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Complete List of Authors:	Chandrakumar, Abira; The University of Adelaide, Adelaide Medical School; GPEx Ltd Hoon, Elizabeth; The University of Adelaide, Adelaide Medical School Benson, Jill; GPEx Ltd Stocks, Nigel; The University of Adelaide Adelaide Medical School, Discipline of General Practice
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Barriers and facilitators to cervical cancer screening for women from culturally and linguistically diverse backgrounds; a qualitative study of GPs

Abira Chandrakumar[1,2*] Elizabeth Hoon[1] Jillian Benson[2] Nigel Stocks[1]

1. *Discipline of General Practice, The University of Adelaide, Adelaide, Australia*
2. *GPEx Ltd., 132 Greenhill Road, Unley, South Australia, Australia*

Correspondence: Abira Chandrakumar, *Discipline of General Practice, The University of Adelaide, Adelaide, Australia*, Email: abira.chandrakumar@adelaide.edu.au

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ABSTRACT

Objective To explore general practitioners' (GPs) perspectives on the barriers and facilitators to cervical cancer screening (CCS) for women from culturally and linguistically diverse (CALD) backgrounds.

Design Qualitative descriptive study involving semi-structed interviews, with interview guide utilising the Theoretical Domains Framework.

Setting Adelaide, South Australia.

Participants Twelve GPs with experience in providing CCS to women from CALD backgrounds participated.

Results Four main themes emerged: 'importance of clinician-patient relationship', 'patients' cultural understanding regarding health care and CCS', 'communication and language' and 'health-system related'. Each theme had several subthemes. GPs' professional relationship with their patients and repeated advice from other clinicians, together with the provision of opportunistic CCS, were described as facilitators, and encompassed the theme of 'importance of clinician-patient relationship'. This theme also raised the possibility of self-collection human papilloma virus (HPV) tests. Lack of awareness and knowledge, lower priority for cancer screening, and patients' individual circumstances contributed to the theme of 'patients' cultural understanding regarding health care and CCS', and often acted as barriers to CCS. 'Communication and language' consisted of language difficulties, interpreter use,

and use of appropriate resources. Language difficulties was a barrier to the provision of CCS, and GPs used interpreters and written handouts to help overcome this. The theme of 'health-system related' involved the increased time needed for CCS consults for CALD women, access to appointments, funding, health promotion and effective use of practice management software.

Conclusions This study highlights that multiple, inter-related barriers and facilitators influence CALD women's engagement with CCS, and that GPs needed to manage all of these factors in order to encourage CCS participation. More efforts are needed to address the barriers to ensure that GPs have access to appropriate resources, and CALD patients have access to GPs they trust.

STRENGTHS AND LIMITATIONS

- The use of qualitative methodology allowed for in-depth exploration of GPs' experiences in providing cervical cancer screening to women from CALD backgrounds
- The use of the Theoretical Domains Framework in the interview guide and study discussion, provided an evidence-based approach for study interpretation
- GPs who participated in our study had a general interest in improving cervical cancer screening participation for CALD women, so their experiences may not be reflective of all GPs in Australia
- Participants were drawn from metropolitan South Australia only, and GPs from other areas in Australia, including rural areas, may add further to the study

INTRODUCTION

Worldwide, cervical cancer is the fourth most common cancer in women; in both incidence and mortality, with the highest burden in countries without cervical screening programs(1, 2). Cervical cancer should largely be preventable, through human papilloma virus (HPV) immunisation and effective screening programs(2). In Australia, the renewed National Cervical Screening Program (rNCSP) has been in place since 1 December 2017, recommending asymptomatic women aged 25-74 years undertake HPV screening tests every five years, replacing two-yearly Pap smears(2-4).

However, participation in cervical cancer screening (CCS) remains low, with the Australian Institute of Health and Welfare reporting that during 2018–2019, only 46% of eligible women had a screening HPV test as part of the rNCSP(2). It is well-established that a significant risk factor for the development of cervical cancer is under-screening or never being screened(2, 3). Therefore, less than half of eligible women participating in CCS, in a country with a well-developed screening program, needs to be addressed, in particular as Australia plans to eliminate cervical cancer by 2035(5).

Current literature suggests that inequalities in screening persist with lower rates of CCS in women from culturally and linguistically diverse (CALD) backgrounds(6, 7). Australia is a multicultural nation, with growing migrant populations, and this calls to strengthen our healthcare access and outcomes for these populations(8). Addressing such inequalities will be key to Australia's success in eliminating cervical cancer.

Research has been performed in Australia(6, 7, 9) and internationally(10-14) exploring CALD patients' perspectives on the barriers and facilitators to CCS. Patient barriers have included poor health literacy, cultural beliefs and stigma, and English proficiency(6, 10, 12). Comparably, linguistic strategies, and increasing patients' awareness surrounding CCS are described as facilitators(12, 13). Although international studies have explored health care providers' (HCP) perspectives on CCS; reporting barriers and facilitators relating to knowledge, communication, and access to healthcare services(15-17), very little is known about Australian HCP perspectives on this issue. To the best of the authors' knowledge, Australian general practitioners' (GPs) perspectives on barriers and facilitators to CCS in CALD patients have not been documented.

Therefore, this study aims to explore GPs' perspectives on the barriers and facilitators to CCS for women from CALD backgrounds. By discovering the views of those who primarily provide CCS in the community, we aim to gain a deeper understanding of the barriers faced in every-day clinical practice, and insights into factors that can be used to increase participation in CCS for these women.

METHODS

Study design and setting

A qualitative descriptive study involving in-depth semi-structured interviews was conducted in Adelaide, South Australia. Semi-structured interviews enabled exploration of participants' experiences. The interviews were undertaken by the lead author, AC; a GP Registrar.

Recruitment

Study participants were recruited through purposive sampling. General practices located in communities with migrant populations, registered with GPEx (South Australia's Regional Training Organisation for General Practice Registrars), and/or professional contacts of Discipline of General Practice at The University of Adelaide, were identified, and GPs with experience in providing cervical screening tests (CSTs) to women from CALD backgrounds were invited to participate in interviews through email, telephone, or snowballing methods. GPs were reimbursed with a $AUD100 gift card for their time.

Data collection

A semi-structured interview guide utilising the Theoretical Domains Framework (TDF)(18) was developed by AC and EH, who has extensive experience in qualitative methodologies. TDF provided a method to understand GPs' and patients' behaviours related to CCS theoretically(19). The interview guide covered questions regarding GPs' experiences in working with women from CALD backgrounds, in particular relating to CCS and its associated barriers and facilitators. Two pilot interviews were undertaken to develop AC's interview skills, and minor revisions to the interview guide were made based on feedback. Data from the pilot interviews were not included in the final analysis.

A total of twelve interviews were conducted between May and September 2021. Ten were conducted via telephone and two via video teleconference (using Zoom application). The use of remote technology improved access for participants. Interviews lasted between 19 and 35 minutes. Written informed consent was received from all participants prior to interviews. Field notes were taken by AC during each interview.

Data analysis

All but one of the interviews were digitally audio-recorded and transcribed verbatim. One participant did not consent to audio-recording, and comprehensive written notes were instead taken with their consent. AC listened to all audio-recordings in full and cross-checked them with the transcripts for accuracy. Any identifying information was removed from the transcripts.

Braun & Clarke's six-phase theoretical framework guided thematic analysis(20). Hard copies of transcripts were reviewed by AC prior to coding, producing a brief summary outlining the key findings within each transcript. Data were managed using QSR N-Vivo software. Codes were generated inductively. Initial codes were generated by independent coding of three transcripts by AC, EH and JB, and agreed upon through discussion. The subsequent transcripts were coded by AC, and discussed regularly with EH, JB and NS for refinement. The final codes were refined and structured into themes and sub-themes. Two further interviews were undertaken after data saturation at ten interviews, to confirm the findings.

Patient and public involvement

Our study focussed on GPs' perspectives on the barriers and facilitators to CCS for women from CALD backgrounds, and patients and the public were not involved at this stage.

RESULTS

Participant characteristics

The characteristics of the 12 participants are in Table 1. 92% of the GPs were female. 8 GPs (67%) used another language for consulting (in addition to English).

TABLE 1: Characteristics of the participants

Characteristics	**GP Participants (*n*=12)**
Age (years)	
≤ 35	2
36 – 54	9
≥ 55	1
Sex	
Female	

Male	11 1
Length of practice as GP (years)	
<5	3
5 – 15	4
>15	5
Clinical workload as GP per week (hours)	
0 – 15	2
16 – 30	5
>30	5
Languages used for consulting other than English	
Nil (other than English)	4
Bengali	3
Mandarin/ Chinese	2
Urdu	2
Vietnamese	1

Themes

Four major themes are reported based on our analysis. Within each theme, several sub-themes are identified, and supported by quotations from the interviews. These are described below. Themes and sub-themes are also summarised in Table 2.

TABLE 2: Themes and sub-themes

Themes	**Sub-themes**
• Importance of clinician-patient relationship	• GPs' professional relationship with their patients • Providing opportunistic CSTs • Other clinician-patient relationships • Self-collection HPV tests
• Patients' cultural understanding regarding health care and CCS	• Lack of awareness and knowledge • Lower priority for cancer screening ○ Not on patients' agenda ○ Patients' subjective beliefs and perceptions of low risk ○ Covid-19 pandemic • Importance of patients' individual circumstances ○ Patient concerns surrounding physical examination ○ Influence of relatives ○ Previous sexual trauma
• Communication and language	• Language difficulties • Interpreter use • Use of appropriate resources

- Health-system related	- Increased time needed - Access to appointments - Funding - Health promotion - Use of practice management system

Theme 1: Importance of clinician-patient relationship

1.1 GPs' professional relationship with their patients

GPs identified several helpful factors in providing CSTs to women from CALD backgrounds. These included their professional experience providing CSTs, length of experience in working with CALD women, and being a female GP.

> "*I see a lot of Vietnamese patients…[but] I see everybody else, not just Vietnamese. So… Thai, Israel, Iran, African, everybody*" (GP8).

Being a male GP was identified as a barrier, as patients were less likely to see a male GP for CSTs.

> "*My experience is that as a male doctor, we have to be very clear about how… we approach cervical screening*" (GP4).

A continuing doctor-patient relationship was frequently a facilitator.

> "*To have a long-term GP or someone you're familiar with is really helpful… So, they will let you do what you think is good for them or they will bring it up because they're comfortable*" (GP8).

GPs also described the importance of building rapport with their patient to facilitate screening discussions.

> "*I build rapport and build a relationship with the patient first. So that then they trust me more… about some of these more sensitive issues and exams, and are more likely to agree to it later down the track*" (GP7).

1.2 Providing opportunistic CSTs

Being opportunistic was important. This included initiating the first discussion regarding CCS, and seeking out the opportunity during other care provision, such as during preparation of chronic disease GP management plans, peri-partum consults, and consults surrounding sexual health.

> "*I think just being opportunistic… for the practitioner to be aware to offer these primary health prevention measures… to incorporate the cervical screening… and offer it all the time*" (GP5)

GPs described that they needed to be aware of the lower screening rates in women from CALD backgrounds, and take the initiative to raise CCS with them.

> "*Being conscious of the fact that often people of these backgrounds are under-screened so that then we can make up for it by putting in that special effort*" (GP7)

1.3 Other clinician-patient relationships

Repeated advice regarding CCS from multiple health care providers, including practice nurses and hospital midwives, was described as a facilitator.

> *"One thing that has really helped, if there's multiple health care providers telling them the same things"* (GP9).

1.4 Self-collection HPV tests

Most participants were aware of the availability of self-collection HPV tests under the rNCSP for under-screened women and viewed the tests positively, describing that "*it's a good opportunity to screen the under-screened patient"* (GP11).

However, GPs also identified several challenges to self-collection tests. Many of these relate to the already identified barriers in our findings, and are described in a further article by the same authors.

Theme 2: Patients' cultural understanding regarding health care and CCS

2.1 Lack of awareness and knowledge

Lack of awareness and access to reliable information regarding the rNCSP and cervical cancer were significant barriers. GPs reported that CSTs were a new concept to some patients, whilst others may have heard of CSTs (or pap smears), but had limited knowledge about their purpose, the procedure involved, or about cervical cancer.

"*If they don't understand how important it is, they're just not going to accept it*" (GP9).

It was reported that some patients' knowledge gap was universal for all screening programs offered in Australia.

> "*It's not just about [CCS]. It was about bowel cancer screening… mammograms as well*" (GP9).

Participants also reflected on the differences in participation between different cultural groups.

> "*…[Patients from] Cambodia, who have equivalent programs there… had raised it with me, and asked when they're going to be due here*" (GP7).

Conversely, migration from countries without CCS deepened the lack of awareness.

> *"Sometimes it's just, sort of, lack of exposure to this knowledge… they've recently come here… back in their countries, this doesn't exist" (GP9).*

2.2 Lower priority for cancer screening

2.2.1 Not on patients' agenda

GPs described that women from CALD backgrounds often viewed CCS with less importance and priority, and it was commonly not on a patient's agenda when presenting to her GP.

