Open access **Protocol**

BMJ Open Increasing the availability of long-acting reversible contraception and medical abortion in primary care: the Australian **Contraception and Abortion Primary Care Practitioner Support Network** (AusCAPPS) cohort study protocol

Danielle Mazza , ¹ Sharon James , ¹ Kirsten Black , ² Angela Taft , ³ Deborah Bateson , ⁴ Kevin McGeechan , ⁵ Wendy V Norman , ^{6,7}

To cite: Mazza D, James S, Black K, et al. Increasing the availability of long-acting reversible contraception and medical abortion in primary care: the Australian Contraception and Abortion **Primary Care Practitioner** Support Network (AusCAPPS) cohort study protocol. BMJ Open 2022;12:e065583. doi:10.1136/ bmjopen-2022-065583

Prepublication history and additional supplemental material for this paper are available online. To view these files, please visit the journal online (http://dx.doi.org/10.1136/ bmjopen-2022-065583).

Received 15 June 2022 Accepted 30 November 2022



@ Author(s) (or their employer(s)) 2022. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by

For numbered affiliations see end of article.

Correspondence to

Professor Danielle Mazza; Danielle.Mazza@monash.edu

ABSTRACT

Introduction Although primary care practitioners are the main providers of long-acting reversible contraception (LARC) and early medical abortion (EMA) in Australia. few provide these services. A professional community of practice (CoP) has the potential to improve LARC and EMA provision through evidence-based guidance, expert support and peer-to-peer engagement.

The primary objective is to establish, implement and evaluate an innovative, multidisciplinary online CoP (AusCAPPS Network) to increase LARC and EMA services in Australian primary care. Secondary objectives are to (1) increase the number of general practitioners (GPs) and pharmacists certified to provide or dispense EMA, respectively, (2) increase LARC and EMA prescription rates and, (3) improve primary care practitioners' knowledge, attitudes and provision of LARC and EMA.

Methods and analysis A stakeholder knowledge exchange workshop (KEW) will be conducted to inform the AusCAPPS Network design. Once live, we aim to reach 3000 GPs, practice nurses and community pharmacists members. Changes in the number of GPs and pharmacists certified to provide or dispense EMA, respectively, and changes in the number of LARCs and EMAs prescribed will be gleaned through health service data. Changes in the knowledge attitudes and practices will be gleaned through an online survey with 500 individuals from each professional group at baseline and 12 months after members have joined AusCAPPs; and experiences of the AusCAPPS Network will be evaluated using interviews with the project team plus a convenience sample of 20 intervention participants from each professional group. The project is underpinned by the Reach, Effectiveness, Adoption, Implementation and Maintenance framework, and a realist framework will inform analysis.

Ethics and dissemination Ethical approval was received from the Monash University Human Research Ethics Committee (No. 28002). Dissemination will occur through KEWs, presentations, publications and domestic and international networks.

Trial registration number ACTRN12622000655741.

STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ Knowledge exchange workshops will enable the development and dissemination of the AusCAPPS Network intervention and outcomes.
- ⇒ Key stakeholder involvement throughout the project will support the acceptability and sustainability of the AusCAPPS Network.
- ⇒ This project will involve the multidisciplinary approaches needed to support women's reproductive choices and enhance clinician engagement to provide long-acting reversible contraception (LARC) and early medical abortion (EMA) services.
- ⇒ Potential hesitancy from practitioners about being identified as abortion providers in AusCAPPS are mitigated through security and privacy measures, such as participant practicing licence number verification and engagement and moderation procedures.
- ⇒ A potential limitation of the study is that the survey outcomes may not be generalisable for all primary care practitioners' experiences in LARC and EMA service delivery.

INTRODUCTION

Preventing unintended pregnancy is an important public health initiative and a key focus of Australia's National Women's Health Strategy 2020–2030. One-quarter of Australian women experience an unintended pregnancy, with rates estimated to be higher for those in non-urban areas.2 To support the reduction of unintended pregnancy, clinical guidelines, key opinion leaders and clinical guideline setting organisations in Australia and internationally recommend increasing the use of long-acting reversible contraception (LARC).³⁻⁷ LARCs are the most effective method of contraception⁸ due to their minimal adherence requirements, high levels



of clinical efficacy and long duration. Women also report higher continuation and satisfaction with LARC methods compared with the less efficacious contraceptive pill. While use of hormonal LARCs have increased over the last decade tuptake in Australia is low (11%) compared with other contraceptive methods. Women's choice in contraceptive option depends on health professional advice about the complete range of contraceptive options, cost, referrals and follow-up required. However, there is lower familiarity with LARC among health professionals and misperceptions about their use. Professionals and misperceptions about their use. In Australia, incorrectly believe that intrauterine devices (IUDs) are contraindicated in nulliparous women.

