaw every aspect of the qualitative study and upheld rigour throughout the study. Reflexivity and rigour were jointly upheld by Researchers 1 and 2 who oversaw the project throughout the entire process and have extensive experience in academic research.

Relationship with participants

6. Relationship established	Was a relationship established prior to study commencement?	The interviewers were not involved in the recruitment or screening of any study participants and had no prior relationship with participants.
7. Participant knowledge of the interviewer	What did the participants know about the researcher? (E.g. personal goals, reasons for doing the research)	A basic knowledge of the interviewer was known to the interviewees. Primarily that the interviewers were part of the research team.
8. Interviewer characteristics	What characteristics were reported about the interviewer/facilitator? (e.g. bias, assumptions, reasons and interests in the research topic)	Participants were encouraged to speak openly about their experiences related to the study aims without prejudice or bias. The interviews were supported by an open interview guide. Participants were not in any unequal relationship with the interviewer, limiting the possibility of participants holding back on expressing their views or relating their true experiences, feelings and opinions.

Domain 2: study design

Theoretical framework		
9. Methodological orientation and theory	What methodological orientation was stated to underpin the study? (e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis)	This study used a qualitative thematic analysis methodology to uncover underlying common themes experienced among participants.
Participant selection		
10. Sampling	How were participants selected? (e.g. purposive, convenience, consecutive, snowball)	A purposive sampling method was used to include at least 10 general practices as well as a range of practice sizes and ownership types.
11. Method of approach	How were participants approached? (e.g. face-to-face, telephone, mail, email)	Participants were recruited general practices operating in the Central and Eastern Sydney Primary Health Network (CESPHN) footprint. Participants were recruited by emailing GPs and the CESPHN database and through practice manager fora on social media.
12. Sample size	How many participants were in the study?	18 participants were interviewed.
13. Non-participation	How many people refused to participate or dropped out? Reasons? Setting	All invited participants agreed to participate in the telephone interviews.
14. Setting of data collection	Where was the data collected? (e.g. home, clinic, workplace)	Telephone interviews were conducted privately by telephone or videoconferencing at a mutually convenient time. In cases where the participant was not in a private location (e.g. they were at home with another person/work), they were given the option to reschedule the phone call to another time.
15. Presence of non-participants	Was anyone else present besides the participants and researchers?	No.
16. Description of sample	What are the important characteristics of the sample? (e.g. demographic data, date)	18 general practices, as well as a range of practice sizes and ownership types (refer Table 1).
Data collection		
17. Interview guide	Were questions, prompts, guides provided by the authors? Was it pilot tested?	The interview guide included open-ended questions to enable discussion around aspects of the trial. Yes, the interview was piloted with a panel of primary care representatives (GPs, practice nurses, practice managers, PHN representatives) established for this research.
18. Repeat interviews	Were repeat interviews carried out? If yes, how many?	No repeat interviews were conducted.
19. Audio/visual recording	Did the research use audio or visual recording to collect the data?	Telephone interviews were digitally audio recorded and professionally transcribed verbatim.
20. Field notes	Were field notes made during and/or after the interview or focus group?	Field notes were recorded during the telephone interview, taking particular attention of possible key points, emotional intonations/emphasis that was embedded into the transcript for contextual detail.
21. Duration	What was the duration of the interviews or focus group?	Interviews lasted between 30 and 60 min, mean 40 min.
22. Data saturation	Was data saturation discussed?	Sample size was established by saturation of themes with 'thick' description of the data, ^{19,20} which is a key criterion of the rigour of qualitative methods in determining sample size. ^{21,22}
23. Transcripts returned	Were transcripts returned to participants for comment and/or correction?	No, this was not offered to participants.

Domain 3: analysis and findings

Data analysis		
24. Number of data coders	How many data coders coded the data?	There was one data coder: SW, an academic researcher with 20 years' qualitative research experience in health sciences.
25. Description of the coding tree	Did authors provide a description of the coding tree?	Coding tables were assembled.
26. Derivation of themes	Were themes identified in advance or derived from the data?	Themes were derived from the data thematically without a predetermined theoretical framework.

(Continued on next page)

Domain 3: analysis and findings

27. Software	What software, if applicable, was used to manage the data?	NVIVO and a basic word processing program (MS Word) was used for interview transcriptions, highlighting of major and minor themes, and generating a coding/themes tree.
28. Participant checking	Did participants provide feedback on the findings?	No, this did not occur.
Reporting		
29. Quotations presented	Were participant quotations presented to illustrate the themes/findings? Was each quotation identified? (e.g. participant number)	Participant quotations (as spoken) were reported to illustrate themes and findings.
30. Data and findings consistent	Was there consistency between the data presented and the findings?	Rigour maintained by seven-person broader project research team.
31. Clarity of major themes	Were major themes clearly presented in the findings?	Four major themes are clearly presented in the findings.
32. Clarity of minor themes	Is there a description of diverse cases or discussion of minor themes?	No, minor themes were identified in the data.