Participants identified that multiple factors were often involved in preventive care taking "*a bit of a sideline*" (GP7). Patients from CALD backgrounds often presented with acute medical issues, which may be more complex, requiring more time within the consult.

> "*You've got so much other stuff to get through and everything's taking a bit longer generally. I've also got quite a few women from refugee backgrounds who, I guess, are going through a lot of difficult things and sometimes find it hard just to get to the doctor and make it to appointments and when they come, [they] have quite a few pressing issues that need to be addressed. And so, a lot of that preventative stuff can get lost in the background a bit unfortunately*" (GP7).

2.2.2 Patients' subjective beliefs and perceptions of low risk

GPs described that some patients had pre-determined beliefs, and false perceptions of low risk, regarding CCS. This included beliefs that they would not contract HPV as a result of the same lifetime sexual partner, with some patients having difficulty acknowledging "*how they got [HPV]*" (GP6).

GPs also identified that some patients believed their older age lowered their risk of cervical cancer.

> "*Ones that are like over 60… over 65… or that they have no longer have a sexual partner. And then mistakenly think that, well, because they [are] not sexually active… they don't have to do anything*" (GP8).

2.2.3 Covid-19 pandemic

The COVID-19 pandemic was also described to have impacted CCS participation; across women from all backgrounds.

> "*During the [COVID-19] pandemic... we've seen a marked decrease in the number of people presenting for just primary screening*" (GP5).

2.3 Importance of patients' individual circumstances

2.3.1 Patient concerns surrounding physical examination

A common report was patients' reluctance and embarrassment surrounding cervical examinations, as they involve speculums and can be intrusive.

> "*I find that… women from particular cultures… could be quite ashamed to get exposed... does make the actual procedure sometimes a little bit difficult*" (GP12).

Patients were less comfortable with CSTs when children were present, and it was difficult for GPs to manage supervising the children and performing the examination.

> “*I do think sometimes young woman with really tiny children, it could be a real barrier to get the time. They never get a chance to come in without their kids*” (GP1).

2.3.2 Influence of relatives

GPs noted that if a patient’s relatives were not participating, this reduced the patient’s own willingness to engage with CCS.

> “*There are some beliefs and they've reached a certain age and like they just outright say "none of my sisters and mothers have had it and they're fine"”* (GP9).

However, relatives can also have a positive influence, with some GPs describing that the presence of a support person, in particular daughters bringing their mothers, had improved uptake.

> “*Another thing I’ve found helpful is, I've had a few patients from different cultural backgrounds where the daughter and the mom have come together for their pap smears, and the daughter… interpreted for the mom… the daughter has encouraged the mum to come along*” (GP7).

2.3.3 Previous sexual trauma

A history of female genital mutilation was raised by some GPs as negatively affecting CCS participation, with an emphasis on the need for GPs to be more sensitive and respectful about this issue.

> "*Women that have had genital mutilation…exploring… how comfortable they are and the sort of speculum that you might choose… a bit more gently you might go about it*" (GP10).

Similarly, cervical examinations can be distressing for patients with a history of sexual abuse.

> "*I've found much more barriers when women have been in sexual abuse*" (GP1).

Theme 3: Communication and language

3.1 Language difficulties

Most participants described challenges in promoting CCS when speaking a different language to their patient, or when patients were not fluent in English.

> "*Its a difficulty explaining [CSTs] in their own terms… what exactly this means*" (GP12).

Using simple words helped with communication, as did the use of anatomy models and visual aids.

> "*[I] find this a new concept and [women from CALD backgrounds] have absolutely no idea… I say this is a cancer screening… I may show a picture*" (GP4).

> **"***I really show them the speculum, probably tell them that there are smaller ones if they were worried about internal exams, actually showing the brush and let them have a feel of the brush*" (GP5).

3.2 Interpreter use

Language barriers were often overcome by using interpreters. GPs valued effective communication, with one GP reflecting that CCS is *"something that good communication is* *absolutely crucial for, to make sure you're getting proper consent and the patient is really comfortable*" (GP7).

Easy access to telephone interpreters was important, but challenges included inconvenience, increased time, miscommunication errors, and sensitivities in using an interpreter for a gynaecological examination.

> "*In an ideal circumstance, you'd have a telephone interpreter… that take 5 minutes to line up at best… maybe it's something that you can plan for another day*" (GP2).

Another GP shared that using family members as interpreters provides variable results.

> "*A relative could be good or they could be terrible… could talk over with them afterwards and say this is what it's about*" (GP1).

3.3 Use of appropriate resources

GPs used written handouts, and highlighted the value of providing reliable information to patients in their own language. Some GPs were aware of where to access such information, whilst others expressed the need for easier access to these resources.

> "*Something that could be useful would be to look into if there's pamphlets or information sheets in various languages that could be given to patients*" (GP7).

Waiting room resources, such as posters and pamphlets, were mentioned as impacting patient education and awareness. Additionally, written resources regarding the rNCSP was raised as important in the provision of consistent information.

> "*It can be confusing for the patients about how it's swapped over [to rNCSP], but probably some kind of handout you can give for that*" (GP1).

Theme 4: Health-system related

4.1 Increased time needed

Allocating sufficient time was key to improving uptake, particularly in the presence of language barriers and interpreters. GPs employed strategies such as longer appointments, or discussions over multiple appointments.

> "*You have to warn them… bring them back again and see if they've got any question, so maybe third time finally you'd do [the CST]*" (GP1).

GPs expressed concerns regarding non-attendance when patients are asked to re-schedule appointments.

> "*I think that anything where you raise it and then try and think that they'll come back, you lose… your opportunity… they don't return. So, one of the advantages is if you are comfortable you can do it quite quickly, then you get it all done and dusted in that consultation*" (GP10).

GPs also identified the need for investing more time in explaining and performing CSTs.

> *"I have to explain [CSTs] before I go ahead. So that's the challenge… Rather than the [non-CALD] population, they would be expecting, they know what is going to happen and how we interpret"* (GP3).

However, GPs described time-pressure challenges when spending more time on one particular health issue, or when attempting to schedule multiple aspects of care into one consultation.

> "*Now there's even the cervical cancer vaccine that needs to be brought up as well. So, it's a lot to talk about."* (GP8).

4.2 Access to appointments

Improving access to appointments can improve a patient's participation in screening. Some GPs suggested the use of women-only or CCS-specific clinics.

> *"We can even run like a cervical screening clinic, as a separate one… where it could be like women presenting and it could be a more welcoming environment for the women."* (GP12).

Additionally, GPs reflected upon the possibility of easily accessible appointment times to encourage wider participation.

> "*It's interesting to see how many women come on a Saturday morning for cervical screening… I'm sure that might be the same for CALD backgrounds*" (GP10).

Some GPs also described transport access issues, and the need for some patients to rely on family members to attend appointments.

> *"Maybe accessing the service could be a problem for them. Maybe they are dependent on their husband or somebody else to make an appointment for them and bring them for the test."* (GP12).

4.3 Funding

Issues surrounding Medicare eligibility and costs of CCS were raised as barriers, particularly when coupled with the lack of perceived necessity.

> "*If they don't hold a Medicare [card] and they have got some sort of a private insurance… do they think they might have to pay for some tests? They perceive this as an unimportant task*" (GP9).

One GP reflected that working in a bulk-billing clinic acted as a facilitator for these patients.

> "*For screening, if there's nothing that's wrong with [women from CALD backgrounds], I don't think that they will pay… I don't think that I will be as successful, as I am, running the screening program, if I charge this woman*" (GP8).

However, the GP also mentioned that more funding should be allocated to facilitating CCS, in particular for under-screened populations.

> "*I think, for us, the funding would be a big thing. To give us more time so we can educate*" (GP8).

4.4 Health promotion

GPs advocated for culturally-sensitive public health campaigns and health promotional materials, particularly in different languages, to raise awareness. Ideas offered included Government initiatives and campaigns, and use of social media, radio services, and television.

> *"Maybe some more public health campaign so that people have already been introduced to the concept [of CSTs] outside of general practice"* (GP2).

4.5 Use of practice management system

An effective recall and reminder system, incorporating telephone calls, text messages and sending letters to patients, was considered a facilitator. GPs reflected on the importance of placing patients on the reminder system to ensure follow up, and engaged their practice nurses and receptionists to assist with recalls.

> "*We actually spend a lot of manpower… to draw out the recalls and actively calling people. Sometimes they don't respond to a message, we call them, we keep trying and then we send a letter*" (GP8).

GPs mentioned that reminders were more effective when they were sent in patients' own languages.

> "*I've got a template letter for [language] …and now I have a text message in [language]…it doesn't need to be long... but this is their language*" (GP8).

Additionally, GPs stated that prompts during consultations, and when booking appointments, can also increase patient participation by initiating the discussion.

DISCUSSION

The study findings provide in-depth insight into GPs' perspectives about the barriers and facilitators to CCS for an under-screened population group - women from CALD backgrounds. GPs identified several barriers at the individual and organisational levels; often co-existing to challenge the provision of CCS in these women. Similarly, GPs reflected on several personal facilitators that encouraged and increased CCS.

The TDF emphasises on understanding the influences on behaviour in order to encourage behaviour change(18). This conceptual framework has been widely applied across healthcare-related research focussed on changing clinical behaviours, and was used to further interpret our study's themes(18). We used the TDF domains of knowledge, skills, social/professional role and identity, beliefs about consequences, environmental context and resources, and social influences, within our interpretation. As our study demonstrates the inter-relationship of the barriers and facilitators, our four prominent themes transect multiple domains of TDF. To highlight this, we have not described our findings under domain headings as discrete constructs, but rather refer to these domains (*italics used to signal this*) in the following discussion.

Our study found that lack of awareness or insufficient *knowledge* regarding CCS continues to hinder screening participation in CALD women, consistent with previous literature(13, 21-23). Knowledge gaps in the process and importance of screening often reflected low health literacy and lack of exposure to CCS in patients' countries of birth (*environmental context and resources*). GPs mentioned that patients were more proactive if they migrated from countries where CCS is offered as primary screening. GPs also reflected that some patients' lack of knowledge translated to other primary screening programs, such as breast cancer and bowel cancer screening. This is not surprising given that CALD women can be unfamiliar with preventive health services(12, 15) (*beliefs about consequences*), indicating that widespread interventions are required to improve CALD patients' cancer screening participation(24). Patients who did not view cancer screening, specifically CCS, with high importance, or patients who perceived themselves to be at low risk of cervical cancer, were less likely to present for screening (*knowledge, beliefs about consequences*). GPs identified that CALD patients' needs can be more complex, and cancer screening was often not on their agenda. Additionally, the COVID-19 pandemic, which has caused significant reductions in preventive healthcare, including CCS(25), was echoed by our GPs as having a negative impact on CCS participation rate *(environmental context and resources).*

It was highlighted that opportunistically offering CCS to women with low knowledge, awareness and priority, was a significant facilitator, and at times, a necessity, in improving uptake (*skills*, *social/ professional role and identity*). GPs demonstrated variable approaches to this, with some offering it as part of chronic disease care, and others during consults surrounding sexual health. Although other studies have also highlighted that CALD women tend to undertake CCS when offered opportunistically(16), this was a prominent idea amongst our participants. As CCS in Australia is commonly performed by GPs, this allows for opportunistic care to occur, as GPs are able to perform the necessary screening test in their rooms when patients present for other reasons (*skills*). This is unique, compared to Australia's bowel or breast cancer screening programs, which are delivered separately at national and/or state or territory level(26, 27).

A patient's individual circumstance can limit their acceptance of screening, and being respectful and addressing this was helpful in improving CCS uptake. Among the factors discussed, physical examination concerns and influence of relatives were the most discussed. Consistent with previous findings(22, 28), the influence of relatives either hindered or encouraged CCS participation, depending on whether the relatives supported CCS (*social influences*).

Whilst it is important to acknowledge patient-sided barriers to health care, it is imperative to address the social and environmental influences that produce health inequities in order to implement change(29). Another prominent finding in our study was the importance of the clinician-patient relationship in influencing CCS uptake (*social/ professional role and identity*). A GP's role in Australia is significant, with evidence that patients who have a regular GP have better engagement with the health system(30). This is also true for CALD populations, and it has been recognised that positive experiences with GPs can strongly influence CALD patients' use of health services(31). The GPs in our study recognised that their professional relationship with patients, particularly if long-standing, was an important facilitator in encouraging CCS. Allowing time to build rapport was key as it invited trust and familiarity(30), and allowed GPs to promote education surrounding CCS; improving CALD patients' CCS uptake(16). Furthermore, advice from multiple HCPs regarding CCS provided a consistent message (*social/ professional role and identity).*

Barriers relating to knowledge and health literacy were often compounded by language barriers *(environmental context and resources)*. GPs reported difficulties when they did not speak the same language as their patients, and used visual aids and interpreter services to communicate (*environmental context and resources)*. Although GPs found external interpreter services useful overall, they reflected on numerous challenges associated with their use. This included the increased time and resources needed to organise interpreters in consultations, which often resulted in not being able to access an interpreter, particularly with short-notice. In Australia, GPs have access to the national Translating and Interpreting Service (TIS), provided free-of-charge for use with non-English speaking patients(32). However, GPs also need more time in their consultations to facilitate this. Our participants proposed solutions such as offering multiple consultations, longer appointments, and increased funding for such consultations. This is consistent with previous literature that improving financial incentives for GPs to undertake longer consultations may be beneficial for challenging and complex discussions(17, 33).