When Australian women have had an unintended pregnancy, 31% of these end in abortion.² Due to limited LARC and early medical abortion (EMA) services and high out-of-pocket costs, significant hurdles to access women's healthcare services exist, particularly in rural areas. 15 In addition, only about 10% of the GPs are authorised to prescribe EMA medication 16 17 and approximately 27% of the pharmacists are authorised to dispense these medications. 16 18 Furthermore, it is unclear how many of these GPs and pharmacists are actively providing these services. To provide EMA, clinician barriers such as mandated training and registration, fear and stigma exist. 19 Without adequate numbers of LARC and EMA providers, particularly in regional and rural primary care, women are required to seek care elsewhere increasing the burden of travel, costs, wait time and placing women at risk of unintended pregnancy in the interim.

Integrating EMA into general practice brings a range of recognised barriers, which could be answered by better peer support, training and a clear referral pathway. ^{21–23} As a consequence, and due to a lack of ongoing support about LARC-related services, reducing unintended pregnancies are also important gaps in care. ²⁴ Abortion and LARC service providers, other stakeholders ^{12–25} and international commentary ²⁶ echo these concerns and acknowledge the need to develop and implement new service models, strengthen the role of nurses and partnerships with other health professionals and community services, and enhance training, support and ongoing mentoring for practitioners.

To support family planning services in primary care, a multidisciplinary online community of practice (CoP) has successfully been used in Canada. The Contraception and Abortion Research Team-Groupe de recherche sur l'avortemont et la contraception (CART-GRAC) CoP (https://caps-cpca.ubc.ca/) has supported a clinician network about EMA services, and the number of practitioners who provide EMA has more than doubled since the intervention began. This intervention has also facilitated policy and practice change through enhanced access to EMA care, removal of all mandated health professional training requirements and the development of practice support tools. Online CoPs have been used successfully in Australia and can reduce isolation

and support practice-based interventions through mentoring, networking opportunities, learning and support. ^{32 33} Overcoming isolation, particularly in rural areas, through an online CoP can support clinician needs in primary care, engaging a breadth of users with a variety of tools and feedback. ³³ Modelled on the CART-GRAC CoP, this protocol describes an intervention to determine the impact of an online CoP aimed at supporting LARC and EMA primary care services.

Our primary aim is to establish, implement and evaluate the capacity of a multidisciplinary online CoP (AusCAPPS) to increase the availability of LARC and EMA in Australian primary care. The secondary objectives are to:

- ► Increase the number of GPs certified to prescribe and the number of pharmacists certified to dispense EMA,
- ► Increase the rates of prescription of IUDs, implants and EMA, and
- ▶ Improve primary care health professional's knowledge, attitudes and provision of LARC and EMA.

METHODS AND ANALYSIS Methodological approaches

The project is underpinned by the Reach, Effectiveness, Adoption, Implementation and Maintenance (RE-AIM) framework (figure 1).³⁴ These elements are informed by the data sources, outcome measures and evaluation. To address key issues analysis will be conducted using the realist evaluation model³⁵ involving quantitative and qualitative methods to understand 'what worked for whom in what circumstances'. That is, evaluation will consider linkage between the context, mechanism and outcomes of the project.³⁵

The Strengthening the Reporting of Observational Studies in Epidemiology checklist for reporting on cohort studies was used to develop our protocol so that when reporting our results we would align with all recommended reporting requirements.³⁶ This protocol describes our five-phase project to develop and test a CoP for GPs, practice nurses (PNs) and community-based pharmacists (CPs) (figure 2). Phase 1 will establish the intervention through a knowledge exchange workshop with key stakeholders and partner organisations providing LARC and EMA services. Phase 2 will involve a national survey of baseline levels of knowledge, attitudes and practices (KAP) to better understand gaps in current service provision. Phase 3 will comprise the project intervention involving participation in a secure online CoP platform. Phase 4 will evaluate outcomes of the project through an endline national KAP survey, Google analytics of website activity, CoP registration data, changes in the number of prescribers and dispensers of EMA over the course of the intervention, changes in participant LARC and EMA health service provision in the year before and after registration in the CoP, and interviews with CoP members and project staff and partner investigators. In Phase 5, a knowledge exchange workshop will be held bringing together project partners, other key stakeholders, consumers and

	REACH				
EVALUATION	Who is using AusCAPPS? How often?	How effective is AusCAPPS at increasing access to LARC and EMA?	ADOPTION • Is AusCAPPS targeting the needs of participants?	IMPLEMENTATION • How was AusCAPPS implemented?	• What factors determine sustainability? • What challenges does AusCAPPS and governance model face in meeting future needs?
OUTCOME MEASURE	Participant demographicsWebsite activity	 No. of GP EMA prescribers LARC and EMA prescribing and service provision No. of pharmacy EMA dispensers KAP surveys of GPs, PNs, CPs 	Interviews with AusCAPPS GPs, PNs, CPs	Documentation on implementation Interviews with project staff and Partner Investigators	Sustainability plan
DATA SOURCES	AusCAPPSGoogle analyticsQualitative analysis of CoP posts	 MSHealth register of certified prescribers and dispensers AusCAPPS Government repository of services provided and pharmaceutical benefits dispensed 	• AusCAPPS	Governance meeting minutes Interviews with key staff and stakeholders	Knowledge exchange workshop Stakeholder forum

Figure 1 Application of the Reach, Effectiveness, Adoption, Implementation and Maintenance framework to AusCAPPS. CoP, community of practice; CPs, community pharmacists; EMA, early medical abortion; GPs, general practitioners; KAP, knowledge, attitudes and practices; LARC, long-acting reversible contraception; PNs, practice nurses.

policymakers to review and disseminate project outcomes. The workshop will develop a detailed plan for the future sustainability of AusCAPPS that considers continuing needs and required improvements in accessibility of LARC and EMA primary care services.

Phase 1—establishing AusCAPPS

To prepare for AusCAPPS, a knowledge exchange workshop will be held in year 1 of the project to share information about LARC and EMA service provision, and identify existing resources, models of care and existing activities being undertaken by practitioners and partner organisations. Knowledge exchange workshop participants will be identified from key practitioners and project partner representatives including family planning and sexual health organisations, industry, academics and government. These stakeholders will be emailed to request their involvement in the workshop. The workshop, stakeholders and senior authors DM's and WVN's previous experience of implementing online communities of practice, will inform the development of the AusCAPPS network and resources needed on the site. Built on a secure web-based platform, AusCAPPS will then be piloted with five GPs, five PNs and five CPs from the clinician advisory circles and additional practitioners with experience in women's sexual and reproductive health in primary care.

Phase 2—establishing a baseline and geomapping

Prior to operation of the CoP, we will establish national baseline levels of knowledge, attitudes and current practice among GPs, PNs and CPs regarding LARCs and EMA to better understand current service provision and identify gaps across the country. The survey will be based on that used in our recent study³⁷ and surveys conducted by WN.^{28 38}

Participants and sample size calculation

We aim to recruit 500 each of GPs, CPs and PNs for our survey. This sample size was chosen because it will allow us to estimate the proportion of participants with key characteristics, for example, currently provide, adequate knowledge of and positive attitudes towards LARCs/EMA in each professional group with a precision of $\pm 5\%$.

Survey description

KAP surveys will be conducted at baseline and repeated at the end of the project. The survey will be repeated at the end of the project with the addition of specific questions on awareness of AusCAPPS to assess its wider impact. The surveys will be similar across discipline groups, but tailored to ask health discipline specific questions about the prescription, dispensing or involvement in LARC and EMA clinical care (online supplemental files 1-3). A combination of Likert scales and single line text responses will be included in the survey.

Recruitment

General practice participants will be recruited using email and posted invitations from a health professional address list purchased from the Australasian Medical Publishing Company. Community pharmacies will be emailed and sent invitations from an internally developed database sourced

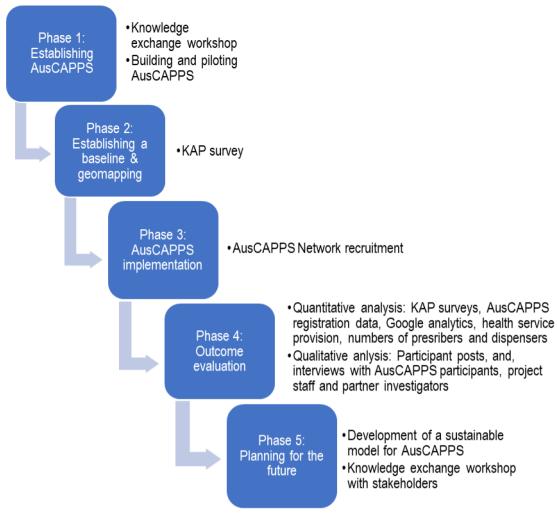


Figure 2 Phases of the AusCAPPS trial. KAP, knowledge, attitudes and practices.

from publicly available information. Participants will also be recruited via established networks, and discipline specific professional organisations including the Pharmaceutical Society of Australia, Australian Primary Health Care Nurses Association and the Royal Australian College of General Practitioners, as well as social media platforms such as Facebook. Prior to receiving a link to the electronic survey, participants will be invited to view an explanatory statement about the KAP survey prior to completion. Participating in the KAP survey will imply consent. Survey participants will be offered a \$AUD40 e-gift card, on survey completion and verification of practicing licence, sent to the participants via email. Following KAP completion, participants will be invited to participate in the AusCAPPS network.