Delivering information through different channels has been shown to increase participation in CCS for CALD women(12). GPs discussed the value of written information material, including pamphlets in patients' own languages, emphasising that GPs need to have easier access to such resources(12, 34) *(environmental context and resources)*. Additionally, evidence suggests that screening invitations from GPs can be more trusted by patients than invitations from screening hubs(35). This has implications for improving CCS uptake, as GPs and practice staff routinely send reminders and recalls to patients. Our study adds to this by highlighting that personalised reminders sent in patients' own languages was often more effective. Therefore, more effort should be made to incorporate this for under-screened populations *(environmental context and resources)*.

Another proposed solution by GPs was the use of self-collection HPV tests to reduce inequities in CCS. Self-collection HPV tests have been increasingly studied in recent years as an alternative for under-screened populations(36, 37). They have been implemented as part of the rNCSP under strict criteria, and are generally accepted by GPs for their benefits, but also come with challenges(37).

Study strengths and limitations

This study's key strength was the use of appropriate research strategies. This included ongoing corroboration between researchers during data analysis, and using an inductive approach to data collection to ensure that participants' responses drove the analysis of results. Additionally, the use of TDF provided an evidence-based approach for study interpretation. This study also has limitations. Firstly, it was beyond the scope of our study to investigate CALD patients' experiences in regards to the barriers and facilitators of CCS. Secondly, difficulties in recruiting GPs, particularly during a pandemic, meant that experiences of only a small number of participants has been described. However, data collection was undertaken until data saturation was reached, with a further two participants interviewed. Another limitation was that our sample was drawn from metropolitan South Australia only, and data from GPs across Australia, including rural areas, may add further to the study.

Conclusions

Our study highlights that GPs recognise that multiple factors influence CALD women's engagement with CCS, and that these barriers and facilitators are all inter-related. Barriers at the individual level, such as patients' subjective beliefs, are not easily fixed. However, recognising them, providing education, and remaining sensitive remain vital in encouraging CCS for these women. Barriers at the organisational level have opportunities for improvement. Improving CALD women's access to GPs they trust, and GPs opportunistically performing CSTs, seem crucial to improving uptake. Additionally, providing GPs with appropriate written patient-specific resources, and financial reimbursement for undertaking longer consultations, may assist in addressing some barriers. Self-collection HPV tests are an evolving and promising area in supporting GPs to improve CCS uptake in CALD women, but the above-mentioned barriers still need to be addressed in order for self-collection HPV tests to drastically improve CCS participation.

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Standards for Reporting Qualitative Research (SRQR)*

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Title and abstract

Title - Concise description of the nature and topic of the study Identifying the study as qualitative or indicating the approach (e.g., ethnography, grounded theory) or data collection methods (e.g., interview, focus group) is recommended	Page 1
Abstract - Summary of key elements of the study using the abstract format of the intended publication; typically includes background, purpose, methods, results, and conclusions	Pages 2, 3

Introduction

Problem formulation - Description and significance of the problem/phenomenon studied; review of relevant theory and empirical work; problem statement	Pages 4, 5
Purpose or research question - Purpose of the study and specific objectives or questions	Page 5

Methods

Qualitative approach and research paradigm - Qualitative approach (e.g., ethnography, grounded theory, case study, phenomenology, narrative research) and guiding theory if appropriate; identifying the research paradigm (e.g., postpositivist, constructivist/ interpretivist) is also recommended; rationale**	Page 5
Researcher characteristics and reflexivity - Researchers' characteristics that may influence the research, including personal attributes, qualifications/experience, relationship with participants, assumptions, and/or presuppositions; potential or actual interaction between researchers' characteristics and the research questions, approach, methods, results, and/or transferability	Pages 5, 6
Context - Setting/site and salient contextual factors; rationale**	Pages 5, 6
Sampling strategy - How and why research participants, documents, or events were selected; criteria for deciding when no further sampling was necessary (e.g., sampling saturation); rationale**	Pages 5, 6, 7
Ethical issues pertaining to human subjects - Documentation of approval by an appropriate ethics review board and participant consent, or explanation for lack thereof; other confidentiality and data security issues	Pages 6, 26
Data collection methods - Types of data collected; details of data collection procedures including (as appropriate) start and stop dates of data collection and analysis, iterative process, triangulation of sources/methods, and modification of procedures in response to evolving study findings; rationale**	Pages 6, 7

Data collection instruments and technologies - Description of instruments (e.g., interview guides, questionnaires) and devices (e.g., audio recorders) used for data collection; if/how the instrument(s) changed over the course of the study	Page 6
Units of study - Number and relevant characteristics of participants, documents, or events included in the study; level of participation (could be reported in results)	Pages 6, 7, 8
Data processing - Methods for processing data prior to and during analysis, including transcription, data entry, data management and security, verification of data integrity, data coding, and anonymization/de-identification of excerpts	Pages 6, 7
Data analysis - Process by which inferences, themes, etc., were identified and developed, including the researchers involved in data analysis; usually references a specific paradigm or approach; rationale**	Pages 6, 7
Techniques to enhance trustworthiness - Techniques to enhance trustworthiness and credibility of data analysis (e.g., member checking, audit trail, triangulation); rationale**	Pages 6, 7

Results/findings

Synthesis and interpretation - Main findings (e.g., interpretations, inferences, and themes); might include development of a theory or model, or integration with prior research or theory	Pages 7-21
Links to empirical data - Evidence (e.g., quotes, field notes, text excerpts, photographs) to substantiate analytic findings	Pages 7-21

Discussion

Integration with prior work, implications, transferability, and contribution(s) to the field - Short summary of main findings; explanation of how findings and conclusions connect to, support, elaborate on, or challenge conclusions of earlier scholarship; discussion of scope of application/generalizability; identification of unique contribution(s) to scholarship in a discipline or field	Pages 21-26
Limitations - Trustworthiness and limitations of findings	Page 25

Other

Conflicts of interest - Potential sources of influence or perceived influence on study conduct and conclusions; how these were managed	Page 26
Funding - Sources of funding and other support; role of funders in data collection, interpretation, and reporting	Page 26

*The authors created the SRQR by searching the literature to identify guidelines, reporting standards, and critical appraisal criteria for qualitative research; reviewing the reference lists of retrieved sources; and contacting experts to gain feedback. The SRQR aims to improve the transparency of all aspects of qualitative research by providing clear standards for reporting qualitative research.

**The rationale should briefly discuss the justification for choosing that theory, approach, method, or technique rather than other options available, the assumptions and limitations implicit in those choices, and how those choices influence study conclusions and transferability. As appropriate, the rationale for several items might be discussed together.

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Barriers and facilitators to cervical cancer screening for women from culturally and linguistically diverse backgrounds; a qualitative study of GPs

Abira Chandrakumar[1,2*] Elizabeth Hoon[1,3] Jillian Benson[2] Nigel Stocks[1]

1. *Discipline of General Practice, Adelaide Medical School, The University of Adelaide, Adelaide, Australia*
2. *GPEx Ltd., 132 Greenhill Road, Unley, South Australia, Australia*
3. *School of Public Health, The University of Adelaide, Adelaide, Australia*

Correspondence: Abira Chandrakumar, *Discipline of General Practice, Adelaide Medical School, The University of Adelaide, Adelaide, Australia*, Email: abira.chandrakumar@adelaide.edu.au

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Key words: cervical cancer screening; barriers; facilitators; GPs

ABSTRACT

Objective To explore general practitioners' (GPs) perspectives on the barriers and facilitators to cervical cancer screening (CCS) for women from culturally and linguistically diverse (CALD) backgrounds.

Design Qualitative descriptive study involving semi-structed interviews, with interview guide informed by the Theoretical Domains Framework.

Setting Adelaide, South Australia.

Participants Twelve GPs with experience in providing CCS to women from CALD backgrounds participated.

Results Four main themes emerged: 'importance of clinician-patient relationship', 'patients' cultural understanding regarding health care and CCS', 'communication and language' and 'health-system related'. Each theme had several subthemes. GPs' professional relationship with their patients and repeated advice from other clinicians, together with the provision of opportunistic CCS, were described as facilitators, and encompassed the theme of 'importance of clinician-patient relationship'. This theme also raised the possibility of self-collection human papilloma virus (HPV) tests. Lack of awareness and knowledge, lower priority for cancer screening, and patients' individual circumstances contributed to the theme of 'patients' cultural understanding regarding health care and CCS', and often acted as barriers to CCS. 'Communication and language' consisted of language difficulties, interpreter use,

and use of appropriate resources. Language difficulties was a barrier to the provision of CCS, and GPs used interpreters and written handouts to help overcome this. The theme of 'health-system related' involved the increased time needed for CCS consults for CALD women, access to appointments, funding, health promotion and effective use of practice management software.

Conclusions This study highlights that multiple, inter-related barriers and facilitators influence CALD women's engagement with CCS, and that GPs needed to manage all of these factors in order to encourage CCS participation. More efforts are needed to address the barriers to ensure that GPs have access to appropriate resources, and CALD patients have access to GPs they trust.

STRENGTHS AND LIMITATIONS

- The use of qualitative methodology allowed for in-depth exploration of GPs' experiences in providing cervical cancer screening to women from CALD backgrounds
- The use of the Theoretical Domains Framework in the interview guide and data analysis, provided an evidence-based approach for study interpretation
- GPs who participated in our study had a general interest in improving cervical cancer screening participation for CALD women, so their experiences may not be reflective of all GPs in Australia
- Participants were drawn from metropolitan South Australia only, and GPs from other areas in Australia, including rural areas, may add further to the study

INTRODUCTION

Worldwide, cervical cancer is the fourth most common cancer in women; in both incidence and mortality, with the highest burden in countries without cervical screening programs[1, 2]. Cervical cancer should largely be preventable, through human papilloma virus (HPV) immunisation and effective screening programs[2]. In Australia, the renewed National Cervical Screening Program (rNCSP) has been in place since 1 December 2017, recommending asymptomatic women aged 25-74 years undertake HPV screening tests every five years, replacing two-yearly Pap smears[2-4].

However, participation in cervical cancer screening (CCS) remains low, with the Australian Institute of Health and Welfare reporting that during 2018–2019, only 46% of eligible women had a screening HPV test as part of the rNCSP[2]. It is well-established that a significant risk factor for the development of cervical cancer is under-screening or never being screened[2, 3]. Therefore, less than half of eligible women participating in CCS, in a country with a well-developed screening program, needs to be addressed, in particular as Australia plans to eliminate cervical cancer by 2035[5].

Current literature suggests that inequalities in screening persist with lower rates of CCS in women from culturally and linguistically diverse (CALD) backgrounds[6, 7]. Australia is a multicultural nation, with growing migrant populations, and this calls to strengthen our healthcare access and outcomes for these populations[8]. Addressing such inequalities will be key to Australia's success in eliminating cervical cancer.

Research has been performed in Australia[6,7,9] and internationally[10-14] exploring CALD patients' perspectives on the barriers and facilitators to CCS. Patient barriers have included poor health literacy, cultural beliefs and stigma, and English proficiency[6,10,12]. Comparably, linguistic strategies, and increasing patients' awareness surrounding CCS are described as facilitators [12,13]. Although international studies have explored health care providers' (HCP) perspectives on CCS; reporting barriers and facilitators relating to knowledge, communication, and access to healthcare services[15-17], very little is known about Australian HCP perspectives on this issue. To the best of the authors' knowledge, Australian general practitioners' (GPs) perspectives on barriers and facilitators to CCS in CALD patients have not been documented.

There is growing recognition that delivering healthcare involves complex underlying processes within specific contexts[18,19]. In order to effectively bring about change in healthcare, we need to theoretically understand the influences on professional behaviours, so that they are considered in interventions aimed at change[18-20]. The Theoretical Domains Framework (TDF) is a conceptual, validated framework that has synthesised 33 behavioural theories forming 14 domains, and is a useful tool to support researchers in understanding the environmental, social, and cognitive influences on behaviour[21]. It has been widely applied across healthcare-related research focussed on changing clinical and professional behaviours, including understanding barriers and facilitators to behaviours related to healthcare outcomes[21-23].

Therefore, using TDF, this study aims to explore GPs' perspectives on the barriers and facilitators to CCS for women from CALD backgrounds. By discovering the views of those who primarily provide CCS in the community, we aim to gain a deeper understanding of the barriers faced in every-day clinical practice, and insights into factors that can be used to increase participation in CCS for these women.

METHODS

Study design and setting

A qualitative descriptive study involving in-depth semi-structured interviews was conducted in Adelaide, South Australia. Semi-structured interviews enabled exploration of participants' experiences. The interviews were undertaken by the lead author, AC; a GP Registrar.