Data collection

Survey data will be collected and managed using a REDCap (Research Electronic Data Capture) database, a secure web-based software platform designed to support data capture for research studies hosted at Monash University.³⁹

Data analysis

Data from the KAP survey will be summarised for each professional group using counts and proportions, or

means and SD where appropriate. We will also use logistic and linear regression models to explore the factors associated with KAP. Separate Poisson regression analyses will be conducted on survey responses related to the numbers of LARC and EMA provided to explore the predictive relationship across a range of factors (eg, age, gender, rurality).

Phase 3—AusCAPPS implementation

Once live, the AusCAPPS Network will be advertised to GPs, PNs and CPs across Australia through recruitment channels similar to the KAP surveys such as via professional networks. We will seek to enrol 3000 participants to the network. This number is achievable, as it is comparable to other online peer-networking forums that currently exist (eg, the GP-only group GPDU (GPs Down Under) Facebook group currently has greater than 5000 members). We will use the existing networks of our partners at state and national levels to drive recruitment. Recruitment activities will include advertisements and articles in partner newsletters and emails, through social media advertisements, conference presentations, as well as webinars and podcasts only available through the network. The AusCAPPS Network will provide practice-based support



such as 'ask an expert', a discussion forum, a national database of LARC and EMA providers from participants registering on the site, resources for providing LARC and EMA care, peer-networking opportunities and links to education, training, webinars and podcasts. To maintain engagement on the site, AusCAPPS activities will be advertised through the same mechanisms as used in recruitment, as well as weekly newsletters and site activity email notifications.

Phase 4—outcome evaluation

Outcome measures will be informed by the RE-AIM framework.³⁴ A mixed methods approach will be used to evaluate the CoP and assess the number of GPs certified to prescribe and the number of pharmacists certified to dispense EMA and the rates of prescription of IUDs, implants and EMA. The following six data items will be collected:

- 1. *Registration data:* Data will be collected when participants sign up to the AusCAPPS Network such as geographical location and profession.
- 2. AusCAPPS Network engagement: Data including frequency of access by members, content that members engage will be collected throughout the duration of the study period of the live AusCAPPS Network site (24 months).
- 3. Health service provision data through the Australian Government's Medical Benefits Scheme (MBS) and Pharmaceutical Benefits Scheme (PBS): MBS and PBS data are federal government held records of services by health professionals and prescriptions of medicines dispensed by approved suppliers. On registering to enrol in Aus-CAPPS, participants will be invited to provide consent for access to their MBS billing and PBS prescribing data. MBS and PBS data will be used to analyse service provision and prescribing behaviours for contraceptive implants, IUDs and EMA, in the year before and after registration to AusCAPPS.
- 4. *Numbers of prescribers and dispensers of EMA:* Changes in the numbers of trained certified prescribers and dispensers of EMA in the year before and after enrolment in the AusCAPPS Network will be evaluated. These reports from the training provider, MS Health register, give data about the numbers of prescribers and dispensers by state and rurality. ¹⁶
- 5. KAP surveys of GPs, PNs and CPs in the community plus participants who enrolled onto the AusCAPPS Network: Survey results will be analysed to compare differences in KAP among GPs, PNs and CPs over the period of the trial and to compare the knowledge attitudes and practices of these healthcare practitioners with those who were part of the AusCAPPS study. Endline KAP survey participants will be recruited in the same way as in Phase 2, through emails, provider databases, established networks and professional organisations. Survey participants will be incentivised by a draw to win 1 of 10 iPad Pros. A sample size of 500 in each group for the endline survey will allow differences of 10% between

- baseline and endline to be detected, with 80% power and 5% significance level.
- 6. Interviews with GP, PN, CP members of the AusCAPPS Network and project staff and investigators: On completion of the study period of the live AusCAPPS Network site, interviews will be conducted with 20 GP, 20 PN and 20 CP AusCAPPS members to ascertain their experience of the Network. Members of the AusCAPPS investigator and project staff team will also be invited to be interviewed. Interview schedules will be developed within the executive team, expert advisory group and implementation team and piloted within the advisory circles. Interview questions will focus on any new perspectives and concepts gained through participation, implementation of advice, solutions, insights and innovations, whether the AusCAPPS Network facilitated new collaborative arrangements and professional connections, and use of new tools and documents to inform practice.

Consent

On registering to the AusCAPPS Network, participants will be asked to read the explanatory statement provided, consent to the research of AusCAPPS will be implied by clicking 'I consent to take part in the AusCAPPS project....'. Participants who consent to research participation will be asked to complete a separate PBS/MBS consent form to allow access to their PBS/MBS data. For example, 'I authorise Services Australia to provide my complete MBS billing and PBS prescribing information for the period 17/5/21 to 17/5/23 to the AusCAPPS Study'. When registering for the AusCAPPS Network, participants will also be asked if they consent to participating in further research about the project.

On completion of the study phase of the CoP, participants who indicate their interest in further research will be emailed an explanatory statement for interview and verbal consent will be recorded prior to interview. Qualitative one-on-one structured interviews will be undertaken via telephone or zoom and take up to 60 min. Interview participants will be offered an e-gift card to compensate for their time. Incentives for each professional group will be reflective of their general hourly rate of pay.

Data analysis

Analysis for each of the data collection points will occur as follows:

- 1. *Registration data*: Data will be used to gauge the number of participants, their geographical location as well as other demographic characteristics.
- 2. AusCAPPS Network engagement: Website and Google analytics will be used to gain insights into engagement and use of the AusCAPPS Network, such as understanding the type of discussion topics that received the most likes and replies.
- 3. *Health service provision data:* Aggregated data from PBS dispensed prescriptions for implants, IUDs and EMA and for MBS-funded LARC insertions in the year be-



fore and in the year after registration. No patient data will be requested. We will compare the rate of LARC and EMA provision in the year before and in the year after registration using Poisson regression. MBS and PBS data analysis will include differences by gender or participant location. Data will be analysed separately for GPs (PBS and MBS items), and where available for nurses (PBS items), providing objective measures of the impact of AusCAPPS on individual practice.

- 4. Numbers of prescribers and dispensers of EMA: Data comparisons between current numbers of GPs registered prescribers and pharmacists registered to dispense EMA will be obtained.⁴⁰
- 5. KAP surveys of GPs, PNs and CPs in the community plus participants who enrolled onto the AusCAPPS Network: Endline KAP data analysis will occur in the same way as Phase 2. Data will be summarised for each professional group and region using descriptive statistics such as frequencies, percentages, means and medians where appropriate. Univariate tests of association will be undertaken between single factors and the outcome in question, such as rates of LARC and EMA using Poisson regression. Where multiple significant associations are found, these will be combined in multiple regression models using a stepwise approach.
- 6. Interviews with GP, PN, CP members of the AusCAPPS Network and project staff and investigators: Inductive thematic analysis of interviews will occur with support from qualitative software NVivo V.12. During analysis constant comparisons between data and preliminary themes will occur. Thematic analysis will occur through data familiarisation, generation of codes, theme collation, review of themes, theme definition and reporting. Decisions about theme consensus will occur following team discussion. 42

Phase 5—planning for the future

A knowledge exchange workshop held in the final 6 months of the project will bring together our partners, key stakeholders, consumers and policymakers from state and federal governments to review and disseminate the outcomes from the project. A key focus of the workshop will be the development of a detailed plan for AusCAPPS sustainability that considers continuing needs and any improvements necessary to enhance LARC and EMA service accessibility in primary care. Partner organisations will foster AusCAPPS so that it is sustainable, produces outcomes that inform policy and practice and establishes a collaborative model that can support future initiatives to enhance and sustain access to LARC and EMA care.

Synthesis and interpretation of data

Informed by the realist evaluation model³⁵ the integration of inferences from data, or meta inferences, around corroboration, elaboration, complementarity or contradiction⁴³ will lead to understanding about the key drivers for AusCAPPS' impact on LARC and EMA services for GPs, PNs and CPs. It is expected that KAP in LARC and EMA

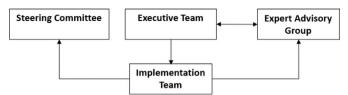


Figure 3 AusCAPPS governance structure.

service provision will be increased within the community after the intervention, and that multidisciplinary engagement in AusCAPPS will support increased availability of LARC and EMA services in Australia. While KAP survey and interview data will be analysed separately, interpretation of baseline KAP survey data and implementation team experience in developing the AusCAPPS network will inform the interview schedule development. Inferences from the interpretation of relationships⁴⁴ between AusCAPPS phases will be discussed at the knowledge exchange workshop with key stakeholders in Phase 5.

Stakeholder engagement

Governance structures (figure 3) involving project investigators, the implementation team and partners from academia, industry and clinician professional groups with interests in women's sexual and reproductive health in primary care and consumer advocates, will be established in year 1 of the project. The governance structure will involve a steering committee (providing advice for clinical and political strategy), the project executive team (responsible for the overarching aims and deliverables of the project), an expert advisory group (providing advice on CoP content and engagement) and an implementation team (responsible for conducting the study and liaison with partners in the expert advisory group to tailor AusCAPPS components). In addition to the formal governance structures, three clinician advisory circles will be established consisting of 5-10 GPs, PNs or CPs with clinical experience in women's sexual and reproductive health in primary care. The purpose of the advisory circles will be to provide feedback to the trial team about recruitment, data collection and CoP content as needed.