Recruitment

Study participants were recruited through purposive sampling. General practices located in communities with migrant populations, registered with GPEx (South Australia's Regional Training Organisation for General Practice Registrars), and/or professional contacts of Discipline of General Practice at The University of Adelaide, were identified, and GPs with experience in providing cervical screening tests (CSTs) to women from CALD backgrounds were invited to participate in interviews through email, telephone, or snowballing methods. GPs were reimbursed with a $AUD100 gift card for their time.

Data collection

A semi-structured interview guide informed by TDF[21] was developed by AC and EH, who has extensive experience in qualitative methodologies. The TDF provided a method to understand GPs' and patients' behaviours related to CCS theoretically[18]. The interview guide covered questions regarding GPs' experiences in working with women from CALD backgrounds, in particular relating to CCS, and covered TDF domains including knowledge, skills, and social/ professional role and identity. Two pilot interviews were undertaken to develop AC's interview skills, and minor revisions to the interview guide were made based on feedback. Data from the pilot interviews were not included in the final analysis.

A total of twelve interviews were conducted between May and September 2021. Ten were conducted via telephone and two via video teleconference (using Zoom application). The use of remote technology improved access for participants. Interviews lasted between 19 and 35 minutes. Written informed consent was received from all participants prior to interviews. Field notes were taken by AC during each interview.

Data analysis

All but one of the interviews were digitally audio-recorded and transcribed verbatim. One participant did not consent to audio-recording, and comprehensive written notes were instead taken with their consent. AC listened to all audio-recordings in full and cross-checked them with the transcripts for accuracy. Any identifying information was removed from the transcripts.

Braun & Clarke's six-phase framework guided thematic analysis[24]. Hard copies of transcripts were reviewed by AC prior to coding, producing a brief summary outlining the key findings within each transcript. Data were managed using QSR N-Vivo software. Codes were generated inductively. Initial codes were generated by independent coding of three transcripts by AC, EH and JB, and codes agreed upon through discussion. The subsequent transcripts were coded by AC, and discussed regularly with EH, JB and NS for refinement. The final codes were then structured into themes and sub-themes. In the final phase of analysis, this inductive approach was followed by reflexive consideration of the potential fit between the themes generated and the TDF domains. This approach supported the interpretation of the data, and fits with Braun and Clarke's overall analysis framework[24]. Two further interviews were then conducted to supplement data from the first ten interviews, to confirm findings and attain data saturation.

Patient and public involvement

Our study focussed on GPs' perspectives on the barriers and facilitators to CCS for women from CALD backgrounds, and patient and the public were not involved at this stage.

RESULTS

Participant characteristics

The characteristics of the 12 participants are in Table 1. 92% of the GPs were female. 8 GPs (67%) used another language for consulting (in addition to English).

TABLE 1: Characteristics of the participants

Characteristics	**GP Participants (*n*=12)**
Age (years)	
≤ 35	2
36 – 54	9
≥ 55	1
Sex	
Female	11
Male	1
Length of practice as GP (years)	
<5	3
5 – 15	4
>15	5
Clinical workload as GP per week (hours)	
0 – 15	2
16 – 30	5
>30	5

Languages used for consulting other than English	
Nil (other than English)	4
Bengali	3
Mandarin/ Chinese	2
Urdu	2
Vietnamese	1

Themes

There are four major themes reported based on our thematic analysis. Within each theme, several sub-themes were identified, and supported by quotations from the interviews. These are described below. Themes and sub-themes are also summarised in Table 2.

TABLE 2: Themes and sub-themes

Themes	**Sub-themes**
• Importance of clinician-patient relationship	• GPs' professional relationship with their patients • Providing opportunistic CSTs • Other clinician-patient relationships • Self-collection HPV tests

• Patients' cultural understanding regarding health care and CCS	• Lack of awareness and knowledge • Lower priority for cancer screening ○ Not on patients' agenda ○ Patients' subjective beliefs and perceptions of low risk ○ COVID-19 pandemic • Importance of patients' individual circumstances ○ Patient concerns surrounding physical examination ○ Influence of relatives ○ Previous sexual trauma
• Communication and language	• Language difficulties • Interpreter use • Use of appropriate resources
• Health-system related	• Increased time needed • Access to appointments • Funding • Health promotion • Use of practice management system

Theme 1: Importance of clinician-patient relationship

1.1 GPs' professional relationship with their patients

GPs identified several helpful factors in providing CSTs to women from CALD backgrounds. These included their professional experience providing CSTs, length of experience in working with CALD women, and being a female GP.

> "*I see a lot of Vietnamese patients…[but] I see everybody else, not just Vietnamese. So… Thai, Israel, Iran, African, everybody*" (GP8).

Being a male GP was identified as a barrier, as patients were less likely to see a male GP for CSTs.

> "*My experience is that as a male doctor, we have to be very clear about how… we approach cervical screening*" (GP4).

A continuing doctor-patient relationship was frequently a facilitator.

> "*To have a long-term GP or someone you're familiar with is really helpful… So, they will let you do what you think is good for them or they will bring it up because they're comfortable*" (GP8).

GPs also described the importance of building rapport with their patient to facilitate screening discussions.

> "*I build rapport and build a relationship with the patient first. So that then they trust me more… about some of these more sensitive issues and exams, and are more likely to agree to it later down the track*" (GP7).

1.2 Providing opportunistic CSTs

Being opportunistic was important. This included initiating the first discussion regarding CCS, and seeking out the opportunity during other care provision, such as during preparation of chronic disease GP management plans, peri-partum consults, and consults surrounding sexual health.

> "*I think just being opportunistic… for the practitioner to be aware to offer these primary health prevention measures… to incorporate the cervical screening… and offer it all the time*" (GP5)

GPs described that they needed to be aware of the lower screening rates in women from CALD backgrounds, and take the initiative to raise CCS with them.

> "*Being conscious of the fact that often people of these backgrounds are under-screened so that then we can make up for it by putting in that special effort*" (GP7)

1.3 Other clinician-patient relationships

Repeated advice regarding CCS from multiple health care providers, including practice nurses and hospital midwives, was described as a facilitator.

> *"One thing that has really helped, if there's multiple health care providers telling them the same things"* (GP9).

1.4 Self-collection HPV tests

Most participants were aware of the availability of self-collection HPV tests under the rNCSP for under-screened women and viewed the tests positively, describing that "*it's a good opportunity to screen the under-screened patient"* (GP11).

However, GPs also identified several challenges to self-collection tests, and many of these relate to the already identified barriers in our findings.

Theme 2: Patients' cultural understanding regarding health care and CCS

2.1 Lack of awareness and knowledge

Lack of awareness and access to reliable information regarding the rNCSP and cervical cancer were significant barriers. GPs reported that CSTs were a new concept to some patients, whilst others may have heard of CSTs (or pap smears), but had limited knowledge about their purpose, the procedure involved, or about cervical cancer.

"*If they don't understand how important it is, they're just not going to accept it*" (GP9).

It was reported that some patients' knowledge gap was universal for all screening programs offered in Australia.

> "*It's not just about [CCS]. It was about bowel cancer screening… mammograms as well*" (GP9).

Participants also reflected on the differences in participation between different cultural groups.

"*…[Patients from] Cambodia, who have equivalent programs there… had raised it with me, and asked when they're going to be due here*" (GP7).

Conversely, migration from countries without CCS deepened the lack of awareness.

> *"Sometimes it's just, sort of, lack of exposure to this knowledge… they've recently come here… back in their countries, this doesn't exist" (GP9).*

2.2 Lower priority for cancer screening

2.2.1 Not on patients' agenda

GPs described that women from CALD backgrounds often viewed CCS with less importance and priority, and it was commonly not on a patient's agenda when presenting to her GP.

Participants identified that multiple factors were often involved in preventive care taking "*a bit of a sideline*" (GP7). Patients from CALD backgrounds often presented with acute medical issues, which may be more complex, requiring more time within the consult.

> "*You've got so much other stuff to get through and everything's taking a bit longer generally. I've also got quite a few women from refugee backgrounds who, I guess, are going through a lot of difficult things and sometimes find it hard just to get to the doctor and make it to appointments and when they come, [they] have quite a few pressing issues that need to be addressed. And so, a lot of that preventative stuff can get lost in the background a bit unfortunately*" (GP7).

2.2.2 Patients' subjective beliefs and perceptions of low risk

GPs described that some patients had pre-determined beliefs, and false perceptions of low risk, regarding CCS. This included beliefs that they would not contract HPV as a result of the same lifetime sexual partner, with some patients having difficulty acknowledging "*how they got [HPV]*" (GP6).

GPs also identified that some patients believed their older age lowered their risk of cervical cancer.

> "*Ones that are like over 60… over 65… or that they have no longer have a sexual partner. And then mistakenly think that, well, because they [are] not sexually active… they don't have to do anything*" (GP8).

2.2.3 COVID-19 pandemic

The COVID-19 pandemic was also described to have impacted CCS participation; across women from all backgrounds.

> "*During the [COVID-19] pandemic... we've seen a marked decrease in the number of people presenting for just primary screening*" (GP5).

2.3 Importance of patients' individual circumstances

2.3.1 Patient concerns surrounding physical examination

A common report was patients' reluctance and embarrassment surrounding cervical examinations, as they involve speculums and can be intrusive.

> "*I find that… women from particular cultures… could be quite ashamed to get exposed... does make the actual procedure sometimes a little bit difficult*" (GP12).

Patients were less comfortable with CSTs when children were present, and it was difficult for GPs to manage supervising the children and performing the examination.

> "*I do think sometimes young woman with really tiny children, it could be a real barrier to get the time. They never get a chance to come in without their kids*" (GP1).

2.3.2 Influence of relatives

GPs noted that if a patient's relatives were not participating, this reduced the patient's own willingness to engage with CCS.

> "*There are some beliefs and they've reached a certain age and like they just outright say "none of my sisters and mothers have had it and they're fine"*" (GP9).

However, relatives can also have a positive influence, with some GPs describing that the presence of a support person, in particular daughters bringing their mothers, had improved uptake.

> "*Another thing I've found helpful is, I've had a few patients from different cultural backgrounds where the daughter and the mom have come together for their pap smears, and the daughter… interpreted for the mom… the daughter has encouraged the mum to come along*" (GP7).

2.3.3 Previous sexual trauma

A history of female genital mutilation was raised by some GPs as negatively affecting CCS participation, with an emphasis on the need for GPs to be more sensitive and respectful about this issue.

> "*Women that have had genital mutilation…exploring… how comfortable they are and the sort of speculum that you might choose… a bit more gently you might go about it*" (GP10).

Similarly, cervical examinations can be distressing for patients with a history of sexual abuse.

> "*I've found much more barriers when women have been in sexual abuse*" (GP1).

Theme 3: Communication and language

3.1 Language difficulties

Most participants described challenges in promoting CCS when speaking a different language to their patient, or when patients were not fluent in English.

> "*Its a difficulty explaining [CSTs] in their own terms… what exactly this means*" (GP12).

Using simple words helped with communication, as did the use of anatomy models and visual aids.

> "*[I] find this a new concept and [women from CALD backgrounds] have absolutely no idea… I say this is a cancer screening… I may show a picture*" (GP4).

> **"***I really show them the speculum, probably tell them that there are smaller ones if they were worried about internal exams, actually showing the brush and let them have a feel of the brush*" (GP5).

3.2 Interpreter use

Language barriers were often overcome by using interpreters. GPs valued effective communication, with one GP reflecting that CCS is *"something that good communication is absolutely crucial for, to make sure you're getting proper consent and the patient is really comfortable*" (GP7).

Easy access to telephone interpreters was important, but challenges included inconvenience, increased time, miscommunication errors, and sensitivities in using an interpreter for a gynaecological examination.

> "*In an ideal circumstance, you'd have a telephone interpreter… that take 5 minutes to line up at best… maybe it's something that you can plan for another day*" (GP2).

Another GP shared that using family members as interpreters provides variable results.

> "*A relative could be good or they could be terrible… could talk over with them afterwards and say this is what it's about*" (GP1).

3.3. Use of appropriate resources

GPs used written handouts, and highlighted the value of providing reliable information to patients in their own language. Some GPs were aware of where to access such information, whilst others expressed the need for easier access to these resources.

> "*Something that could be useful would be to look into if there's pamphlets or information sheets in various languages that could be given to patients*" (GP7).

Waiting room resources, such as posters and pamphlets, were mentioned as impacting patient education and awareness. Additionally, written resources regarding the rNCSP was raised as important in the provision of consistent information.

> "*It can be confusing for the patients about how it's swapped over [to rNCSP], but probably some kind of handout you can give for that*" (GP1).

Similarly, provision of information through videos and radio communication in different languages was suggested to supplement the written resources.

> *"Some videos on the website in [patients'] own language would be a good decision… and I know that there is some like radios that are given in like different languages just for this… I think [patients'] acceptance would be better that its coming from their population"* (GP3).

Theme 4: Health-system related

4.1 Increased time needed

Allocating sufficient time was key to improving uptake, particularly in the presence of language barriers and interpreters. GPs employed strategies such as longer appointments, or discussions over multiple appointments.

> "*You have to warn them… bring them back again and see if they've got any question, so maybe third time finally you'd do [the CST]*" (GP1).