Patient and public involvement

As the AusCAPPS Network aims to engage practitioners, there will be no patient or public involvement in the study. Where required, the AusCAPPS team is able to seek advice and engagement from consumers through the SPHERE (Sexual and Reproductive Health for Women in Primary Care) CRE (Centre of Research Excellence) Consumer Advisory Group.

Study timeline

Participant recruitment for the KAP community sample and AusCAPPS registration began in July 2021. Enrolment in AusCAPPS will occur for 2 years. Data on CoP engagement will be collected throughout the study and all remaining data will be collected in July 2023.



Ethics and dissemination

Ethical approval has been obtained from the Monash University Human Research Ethics Committee (No. 28002). Registration for the project's intervention has been obtained from the Australian and New Zealand Trial Registry. All participants will be given an explanatory statement about the project's aims, the right to withdraw and the voluntary nature, risks and benefits of participation. Survey data will be securely held in REDCap. An approved consent form for Australian health service data use will be used to obtain MBS and PBS data from participants. Participant interview and MBS and PBS data will be stored securely on a password protected computer folder. Only the research team will have access to data during the project for research purposes.

Dissemination of results

Results from the project will be shared within AusCAPPS and, author and stakeholder networks, peer-reviewed journals, conference presentations and social media. The Phase 5 knowledge exchange workshop at project completion will also assist in disseminating findings to stakeholders.

DISCUSSION

This project builds on the learnings of a highly successful Canadian CoP that facilitated policy and practice change and substantial increases in the number of EMA providers and extends this project to involve a focus on LARCs. In addition, the project brings together key stakeholders, professional, government and non-government organisations involved in women's healthcare. The project is also supported by the SPHERE CRE, a powerful collaboration comprising of these peak organisations as well as leading Australian and international researchers in women's sexual and reproductive healthcare and reproductive justice.

It is acknowledged that there could be hesitancy around participating in AusCAPPS given content about abortion services. Participants may not want to be identified as providing this care, impacting engagement in the site. These concerns have been mitigated by securing AusCAPPS entry to health professionals with a practicing licence number, development of a risk management and engagement protocol and site moderation by the Implementation Team and Clinician Experts. It is also possible that participants with limited internet connections particularly in rural areas may find it difficult to engage in AusCAPPS. However, engagement in AusCAPPS can be done at any time of the day, on any device type and accessed through fixed wireless internet typically used in rural and regional areas.⁴⁵ The increased clinical load on GPs, PNs and CPs during COVID-19 may present challenges in meeting recruitment targets and engagement on the CoP. However, ongoing engagement between the project team and practitioners through professional groups or their roles in project governance or advisory

groups, aims to minimise the effects of COVID-19 on the project.

AusCAPPS will provide opportunities for the multidisciplinary primary care workforce to engage with each other about care for women requiring LARC and EMA services. By improving clinician access to collegial support, expert advice, resources, education and training, it is envisaged that access for women's reproductive care in efficacious methods of contraception and EMA will be enhanced. Through partnership with organisations already providing LARC and EMA services, AusCAPPS is ideally placed to provide sustainable clinician support into the future.

Author affiliations

¹SPHERE, NHMRC Centre of Research Excellence, School of Public Health and Preventive Medicine, Monash University, Clayton, Victoria, Australia

²Specialty of Obstetrics, Gynaecology and Neonatology, The University of Sydney, Sydney, New South Wales, Australia

³Judith Lumley Centre, College of Science, Health and Engineering, La Trobe University, Melbourne, Victoria, Australia

⁴Gynaecology and Neonatology, University of Sydney, Sydney, New South Wales, Australia

⁵School of Public Health, The University of Sydney, Sydney, New South Wales, Australia

⁶Department of Family Practice, The University of British Columbia, Vancouver, British Columbia, Canada

⁷Public Health, Environments and Society, London School of Hygiene and Tropical Medicine Faculty of Public Health and Policy, London, UK

Twitter Danielle Mazza @Danielle_Mazza, Sharon James @Sharon_MJames, Deborah Bateson @DrDebBateson and Wendy V Norman @wvnorman

Acknowledgements We would like to thank Sexual Health Victoria and Family Planning New South Wales for their role providing expert clinician support within AusCAPPS.

Contributors DM led the development and conduct of the AusCAPPS Trial. SJ prepared the manuscript. DM, KB, DB, AT, KM and WVN were involved in the protocol development and design. KM provided support for the development of the statistical analysis plan. DM, SJ, KB, DB, AT, KM and WVN edited and approved the final manuscript.

Funding The trial is being conducted with support by the National Health and Medical Research Council grant ID: 1191793 and partner organisation monetary or material support. Partner organisations include the Australian Commission on Safety and Quality in Health Care, Australian Government Department of Health, Australian Primary Health Care Nurses Association, Australasian Sexual Health and HIV Nurses Association, Australian Women's Health Nurse Association, Bayer Australia and New Zealand, Children by Choice, Family Planning New South Wales, Family Planning Tasmania, Family Planning Welfare Association of NT, Jean Hailes, Marie Stopes Australia, Organon, Pharmaceutical Society of Australia, Royal Australian College of General Practitioners, Sexual Health Victoria, Sexual Health Quarters, SHINE SA and The Royal Australian and New Zealand College of Obstetricians and Gynaecologists. WVN was supported as a Scholar of the Michael Smith Foundation for Health Research (2012-2020-5139 (HSR)), and as an Applied Public Health Research Chair by the Canadian Institutes of Health Research (2014-2024-CPP-329455-107837).

Competing interests None declared.

Patient and public involvement Patients and/or the public were not involved in the design, or conduct, or reporting, or dissemination plans of this research.

Patient consent for publication Not applicable.

Provenance and peer review Not commissioned; externally peer reviewed.

Supplemental material This content has been supplied by the author(s). It has not been vetted by BMJ Publishing Group Limited (BMJ) and may not have been peer-reviewed. Any opinions or recommendations discussed are solely those of the author(s) and are not endorsed by BMJ. BMJ disclaims all liability and responsibility arising from any reliance placed on the content. Where the content includes any translated material, BMJ does not warrant the accuracy and reliability of the translations (including but not limited to local regulations, clinical guidelines,



terminology, drug names and drug dosages), and is not responsible for any error and/or omissions arising from translation and adaptation or otherwise.

Open access This is an open access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited, appropriate credit is given, any changes made indicated, and the use is non-commercial. See: http://creativecommons.org/licenses/by-nc/4.0/.

ORCID iDs

Danielle Mazza http://orcid.org/0000-0001-6158-7376 Sharon James http://orcid.org/0000-0003-2211-3447 Kirsten Black http://orcid.org/0000-0003-0030-2431 Angela Taft http://orcid.org/0000-0002-6350-843X Deborah Bateson http://orcid.org/0000-0003-1035-7110 Kevin McGeechan http://orcid.org/0000-0002-9679-9827 Wendy V Norman http://orcid.org/0000-0003-4340-7882

REFERENCES

- 1 Australian Government Department of Health. National Women's Health Strategy 2020-2030, 2018.
- 2 Organon. Impact of unintended pregnancy, 2022.
- 3 American College of obstetricians and gynaecologists. practice Bulletin No. 186: long-acting reversible contraception: implants and intrauterine devices. Obstet Gynecol 2017;130:e251–69.
- 4 Family Planning Alliance Australia. Long acting reversible contraception (LARC) Poistion statement: family planning alliance Australia, 2014.
- 5 National Institute for Health and Care Excellence. Long-Acting reversible contraception. United Kingdom, 2014.
- 6 The Royal Australian and New Zealand College of Obstetricians and Gynaecologists. Long acting reversible contraception C-Gyn 34,
- 7 Black A, Guilbert E, et al, Co-Authors. Canadian contraception consensus (Part 1 of 4). J Obstet Gynaecol Can 2015;37:936–8.
- 8 Sundaram A, Vaughan B, Kost K, et al. Contraceptive failure in the United States: estimates from the 2006-2010 national survey of family growth. Perspect Sex Reprod Health 2017;49:7–16.
- 9 Paton D, New MJ, Peipert JF, Madden T, Allsworth JE. Preventing unintended pregnancies by providing no-cost contraception. *Obstet Gynecol* 2013;121:289–91.
- 10 BÍack KI, McGeechan K, Watson CJ, et al. Women's satisfaction with and ongoing use of hormonal long-acting methods compared to the oral contraceptive pill: findings from an Australian general practice cluster randomised trial (Accord). Aust N Z J Obstet Gynaecol 2021:61:448–53.
- 11 Grzeskowiak LE, Calabretto H, Amos N, et al. Changes in use of hormonal long-acting reversible contraceptive methods in Australia between 2006 and 2018: a population-based study. Aust N Z J Obstet Gynaecol 2021;61:128–34.
- Mazza D, Bateson D, Frearson M, et al. Current barriers and potential strategies to increase the use of long-acting reversible contraception (LARC) to reduce the rate of unintended pregnancies in Australia: an expert roundtable discussion. Aust N Z J Obstet Gynaecol 2017;57:206–12.
- 13 Dixon SC, Herbert DL, Loxton D, et al. 'As many options as there are, there are just not enough for me': contraceptive use and barriers to access among Australian women. Eur J Contracept Reprod Health Care 2014;19:340–51.
- 14 Black K, Lotke P, Buhling KJ, et al. A review of barriers and myths preventing the more widespread use of intrauterine contraception in nulliparous women. Eur J Contracept Reprod Health Care 2012;17:340–8.
- 15 Family Planning Alliance Australia. Access to abortion services in Australia: family planning alliance Australia, 2016.
- 16 MS Health.. Dispenser and prescriber program 2022. Available: https://www.mshealth.com.au/wp-content/uploads/ms-health-january-2022-update.pdf[Accessed 5th May 2022].
- 17 Medical Board of Australia. Registrant data, 2021.
- 18 Jackson JK, Liang J, Page AT. Analysis of the demographics and characteristics of the Australian pharmacist workforce 2013-2018: decreasing supply points to the need for a workforce strategy. Int J Pharm Pract 2021;29:178–85.
- 19 Deb S, Subasinghe AK, Mazza D. Providing medical abortion in general practice: general practitioner insights and tips for future providers. Aust J Gen Pract 2020;49:331–7.