GPs expressed concerns regarding non-attendance when patients are asked to re-schedule appointments.

> *"I think that anything where you raise it and then try and think that they'll come back, you lose… your opportunity… they don't return. So, one of the advantages is if you are comfortable you can do it quite quickly, then you get it all done and dusted in that consultation*" (GP10).

GPs also identified the need for investing more time in explaining and performing CSTs.

> *"I have to explain [CSTs] before I go ahead. So that's the challenge… Rather than the [non-CALD] population, they would be expecting, they know what is going to happen and how we interpret"* (GP3).

However, GPs described time-pressure challenges when spending more time on one particular health issue, or when attempting to schedule multiple aspects of care into one consultation.

> "*Now there's even the cervical cancer vaccine that needs to be brought up as well. So, it's a lot to talk about."* (GP8).

4.2 Access to appointments

Improving access to appointments can improve a patient's participation in screening. Some GPs suggested the use of women-only or CCS-specific clinics.

> *"We can even run like a cervical screening clinic, as a separate one… where it could be like women presenting and it could be a more welcoming environment for the women."* (GP12).

Additionally, GPs reflected upon the possibility of easily accessible appointment times to encourage wider participation.

> "*It's interesting to see how many women come on a Saturday morning for cervical screening… I'm sure that might be the same for CALD backgrounds*" (GP10).

Some GPs also described transport access issues, and the need for some patients to rely on family members to attend appointments.

> *"Maybe accessing the service could be a problem for them. Maybe they are dependent on their husband or somebody else to make an appointment for them and bring them for the test."* (GP12).

4.3 Funding

Issues surrounding Medicare eligibility and costs of CCS were raised as barriers, particularly when coupled with the lack of perceived necessity.

> "*If they don't hold a Medicare [card] and they have got some sort of a private insurance… do they think they might have to pay for some tests? They perceive this as an unimportant task*" (GP9).

A GP reflected that working in a bulk-billing clinic acted as a facilitator for these patients.

> "*For screening, if there's nothing that's wrong with [women from CALD backgrounds], I don't think that they will pay… I don't think that I will be as successful, as I am, running the screening program, if I charge this woman*" (GP8).

However, the GP also mentioned that more funding should be allocated to facilitating CCS, in particular for under-screened populations.

> *"I think, for us, the funding would be a big thing. To give us more time so we can educate*" (GP8).

4.4 Health promotion

GPs advocated for culturally-sensitive public health campaigns and health promotional materials, particularly in different languages, to raise awareness. Ideas offered included Government initiatives and campaigns, and use of social media, radio services, and television.

> *"Maybe some more public health campaign so that people have already been introduced to the concept [of CSTs] outside of general practice"* (GP2).

4.5 Use of practice management system

An effective recall and reminder system, incorporating telephone calls, text messages and sending letters to patients, was considered a facilitator. GPs reflected on the importance of placing patients on the reminder system to ensure follow up, and engaged their practice nurses and receptionists to assist with recalls.

> "*We actually spend a lot of manpower… to draw out the recalls and actively calling people. Sometimes they don't respond to a message, we call them, we keep trying and then we send a letter*" (GP8).

GPs mentioned that reminders were more effective when they were sent in patients' own languages.

> "*I've got a template letter for [language] …and now I have a text message in [language]…it doesn't need to be long... but this is their language*" (GP8).

Additionally, GPs stated that prompts during consultations, and when booking appointments, can also increase patient participation by initiating the discussion.

DISCUSSION

The study findings provide in-depth insight into GPs' perspectives about the barriers and facilitators to CCS for an under-screened population group - women from CALD backgrounds. GPs identified several barriers at the individual and organisational levels; often co-existing to challenge the provision of CCS in these women. Similarly, GPs reflected on several personal facilitators that encouraged and increased CCS.

The TDF was used to further interpret our study's themes. We used the TDF domains of knowledge, skills, social/professional role and identity, beliefs about consequences, environmental context and resources, and social influences, within our interpretation. As our study demonstrates the inter-relationship of the barriers and facilitators, our four prominent themes transect multiple domains of the TDF. To highlight this, we have not described our findings under domain headings as discrete constructs, but rather refer to these domains (*italics used to signal this*) in the following discussion.

Our study found that lack of awareness or insufficient *knowledge* regarding CCS continues to hinder screening participation in CALD women, consistent with previous literature[13,25-27]. Knowledge gaps in the process and importance of screening often reflected low health literacy and lack of exposure to CCS in patients' countries of birth (*environmental context* *and resources*). GPs mentioned that patients were more proactive if they migrated from countries where CCS is offered as primary screening. GPs also reflected that some patients' lack of knowledge translated to other primary screening programs, such as breast cancer and bowel cancer screening. This is not surprising given that CALD women can be unfamiliar with preventive health services[12,15] (*beliefs about consequences*), indicating that widespread interventions are required to improve CALD patients' cancer screening participation[28]. Patients who did not view cancer screening, specifically CCS, with high importance, or patients who perceived themselves to be at low risk of cervical cancer, were less likely to present for screening (*knowledge, beliefs about consequences*). GPs identified that CALD patients' needs can be more complex, and cancer screening was often not on their agenda. Additionally, the COVID-19 pandemic, which has caused significant reductions in preventive healthcare, including CCS[29], was echoed by our GPs as having a negative impact on CCS participation rate *(environmental context and resources).*

It was highlighted that opportunistically offering CCS to women with low knowledge, awareness and priority, was a significant facilitator, and at times, a necessity, in improving uptake (*skills*, *social/ professional role and identity*). GPs demonstrated variable approaches to this, with some offering it as part of chronic disease care, and others during consults surrounding sexual health. Although other studies have also highlighted that CALD women tend to undertake CCS when offered opportunistically[16], this was a prominent idea amongst our participants. As CCS in Australia is commonly performed by GPs, this allows for opportunistic care to occur, as GPs are able to perform the necessary screening test in their rooms when patients present for other reasons (*skills*). This is unique, compared to Australia's bowel or breast cancer screening programs, which are delivered separately at national and/or state or territory level[30,31].

A patient's individual circumstance can limit their acceptance of screening, and being respectful and addressing this was helpful in improving CCS uptake. Among the factors discussed, physical examination concerns and influence of relatives were the most discussed. Consistent with previous findings[26,32], the influence of relatives either hindered or encouraged CCS participation, depending on whether the relatives supported CCS (*social influences*).

Whilst it is important to acknowledge patient-sided barriers to health care, it is imperative to address the social and environmental influences that produce health inequities in order to implement change[33]. Another prominent finding in our study was the importance of the clinician-patient relationship in influencing CCS uptake (*social/ professional role and identity*). A GP's role in Australia is significant, with evidence that patients who have a regular GP have better engagement with the health system[34]. This is also true for CALD populations, and it has been recognised that positive experiences with GPs can strongly influence CALD patients' use of health services[35]. The GPs in our study recognised that their professional relationship with patients, particularly if long-standing, was an important facilitator in encouraging CCS. Allowing time to build rapport was key as it invited trust and familiarity[34], and allowed GPs to promote education surrounding CCS; improving CALD patients' CCS uptake[16]. Furthermore, advice from multiple HCPs regarding CCS provided a consistent message (*social/ professional role and identity).*

Barriers relating to knowledge and health literacy were often compounded by language barriers *(environmental context and resources)*. GPs reported difficulties when they did not speak the same language as their patients, and used visual aids and interpreter services to communicate (*environmental context and resources).* Although GPs found external interpreter services useful overall, they reflected on numerous challenges associated with their use. This included the increased time and resources needed to organise interpreters in consultations, which often resulted in not being able to access an interpreter, particularly with short-notice. In Australia, GPs have access to the national Translating and Interpreting Service (TIS), provided free-of-charge for use with non-English speaking patients[36]. However, GPs also need more time in their consultations to facilitate this. Our participants proposed solutions such as offering multiple consultations, longer appointments, and increased funding for such consultations. This is consistent with previous literature that improving financial incentives for GPs to undertake longer consultations may be beneficial for challenging and complex discussions[17,37].

Delivering information through different channels has been shown to increase participation in CCS for CALD women[12]. GPs discussed the value of written information material, including pamphlets in patients' own languages, emphasising that GPs need to have easier access to such resources[12,38] *(environmental context and resources)*. GPs also suggested using videos as information resources, which has been shown in previous studies to be effective in promoting uptake of cancer screening in targeted populations[39].

Additionally, evidence suggests that screening invitations from GPs can be more trusted by patients than invitations from screening hubs[40]. This has implications for improving CCS uptake, as GPs and practice staff routinely send reminders and recalls to patients. Our study adds to this by highlighting that personalised reminders sent in patients' own languages was often more effective. Therefore, more effort should be made to incorporate this for under-screened populations *(environmental context and resources)*.

Another proposed solution by GPs was the use of self-collection HPV tests to reduce inequities in CCS. Self-collection HPV tests have been increasingly studied in recent years as an alternative for under-screened populations[41,42]. In 2017, they were implemented as part of the rNCSP under strict criteria, and since 1 July 2022, they have become available for all women eligible for CCS in Australia[43]. They have been generally accepted by GPs for their benefits, but also come with challenges[42].

Study strengths and limitations

This study's key strength was the use of appropriate research strategies. This included ongoing corroboration between researchers during data analysis, and using an inductive approach to data collection to ensure that participants' responses drove the analysis of results. Additionally, the use of TDF provided an evidence-based approach for study interpretation. This study also has limitations. Firstly, it was beyond the scope of our study to investigate CALD patients' experiences in regards to the barriers and facilitators of CCS. Secondly, difficulties in recruiting GPs, particularly during a pandemic, meant that experiences of only a small number of participants has been described. However, data collection and analysis were undertaken until data saturation was reached, with a further two participants interviewed to confirm findings. Another limitation was that our sample was drawn from metropolitan South Australia only, and data from GPs across Australia, including rural areas, may add further to the study. Similarly, as our study reflects the delivery of CCS within the Australian health care system, it was not within the scope of our study to include nurses, limiting the transferability of our findings to GPs only.

Furthermore, due to the qualitative nature of the study, our findings may not be representative of the whole GP population. Instead, the findings provide detailed and theoretically informed insights into the experiences of South Australian GPs in providing CCS to CALD patients. We also note that as our sample of GPs was purposively collected, and they had a general interest in improving CCS participation for CALD women, their experiences may not be reflective of all GPs in Australia.

Conclusions

Our study highlights that GPs recognise that multiple factors influence CALD women's engagement with CCS, and that these barriers and facilitators are all inter-related. Barriers at the individual level, such as patients' subjective beliefs, are not easily fixed. However, recognising them, providing education, and remaining sensitive remain vital in encouraging CCS for these women. Barriers at the organisational level have opportunities for improvement. Improving CALD women's access to GPs they trust, and GPs opportunistically performing CSTs, seem crucial to improving uptake. Additionally, providing GPs with appropriate patient-specific resources, and financial reimbursement for undertaking longer consultations, may assist in addressing some barriers. Self-collection HPV tests are an evolving and promising area in supporting GPs to improve CCS uptake in CALD women, but the above-mentioned barriers still need to be addressed in order for self-collection HPV tests to drastically improve CCS participation.

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Page/line no(s).

Title and abstract

Title - Concise description of the nature and topic of the study Identifying the study as qualitative or indicating the approach (e.g., ethnography, grounded theory) or data collection methods (e.g., interview, focus group) is recommended	Page 1
Abstract - Summary of key elements of the study using the abstract format of the intended publication; typically includes background, purpose, methods, results, and conclusions	Pages 2, 3

Introduction

Problem formulation - Description and significance of the problem/phenomenon studied; review of relevant theory and empirical work; problem statement	Pages 4, 5
Purpose or research question - Purpose of the study and specific objectives or questions	Page 5

Methods

Qualitative approach and research paradigm - Qualitative approach (e.g., ethnography, grounded theory, case study, phenomenology, narrative research) and guiding theory if appropriate; identifying the research paradigm (e.g., postpositivist, constructivist/ interpretivist) is also recommended; rationale**	Page 5
Researcher characteristics and reflexivity - Researchers' characteristics that may influence the research, including personal attributes, qualifications/experience, relationship with participants, assumptions, and/or presuppositions; potential or actual interaction between researchers' characteristics and the research questions, approach, methods, results, and/or transferability	Pages 5, 6
Context - Setting/site and salient contextual factors; rationale**	Pages 5, 6
Sampling strategy - How and why research participants, documents, or events were selected; criteria for deciding when no further sampling was necessary (e.g., sampling saturation); rationale**	Pages 5, 6, 7
Ethical issues pertaining to human subjects - Documentation of approval by an appropriate ethics review board and participant consent, or explanation for lack thereof; other confidentiality and data security issues	Pages 6, 26
Data collection methods - Types of data collected; details of data collection procedures including (as appropriate) start and stop dates of data collection and analysis, iterative process, triangulation of sources/methods, and modification of procedures in response to evolving study findings; rationale**	Pages 6, 7

Data collection instruments and technologies - Description of instruments (e.g., interview guides, questionnaires) and devices (e.g., audio recorders) used for data collection; if/how the instrument(s) changed over the course of the study	Page 6
Units of study - Number and relevant characteristics of participants, documents, or events included in the study; level of participation (could be reported in results)	Pages 6, 7, 8
Data processing - Methods for processing data prior to and during analysis, including transcription, data entry, data management and security, verification of data integrity, data coding, and anonymization/de-identification of excerpts	Pages 6, 7
Data analysis - Process by which inferences, themes, etc., were identified and developed, including the researchers involved in data analysis; usually references a specific paradigm or approach; rationale**	Pages 6, 7
Techniques to enhance trustworthiness - Techniques to enhance trustworthiness and credibility of data analysis (e.g., member checking, audit trail, triangulation); rationale**	Pages 6, 7

Results/findings

Synthesis and interpretation - Main findings (e.g., interpretations, inferences, and themes); might include development of a theory or model, or integration with prior research or theory	Pages 7-21
Links to empirical data - Evidence (e.g., quotes, field notes, text excerpts, photographs) to substantiate analytic findings	Pages 7-21

Discussion

Integration with prior work, implications, transferability, and contribution(s) to the field - Short summary of main findings; explanation of how findings and conclusions connect to, support, elaborate on, or challenge conclusions of earlier scholarship; discussion of scope of application/generalizability; identification of unique contribution(s) to scholarship in a discipline or field	Pages 21-26
Limitations - Trustworthiness and limitations of findings	Page 25

Other

Conflicts of interest - Potential sources of influence or perceived influence on study conduct and conclusions; how these were managed	Page 26
Funding - Sources of funding and other support; role of funders in data collection, interpretation, and reporting	Page 26

*The authors created the SRQR by searching the literature to identify guidelines, reporting standards, and critical appraisal criteria for qualitative research; reviewing the reference lists of retrieved sources; and contacting experts to gain feedback. The SRQR aims to improve the transparency of all aspects of qualitative research by providing clear standards for reporting qualitative research.

**The rationale should briefly discuss the justification for choosing that theory, approach, method, or technique rather than other options available, the assumptions and limitations implicit in those choices, and how those choices influence study conclusions and transferability. As appropriate, the rationale for several items might be discussed together.

Reference:

O'Brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA. **Standards for reporting qualitative research: a synthesis of recommendations.** *Academic Medicine*, Vol. 89, No. 9 / Sept 2014
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Barriers and facilitators to cervical cancer screening for women from culturally and linguistically diverse backgrounds; a qualitative study of GPs

Abira Chandrakumar[1,2*] Elizabeth Hoon[1,3] Jillian Benson[2] Nigel Stocks[1]

1. *Discipline of General Practice, Adelaide Medical School, The University of Adelaide, Adelaide, Australia*
2. *GPEx Ltd., 132 Greenhill Road, Unley, South Australia, Australia*
3. *School of Public Health, The University of Adelaide, Adelaide, Australia*

Correspondence: Abira Chandrakumar, *Discipline of General Practice, Adelaide Medical School, The University of Adelaide, Adelaide, Australia*, Email: abira.chandrakumar@adelaide.edu.au

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ABSTRACT

Objective To explore general practitioners' (GPs) perspectives on the barriers and facilitators to cervical cancer screening (CCS) for women from culturally and linguistically diverse (CALD) backgrounds.

Design Qualitative descriptive study involving semi-structed interviews, with interview guide informed by the Theoretical Domains Framework.

Setting Adelaide, South Australia.

Participants Twelve GPs with experience in providing CCS to women from CALD backgrounds participated.

Results Four main themes emerged: 'importance of clinician-patient relationship', 'patients' cultural understanding regarding health care and CCS', 'communication and language' and 'health-system related'. Each theme had several subthemes. GPs' professional relationship with their patients and repeated advice from other clinicians, together with the provision of opportunistic CCS, were described as facilitators, and encompassed the theme of 'importance of clinician-patient relationship'. This theme also raised the possibility of self-collection human papilloma virus (HPV) tests. Lack of awareness and knowledge, lower priority for cancer screening, and patients' individual circumstances contributed to the theme of 'patients' cultural understanding regarding health care and CCS', and often acted as barriers to CCS. 'Communication and language' consisted of language difficulties, interpreter use,

and use of appropriate resources. Language difficulties was a barrier to the provision of CCS, and GPs used interpreters and written handouts to help overcome this. The theme of 'health-system related' involved the increased time needed for CCS consults for CALD women, access to appointments, funding, health promotion and effective use of practice management software.

Conclusions This study highlights that multiple, inter-related barriers and facilitators influence CALD women's engagement with CCS, and that GPs needed to manage all of these factors in order to encourage CCS participation. More efforts are needed to address the barriers to ensure that GPs have access to appropriate resources, and CALD patients have access to GPs they trust.

STRENGTHS AND LIMITATIONS

- The use of qualitative methodology allowed for in-depth exploration of GPs' experiences in providing cervical cancer screening to women from CALD backgrounds
- The use of the Theoretical Domains Framework in the interview guide and data analysis, provided an evidence-based approach for study interpretation
- GPs who participated in our study had a general interest in improving cervical cancer screening participation for CALD women, so their experiences may not be reflective of all GPs in Australia
- Participants were drawn from metropolitan South Australia only, and GPs from other areas in Australia, including rural areas, may add further to the study

INTRODUCTION

Worldwide, cervical cancer is the fourth most common cancer in women; in both incidence and mortality, with the highest burden in countries without cervical screening programs[1, 2]. Cervical cancer should largely be preventable, through human papilloma virus (HPV) immunisation and effective screening programs[2]. In Australia, the renewed National Cervical Screening Program (rNCSP) has been in place since 1 December 2017, recommending asymptomatic women aged 25-74 years undertake HPV screening tests every five years, replacing two-yearly Pap smears[2-4].

However, participation in cervical cancer screening (CCS) remains low, with the Australian Institute of Health and Welfare reporting that during 2018–2019, only 46% of eligible women had a screening HPV test as part of the rNCSP[2]. It is well-established that a significant risk factor for the development of cervical cancer is under-screening or never being screened[2, 3]. Therefore, less than half of eligible women participating in CCS, in a country with a well-developed screening program, needs to be addressed, in particular as Australia plans to eliminate cervical cancer by 2035[5].

Current literature suggests that inequalities in screening persist with lower rates of CCS in women from culturally and linguistically diverse (CALD) backgrounds[6, 7]. Australia is a multicultural nation, with growing migrant populations, and this calls to strengthen our healthcare access and outcomes for these populations[8]. Addressing such inequalities will be key to Australia's success in eliminating cervical cancer.

Research has been performed in Australia[6,7,9] and internationally[10-14] exploring CALD patients' perspectives on the barriers and facilitators to CCS. Patient barriers have included poor health literacy, cultural beliefs and stigma, and English proficiency[6,10,12]. Comparably, linguistic strategies, and increasing patients' awareness surrounding CCS are described as facilitators [12,13]. Although international studies have explored health care providers' (HCP) perspectives on CCS; reporting barriers and facilitators relating to knowledge, communication, and access to healthcare services[15-17], very little is known about Australian HCP perspectives on this issue. To the best of the authors' knowledge, Australian general practitioners' (GPs) perspectives on barriers and facilitators to CCS in CALD patients have not been documented.

There is growing recognition that delivering healthcare involves complex underlying processes within specific contexts[18,19]. In order to effectively bring about change in healthcare, we need to theoretically understand the influences on professional behaviours, so that they are considered in interventions aimed at change[18-20]. The Theoretical Domains Framework (TDF) is a conceptual, validated framework that has synthesised 33 behavioural theories forming 14 domains, and is a useful tool to support researchers in understanding the environmental, social, and cognitive influences on behaviour[21]. It has been widely applied across healthcare-related research focussed on changing clinical and professional behaviours, including understanding barriers and facilitators to behaviours related to healthcare outcomes[21-23].

Therefore, using TDF, this study aims to explore GPs' perspectives on the barriers and facilitators to CCS for women from CALD backgrounds. By discovering the views of those who primarily provide CCS in the community, we aim to gain a deeper understanding of the barriers faced in every-day clinical practice, and insights into factors that can be used to increase participation in CCS for these women.

METHODS

Study design and setting

A qualitative descriptive study involving in-depth semi-structured interviews was conducted in Adelaide, South Australia. Semi-structured interviews enabled exploration of participants' experiences. The interviews were undertaken by the lead author, AC; a GP Registrar.

Recruitment

Study participants were recruited through purposive sampling. General practices located in communities with migrant populations, registered with GPEx (South Australia's Regional Training Organisation for General Practice Registrars), and/or professional contacts of Discipline of General Practice at The University of Adelaide, were identified, and GPs with experience in providing cervical screening tests (CSTs) to women from CALD backgrounds were invited to participate in interviews through email, telephone, or snowballing methods. GPs were reimbursed with a $AUD100 gift card for their time.

Data collection

A semi-structured interview guide informed by TDF[21] (supplementary file) was developed by AC and EH, who has extensive experience in qualitative methodologies. The TDF provided a method to understand GPs' and patients' behaviours related to CCS theoretically[18]. The interview guide covered questions regarding GPs' experiences in working with women from CALD backgrounds, in particular relating to CCS, and covered TDF domains including knowledge, skills, and social/ professional role and identity. Two pilot interviews were undertaken to develop AC's interview skills, and minor revisions to the interview guide were made based on feedback. Data from the pilot interviews were not included in the final analysis.

A total of twelve interviews were conducted between May and September 2021. Ten were conducted via telephone and two via video teleconference (using Zoom application). The use of remote technology improved access for participants. Interviews lasted between 19 and 35 minutes. Written informed consent was received from all participants prior to interviews. Field notes were taken by AC during each interview.

Data analysis

All but one of the interviews were digitally audio-recorded and transcribed verbatim. One participant did not consent to audio-recording, and comprehensive written notes were instead taken with their consent. AC listened to all audio-recordings in full and cross-checked them with the transcripts for accuracy. Any identifying information was removed from the transcripts.

Braun & Clarke's six-phase framework guided thematic analysis[24]. Hard copies of transcripts were reviewed by AC prior to coding, producing a brief summary outlining the key findings within each transcript. Data were managed using QSR N-Vivo software. Codes were generated inductively. Initial codes were generated by independent coding of three transcripts by AC, EH and JB, and codes agreed upon through discussion. The subsequent transcripts were coded by AC, and discussed regularly with EH, JB and NS for refinement. The final codes were then structured into themes and sub-themes. In the final phase of analysis, this inductive approach was followed by reflexive consideration of the potential fit between the themes generated and the TDF domains. This approach supported the interpretation of the data, and fits with Braun and Clarke's overall analysis framework[24]. Two further interviews were then conducted to supplement data from the first ten interviews, to confirm findings and attain data saturation.

Patient and public involvement

Our study focussed on GPs' perspectives on the barriers and facilitators to CCS for women from CALD backgrounds, and patient and the public were not involved at this stage.

RESULTS

Participant characteristics

The characteristics of the 12 participants are in Table 1. 92% of the GPs were female. 8 GPs (67%) used another language for consulting (in addition to English).

TABLE 1: Characteristics of the participants

Characteristics	**GP Participants (*n*=12)**
Age (years)	
≤ 35	2
36 – 54	9
≥ 55	1
Sex	
Female	11
Male	1
Length of practice as GP (years)	
<5	3
5 – 15	4
>15	5
Clinical workload as GP per week (hours)	
0 – 15	2
16 – 30	5
>30	5

Languages used for consulting other than English	
Nil (other than English)	4
Bengali	3
Mandarin/ Chinese	2
Urdu	2
Vietnamese	1

Themes

There are four major themes reported based on our thematic analysis. Within each theme, several sub-themes were identified, and supported by quotations from the interviews. These are described below. Themes and sub-themes are also summarised in Table 2.

TABLE 2: Themes and sub-themes

Themes	**Sub-themes**
• Importance of clinician-patient relationship	• GPs' professional relationship with their patients • Providing opportunistic CSTs • Other clinician-patient relationships • Self-collection HPV tests

• Patients' cultural understanding regarding health care and CCS	• Lack of awareness and knowledge • Lower priority for cancer screening ○ Not on patients' agenda ○ Patients' subjective beliefs and perceptions of low risk ○ COVID-19 pandemic • Importance of patients' individual circumstances ○ Patient concerns surrounding physical examination ○ Influence of relatives ○ Previous sexual trauma
• Communication and language	• Language difficulties • Interpreter use • Use of appropriate resources
• Health-system related	• Increased time needed • Access to appointments • Funding • Health promotion • Use of practice management system

Theme 1: Importance of clinician-patient relationship

1.1 GPs' professional relationship with their patients

GPs identified several helpful factors in providing CSTs to women from CALD backgrounds. These included their professional experience providing CSTs, length of experience in working with CALD women, and being a female GP.

> "*I see a lot of Vietnamese patients…[but] I see everybody else, not just Vietnamese. So… Thai, Israel, Iran, African, everybody*" (GP8).

Being a male GP was identified as a barrier, as patients were less likely to see a male GP for CSTs.

> "*My experience is that as a male doctor, we have to be very clear about how… we approach cervical screening*" (GP4).

A continuing doctor-patient relationship was frequently a facilitator.

> "*To have a long-term GP or someone you're familiar with is really helpful… So, they will let you do what you think is good for them or they will bring it up because they're comfortable*" (GP8).

GPs also described the importance of building rapport with their patient to facilitate screening discussions.

> "*I build rapport and build a relationship with the patient first. So that then they trust me more… about some of these more sensitive issues and exams, and are more likely to agree to it later down the track*" (GP7).

1.2 Providing opportunistic CSTs

Being opportunistic was important. This included initiating the first discussion regarding CCS, and seeking out the opportunity during other care provision, such as during preparation of chronic disease GP management plans, peri-partum consults, and consults surrounding sexual health.

> "*I think just being opportunistic… for the practitioner to be aware to offer these primary health prevention measures… to incorporate the cervical screening… and offer it all the time*" (GP5)

GPs described that they needed to be aware of the lower screening rates in women from CALD backgrounds, and take the initiative to raise CCS with them.

> "*Being conscious of the fact that often people of these backgrounds are under-screened so that then we can make up for it by putting in that special effort*" (GP7)

1.3 Other clinician-patient relationships

Repeated advice regarding CCS from multiple health care providers, including practice nurses and hospital midwives, was described as a facilitator.

> *"One thing that has really helped, if there's multiple health care providers telling them the same things"* (GP9).

1.4 Self-collection HPV tests

Most participants were aware of the availability of self-collection HPV tests under the rNCSP for under-screened women and viewed the tests positively, describing that "*it's a good opportunity to screen the under-screened patient"* (GP11).

However, GPs also identified several challenges to self-collection tests, and many of these relate to the already identified barriers in our findings.

Theme 2: Patients' cultural understanding regarding health care and CCS

2.1 Lack of awareness and knowledge

Lack of awareness and access to reliable information regarding the rNCSP and cervical cancer were significant barriers. GPs reported that CSTs were a new concept to some patients, whilst others may have heard of CSTs (or pap smears), but had limited knowledge about their purpose, the procedure involved, or about cervical cancer.

"*If they don't understand how important it is, they're just not going to accept it*" (GP9).

It was reported that some patients' knowledge gap was universal for all screening programs offered in Australia.

> "*It's not just about [CCS]. It was about bowel cancer screening… mammograms as well*" (GP9).

Participants also reflected on the differences in participation between different cultural groups.

"*…[Patients from] Cambodia, who have equivalent programs there… had raised it with me, and asked when they're going to be due here*" (GP7).

Conversely, migration from countries without CCS deepened the lack of awareness.

> *"Sometimes it's just, sort of, lack of exposure to this knowledge… they've recently come here… back in their countries, this doesn't exist" (GP9).*

2.2 Lower priority for cancer screening

2.2.1 Not on patients' agenda

GPs described that women from CALD backgrounds often viewed CCS with less importance and priority, and it was commonly not on a patient's agenda when presenting to her GP.

Participants identified that multiple factors were often involved in preventive care taking "*a bit of a sideline*" (GP7). Patients from CALD backgrounds often presented with acute medical issues, which may be more complex, requiring more time within the consult.

> "*You've got so much other stuff to get through and everything's taking a bit longer generally. I've also got quite a few women from refugee backgrounds who, I guess, are going through a lot of difficult things and sometimes find it hard just to get to the doctor and make it to appointments and when they come, [they] have quite a few pressing issues that need to be addressed. And so, a lot of that preventative stuff can get lost in the background a bit unfortunately*" (GP7).

2.2.2 Patients' subjective beliefs and perceptions of low risk

GPs described that some patients had pre-determined beliefs, and false perceptions of low risk, regarding CCS. This included beliefs that they would not contract HPV as a result of the same lifetime sexual partner, with some patients having difficulty acknowledging "*how they got [HPV]*" (GP6).

GPs also identified that some patients believed their older age lowered their risk of cervical cancer.

> “*Ones that are like over 60… over 65… or that they have no longer have a sexual partner. And then mistakenly think that, well, because they [are] not sexually active… they don't have to do anything*” (GP8).

2.2.3 COVID-19 pandemic

The COVID-19 pandemic was also described to have impacted CCS participation; across women from all backgrounds.

> “*During the [COVID-19] pandemic... we've seen a marked decrease in the number of people presenting for just primary screening*” (GP5).

2.3 Importance of patients’ individual circumstances

2.3.1 Patient concerns surrounding physical examination

A common report was patients’ reluctance and embarrassment surrounding cervical examinations, as they involve speculums and can be intrusive.

> “*I find that… women from particular cultures… could be quite ashamed to get exposed... does make the actual procedure sometimes a little bit difficult*” (GP12).

Patients were less comfortable with CSTs when children were present, and it was difficult for GPs to manage supervising the children and performing the examination.

> “*I do think sometimes young woman with really tiny children, it could be a real barrier to get the time. They never get a chance to come in without their kids*” (GP1).

2.3.2 Influence of relatives

GPs noted that if a patient's relatives were not participating, this reduced the patient's own willingness to engage with CCS.

> "*There are some beliefs and they've reached a certain age and like they just outright say "none of my sisters and mothers have had it and they're fine"*" (GP9).

However, relatives can also have a positive influence, with some GPs describing that the presence of a support person, in particular daughters bringing their mothers, had improved uptake.

> "*Another thing I've found helpful is, I've had a few patients from different cultural backgrounds where the daughter and the mom have come together for their pap smears, and the daughter… interpreted for the mom… the daughter has encouraged the mum to come along*" (GP7).

2.3.3 Previous sexual trauma

A history of female genital mutilation was raised by some GPs as negatively affecting CCS participation, with an emphasis on the need for GPs to be more sensitive and respectful about this issue.

> "*Women that have had genital mutilation…exploring… how comfortable they are and the sort of speculum that you might choose… a bit more gently you might go about it*" (GP10).

Similarly, cervical examinations can be distressing for patients with a history of sexual abuse.

> "*I've found much more barriers when women have been in sexual abuse*" (GP1).

Theme 3: Communication and language

3.1 Language difficulties

Most participants described challenges in promoting CCS when speaking a different language to their patient, or when patients were not fluent in English.

> "*Its a difficulty explaining [CSTs] in their own terms… what exactly this means*" (GP12).

Using simple words helped with communication, as did the use of anatomy models and visual aids.

> "*[I] find this a new concept and [women from CALD backgrounds] have absolutely no idea… I say this is a cancer screening… I may show a picture*" (GP4).

> **"***I really show them the speculum, probably tell them that there are smaller ones if they were worried about internal exams, actually showing the brush and let them have a feel of the brush*" (GP5).

3.2 Interpreter use

Language barriers were often overcome by using interpreters. GPs valued effective communication, with one GP reflecting that CCS is *"something that good communication is absolutely crucial for, to make sure you're getting proper consent and the patient is really comfortable*" (GP7).

Easy access to telephone interpreters was important, but challenges included inconvenience, increased time, miscommunication errors, and sensitivities in using an interpreter for a gynaecological examination.

> "*In an ideal circumstance, you'd have a telephone interpreter… that take 5 minutes to line up at best… maybe it's something that you can plan for another day*" (GP2).

Another GP shared that using family members as interpreters provides variable results.

> "*A relative could be good or they could be terrible… could talk over with them afterwards and say this is what it's about*" (GP1).

3.3. Use of appropriate resources

GPs used written handouts, and highlighted the value of providing reliable information to patients in their own language. Some GPs were aware of where to access such information, whilst others expressed the need for easier access to these resources.

> "*Something that could be useful would be to look into if there's pamphlets or information sheets in various languages that could be given to patients*" (GP7).

Waiting room resources, such as posters and pamphlets, were mentioned as impacting patient education and awareness. Additionally, written resources regarding the rNCSP was raised as important in the provision of consistent information.

> "*It can be confusing for the patients about how it's swapped over [to rNCSP], but probably some kind of handout you can give for that*" (GP1).

Similarly, provision of information through videos and radio communication in different languages was suggested to supplement the written resources.

> *"Some videos on the website in [patients'] own language would be a good decision… and I know that there is some like radios that are given in like different languages just for this… I think [patients'] acceptance would be better that its coming from their population"* (GP3).

Theme 4: Health-system related

4.1 Increased time needed

Allocating sufficient time was key to improving uptake, particularly in the presence of language barriers and interpreters. GPs employed strategies such as longer appointments, or discussions over multiple appointments.

> "*You have to warn them… bring them back again and see if they've got any question, so maybe third time finally you'd do [the CST]*" (GP1).

GPs expressed concerns regarding non-attendance when patients are asked to re-schedule appointments.

> *"I think that anything where you raise it and then try and think that they'll come back, you lose… your opportunity… they don't return. So, one of the advantages is if you are comfortable you can do it quite quickly, then you get it all done and dusted in that consultation*" (GP10).

GPs also identified the need for investing more time in explaining and performing CSTs.

> *"I have to explain [CSTs] before I go ahead. So that's the challenge… Rather than the [non-CALD] population, they would be expecting, they know what is going to happen and how we interpret"* (GP3).

However, GPs described time-pressure challenges when spending more time on one particular health issue, or when attempting to schedule multiple aspects of care into one consultation.

> "*Now there's even the cervical cancer vaccine that needs to be brought up as well. So, it's a lot to talk about."* (GP8).

4.2 Access to appointments

Improving access to appointments can improve a patient's participation in screening. Some GPs suggested the use of women-only or CCS-specific clinics.

> *"We can even run like a cervical screening clinic, as a separate one… where it could be like women presenting and it could be a more welcoming environment for the women."* (GP12).

Additionally, GPs reflected upon the possibility of easily accessible appointment times to encourage wider participation.

> "*It's interesting to see how many women come on a Saturday morning for cervical screening… I'm sure that might be the same for CALD backgrounds*" (GP10).

Some GPs also described transport access issues, and the need for some patients to rely on family members to attend appointments.

> *"Maybe accessing the service could be a problem for them. Maybe they are dependent on their husband or somebody else to make an appointment for them and bring them for the test."* (GP12).

4.3 Funding

Issues surrounding Medicare eligibility and costs of CCS were raised as barriers, particularly when coupled with the lack of perceived necessity.

> "*If they don't hold a Medicare [card] and they have got some sort of a private insurance… do they think they might have to pay for some tests? They perceive this as an unimportant task*" (GP9).

A GP reflected that working in a bulk-billing clinic acted as a facilitator for these patients.

> "*For screening, if there's nothing that's wrong with [women from CALD backgrounds], I don't think that they will pay… I don't think that I will be as successful, as I am, running the screening program, if I charge this woman*" (GP8).

However, the GP also mentioned that more funding should be allocated to facilitating CCS, in particular for under-screened populations.

> *"I think, for us, the funding would be a big thing. To give us more time so we can educate*" (GP8).

4.4 Health promotion

GPs advocated for culturally-sensitive public health campaigns and health promotional materials, particularly in different languages, to raise awareness. Ideas offered included Government initiatives and campaigns, and use of social media, radio services, and television.

> *"Maybe some more public health campaign so that people have already been introduced to the concept [of CSTs] outside of general practice"* (GP2).

4.5 Use of practice management system

An effective recall and reminder system, incorporating telephone calls, text messages and sending letters to patients, was considered a facilitator. GPs reflected on the importance of placing patients on the reminder system to ensure follow up, and engaged their practice nurses and receptionists to assist with recalls.

> "*We actually spend a lot of manpower… to draw out the recalls and actively calling people. Sometimes they don't respond to a message, we call them, we keep trying and then we send a letter*" (GP8).

GPs mentioned that reminders were more effective when they were sent in patients' own languages.

> "*I've got a template letter for [language] …and now I have a text message in [language]…it doesn't need to be long... but this is their language*" (GP8).

Additionally, GPs stated that prompts during consultations, and when booking appointments, can also increase patient participation by initiating the discussion.

DISCUSSION

The study findings provide in-depth insight into GPs' perspectives about the barriers and facilitators to CCS for an under-screened population group - women from CALD backgrounds. GPs identified several barriers at the individual and organisational levels; often co-existing to challenge the provision of CCS in these women. Similarly, GPs reflected on several personal facilitators that encouraged and increased CCS.

The TDF was used to further interpret our study's themes. We used the TDF domains of knowledge, skills, social/professional role and identity, beliefs about consequences, environmental context and resources, and social influences, within our interpretation. As our study demonstrates the inter-relationship of the barriers and facilitators, our four prominent themes transect multiple domains of the TDF. To highlight this, we have not described our findings under domain headings as discrete constructs, but rather refer to these domains (*italics used to signal this*) in the following discussion.

Our study found that lack of awareness or insufficient *knowledge* regarding CCS continues to hinder screening participation in CALD women, consistent with previous literature[13,25-27]. Knowledge gaps in the process and importance of screening often reflected low health literacy and lack of exposure to CCS in patients' countries of birth (*environmental context* *and resources*). GPs mentioned that patients were more proactive if they migrated from countries where CCS is offered as primary screening. GPs also reflected that some patients' lack of knowledge translated to other primary screening programs, such as breast cancer and bowel cancer screening. This is not surprising given that CALD women can be unfamiliar with preventive health services[12,15] (*beliefs about consequences*), indicating that widespread interventions are required to improve CALD patients' cancer screening participation[28]. Patients who did not view cancer screening, specifically CCS, with high importance, or patients who perceived themselves to be at low risk of cervical cancer, were less likely to present for screening (*knowledge, beliefs about consequences*). GPs identified that CALD patients' needs can be more complex, and cancer screening was often not on their agenda. Additionally, the COVID-19 pandemic, which has caused significant reductions in preventive healthcare, including CCS[29], was echoed by our GPs as having a negative impact on CCS participation rate *(environmental context and resources).*

It was highlighted that opportunistically offering CCS to women with low knowledge, awareness and priority, was a significant facilitator, and at times, a necessity, in improving uptake (*skills*, *social/ professional role and identity*). GPs demonstrated variable approaches to this, with some offering it as part of chronic disease care, and others during consults surrounding sexual health. Although other studies have also highlighted that CALD women tend to undertake CCS when offered opportunistically[16], this was a prominent idea amongst our participants. As CCS in Australia is commonly performed by GPs, this allows for opportunistic care to occur, as GPs are able to perform the necessary screening test in their rooms when patients present for other reasons (*skills*). This is unique, compared to Australia's bowel or breast cancer screening programs, which are delivered separately at national and/or state or territory level[30,31].

A patient's individual circumstance can limit their acceptance of screening, and being respectful and addressing this was helpful in improving CCS uptake. Among the factors discussed, physical examination concerns and influence of relatives were the most discussed. Consistent with previous findings[26,32], the influence of relatives either hindered or encouraged CCS participation, depending on whether the relatives supported CCS (*social influences*).

Whilst it is important to acknowledge patient-sided barriers to health care, it is imperative to address the social and environmental influences that produce health inequities in order to implement change[33]. Another prominent finding in our study was the importance of the clinician-patient relationship in influencing CCS uptake (*social/ professional role and identity*). A GP's role in Australia is significant, with evidence that patients who have a regular GP have better engagement with the health system[34]. This is also true for CALD populations, and it has been recognised that positive experiences with GPs can strongly influence CALD patients' use of health services[35]. The GPs in our study recognised that their professional relationship with patients, particularly if long-standing, was an important facilitator in encouraging CCS. Allowing time to build rapport was key as it invited trust and familiarity[34], and allowed GPs to promote education surrounding CCS; improving CALD patients' CCS uptake[16]. Furthermore, advice from multiple HCPs regarding CCS provided a consistent message (*social/ professional role and identity)*.

Barriers relating to knowledge and health literacy were often compounded by language barriers *(environmental context and resources)*. GPs reported difficulties when they did not speak the same language as their patients, and used visual aids and interpreter services to communicate (*environmental context and resources)*. Although GPs found external interpreter services useful overall, they reflected on numerous challenges associated with their use. This included the increased time and resources needed to organise interpreters in consultations, which often resulted in not being able to access an interpreter, particularly with short-notice. In Australia, GPs have access to the national Translating and Interpreting Service (TIS), provided free-of-charge for use with non-English speaking patients[36]. However, GPs also need more time in their consultations to facilitate this. Our participants proposed solutions such as offering multiple consultations, longer appointments, and increased funding for such consultations. This is consistent with previous literature that improving financial incentives for GPs to undertake longer consultations may be beneficial for challenging and complex discussions[17,37].

Delivering information through different channels has been shown to increase participation in CCS for CALD women[12]. GPs discussed the value of written information material, including pamphlets in patients' own languages, emphasising that GPs need to have easier access to such resources[12,38] *(environmental context and resources)*. GPs also suggested using videos as information resources, which has been shown in previous studies to be effective in promoting uptake of cancer screening in targeted populations[39].

Additionally, evidence suggests that screening invitations from GPs can be more trusted by patients than invitations from screening hubs[40]. This has implications for improving CCS uptake, as GPs and practice staff routinely send reminders and recalls to patients. Our study adds to this by highlighting that personalised reminders sent in patients' own languages was often more effective. Therefore, more effort should be made to incorporate this for under-screened populations *(environmental context and resources)*.

Another proposed solution by GPs was the use of self-collection HPV tests to reduce inequities in CCS. Self-collection HPV tests have been increasingly studied in recent years as an alternative for under-screened populations[41,42]. In 2017, they were implemented as part of the rNCSP under strict criteria, and since 1 July 2022, they have become available for all women eligible for CCS in Australia[43]. They have been generally accepted by GPs for their benefits, but also come with challenges[42].

Study strengths and limitations

This study's key strength was the use of appropriate research strategies. This included ongoing corroboration between researchers during data analysis, and using an inductive approach to data collection to ensure that participants' responses drove the analysis of results. Additionally, the use of TDF provided an evidence-based approach for study interpretation. This study also has limitations. Firstly, it was beyond the scope of our study to investigate CALD patients' experiences in regards to the barriers and facilitators of CCS. Secondly, difficulties in recruiting GPs, particularly during a pandemic, meant that experiences of only a small number of participants has been described. However, data collection and analysis were undertaken until data saturation was reached, with a further two participants interviewed to confirm findings. Another limitation was that our sample was drawn from metropolitan South Australia only, and data from GPs across Australia, including rural areas, may add further to the study. Similarly, as our study reflects the delivery of CCS within the Australian health care system, it was not within the scope of our study to include nurses, limiting the transferability of our findings to GPs only.

Furthermore, due to the qualitative nature of the study, our findings may not be representative of the whole GP population. Instead, the findings provide detailed and theoretically informed insights into the experiences of South Australian GPs in providing CCS to CALD patients. We also note that as our sample of GPs was purposively collected, and they had a general interest in improving CCS participation for CALD women, their experiences may not be reflective of all GPs in Australia.

Conclusions

Our study highlights that GPs recognise that multiple factors influence CALD women's engagement with CCS, and that these barriers and facilitators are all inter-related. Barriers at the individual level, such as patients' subjective beliefs, are not easily fixed. However, recognising them, providing education, and remaining sensitive remain vital in encouraging CCS for these women. Barriers at the organisational level have opportunities for improvement. Improving CALD women's access to GPs they trust, and GPs opportunistically performing CSTs, seem crucial to improving uptake. Additionally, providing GPs with appropriate patient-specific resources, and financial reimbursement for undertaking longer consultations, may assist in addressing some barriers. Self-collection HPV tests are an evolving and promising area in supporting GPs to improve CCS uptake in CALD women, but the above-mentioned barriers still need to be addressed in order for self-collection HPV tests to drastically improve CCS participation.

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Data sharing statement: All data relevant to the study are included in the article or uploaded as supplementary information.

Ethics approval: Ethics approval was granted by the Low Risk Human Research Ethics Review Group from The University of Adelaide. Ethics ID: H-2021-065.

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Participant #_____________

Semi structured interview questions

1. How much experience do you have in regards to providing cervical cancer screening in women from CALD backgrounds?

2. Could you tell me how you would normally bring up and discuss cervical screening tests with women from CALD backgrounds?

3. Is there anything to consider in the treatment of women from CALD backgrounds, generally speaking?

    - *Follow up question:* What about any specific considerations for cervical screening in women from CALD backgrounds?

4. Based on your experiences, have there been any factors that have made it harder to provide cervical screening to women from CALD backgrounds?

    - *Follow up question:* Could you give me some examples of issues/ problems that you have encountered?

    - *Follow up question:* CALD women are an under-screened population when it comes to cervical screening. What do you think are some factors that may be contributing to this?

    - *Prompts (based on literature; only if needed):*
        - e.g. time factors, language barriers, lack of awareness/ education, competing work schedules, public awareness, doctor-patient relationship

5. Based on your experiences, what factors have assisted you in providing cervical screening in women from CALD backgrounds?

    - *Follow up question:* What further factors do you think could assist GPs in being better equipped to encourage CST participation in women from CALD backgrounds?

    - *Follow up question:* What do you think CALD patients might find useful?

6. How confident do you feel in providing cervical cancer screening to women from CALD backgrounds?

    - *Follow up question:* Could you tell me more about this?

    - *Follow up question:* Can you think of anything that could assist you in becoming more confident?

    - *Follow up question:* Have you had any training or educational resources in working with women from CALD backgrounds
        - If so, what did you find useful?
        - If not, what would you prioritise?

7. We’re just going to talk a little about self-collection HPV tests now. What do you know about self-collection HPV tests?

- *Follow up question:* What would be the benefits and challenges of self-collection tests?

- *Follow up question:* If they were offered in the future, would you be able to incorporate this into your practice?
  - How would you achieve this?

- *Follow up question:* How do you think they will be taken up by your participants?

8. Is there anything else that you would like to comment on about cervical screening, including barriers and facilitators that we have not covered here?

These are all the questions we had for you today. I would like to thank you for your time and efforts in participating.

Standards for Reporting Qualitative Research (SRQR)*

http://www.equator-network.org/reporting-guidelines/srqr/

Title and abstract

	Page/line no(s).
Title - Concise description of the nature and topic of the study Identifying the study as qualitative or indicating the approach (e.g., ethnography, grounded theory) or data collection methods (e.g., interview, focus group) is recommended	Page 1
Abstract - Summary of key elements of the study using the abstract format of the intended publication; typically includes background, purpose, methods, results, and conclusions	Pages 2, 3

Introduction

Problem formulation - Description and significance of the problem/phenomenon studied; review of relevant theory and empirical work; problem statement	Pages 4, 5
Purpose or research question - Purpose of the study and specific objectives or questions	Page 5

Methods

Qualitative approach and research paradigm - Qualitative approach (e.g., ethnography, grounded theory, case study, phenomenology, narrative research) and guiding theory if appropriate; identifying the research paradigm (e.g., postpositivist, constructivist/ interpretivist) is also recommended; rationale**	Page 5
Researcher characteristics and reflexivity - Researchers' characteristics that may influence the research, including personal attributes, qualifications/experience, relationship with participants, assumptions, and/or presuppositions; potential or actual interaction between researchers' characteristics and the research questions, approach, methods, results, and/or transferability	Pages 5, 6
Context - Setting/site and salient contextual factors; rationale**	Pages 5, 6
Sampling strategy - How and why research participants, documents, or events were selected; criteria for deciding when no further sampling was necessary (e.g., sampling saturation); rationale**	Pages 5, 6, 7
Ethical issues pertaining to human subjects - Documentation of approval by an appropriate ethics review board and participant consent, or explanation for lack thereof; other confidentiality and data security issues	Pages 6, 26
Data collection methods - Types of data collected; details of data collection procedures including (as appropriate) start and stop dates of data collection and analysis, iterative process, triangulation of sources/methods, and modification of procedures in response to evolving study findings; rationale**	Pages 6, 7

Data collection instruments and technologies - Description of instruments (e.g., interview guides, questionnaires) and devices (e.g., audio recorders) used for data collection; if/how the instrument(s) changed over the course of the study	Page 6
Units of study - Number and relevant characteristics of participants, documents, or events included in the study; level of participation (could be reported in results)	Pages 6, 7, 8
Data processing - Methods for processing data prior to and during analysis, including transcription, data entry, data management and security, verification of data integrity, data coding, and anonymization/de-identification of excerpts	Pages 6, 7
Data analysis - Process by which inferences, themes, etc., were identified and developed, including the researchers involved in data analysis; usually references a specific paradigm or approach; rationale**	Pages 6, 7
Techniques to enhance trustworthiness - Techniques to enhance trustworthiness and credibility of data analysis (e.g., member checking, audit trail, triangulation); rationale**	Pages 6, 7

Results/findings

Synthesis and interpretation - Main findings (e.g., interpretations, inferences, and themes); might include development of a theory or model, or integration with prior research or theory	Pages 7-21
Links to empirical data - Evidence (e.g., quotes, field notes, text excerpts, photographs) to substantiate analytic findings	Pages 7-21

Discussion

Integration with prior work, implications, transferability, and contribution(s) to the field - Short summary of main findings; explanation of how findings and conclusions connect to, support, elaborate on, or challenge conclusions of earlier scholarship; discussion of scope of application/generalizability; identification of unique contribution(s) to scholarship in a discipline or field	Pages 21-26
Limitations - Trustworthiness and limitations of findings	Page 25

Other

Conflicts of interest - Potential sources of influence or perceived influence on study conduct and conclusions; how these were managed	Page 26
Funding - Sources of funding and other support; role of funders in data collection, interpretation, and reporting	Page 26

*The authors created the SRQR by searching the literature to identify guidelines, reporting standards, and critical appraisal criteria for qualitative research; reviewing the reference lists of retrieved sources; and contacting experts to gain feedback. The SRQR aims to improve the transparency of all aspects of qualitative research by providing clear standards for reporting qualitative research.

**The rationale should briefly discuss the justification for choosing that theory, approach, method, or technique rather than other options available, the assumptions and limitations implicit in those choices, and how those choices influence study conclusions and transferability. As appropriate, the rationale for several items might be discussed together.

Reference:

O'Brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA. **Standards for reporting qualitative research: a synthesis of recommendations.** *Academic Medicine*, Vol. 89, No. 9 / Sept 2014 DOI: 10.1097/ACM.0000000000000388