- 20 Garrett CC, Keogh LA, Kavanagh A, et al. Understanding the low uptake of long-acting reversible contraception by young women in Australia: a qualitative study. BMC Womens Health 2015;15:72.
- 21 Dawson AJ, Nicolls R, Bateson D, et al. Medical termination of pregnancy in general practice in Australia: a descriptive-interpretive qualitative study. Reprod Health 2017;14.
- 22 Devane C, Renner RM, Munro S. Implementation of mifepristone medical abortion in Canada: pilot and feasibility testing of a survey to assess facilitators and barriers. *Pilot Feasibility Stud* 2019;5:126.
- 23 Munro S, Guilbert E, Wagner M-S, et al. Perspectives among Canadian physicians on factors influencing implementation of mifepristone medical abortion: a national qualitative study. Ann Fam Med 2020;18:413–21.
- 24 Australian Healthcare and Hospitals Association. Consensus statement: reducing unintended pregnancy for Australian women through increased access to long-acting reversible contraceptive methods, 2017.
- 25 Newton D, Bayly C, McNamee K, et al. '...a one stop shop in their own community': medical abortion and the role of general practice. Aust N Z J Obstet Gynaecol 2016;56:648–54.
- 26 Ganatra B. Health worker roles in safe abortion care and postabortion contraception. *Lancet Glob Health* 2015;3:e512–3.
- 27 Norman WV, Munro S, Brooks M, et al. Could implementation of mifepristone address Canada's urban-rural abortion access disparity: a mixed-methods implementation study protocol. BMJ Open 2019;9:e028443.
- 28 Norman WV, Guilbert ER, Okpaleke C, et al. Abortion health services in Canada: results of a 2012 national survey. Can Fam Physician 2016;62:e209–17.
- 29 Shaw D, Norman WV. When there are no abortion laws: a case study of Canada. Best Pract Res Clin Obstet Gynaecol 2020;62:49–62.
- 30 CART-GRAC (Contraception & Abortion Research Team-Groupe de recherche sur l'avortemont et la contraception). Canadian Abortion Providers Support-Communauté de pratique canadienne sur l'avortement (CAPS-CPCA) Community of Practice British Columbia, 2017. Canada: University of British Columbia021) [Available from:updated 2. Available: https://www.caps-cpca.ubc.ca/index.php/ Main_Page
- 31 Rebic N, Munro S, Norman WV, et al. Pharmacist checklist and resource guide for mifepristone medical abortion: User-centred development and testing. Can Pharm J 2021;154:166–74.
- 32 Cruess RL, Cruess SR, Steinert Y. Medicine as a community of practice: implications for medical education. *Acad Med* 2018;93:185–91.
- 33 Barnett S, Jones SC, Bennett S, et al. A virtual community of practice for general practice training: a preimplementation survey. JMIR Med Educ 2016;2:e13.
- 34 Holtrop JS, Rabin BA, Glasgow RE. Qualitative approaches to use of the RE-AlM framework: rationale and methods. BMC Health Serv Res 2018;18:177.
- 35 Pawson R, Tilley N. Realist evaluation. London: SAGE Publishing, 1997.
- 36 von Elm E, Altman DG, Egger M, et al. The strengthening the reporting of observational studies in epidemiology (STROBE) statement: guidelines for reporting observational studies. Bull World Health Organ 2007;85:867–72.
- 37 Mazza D, Black K, Taft A, et al. Increasing the uptake of longacting reversible contraception in general practice: the Australian contraceptive choice pRoject (Accord) cluster randomised controlled trial protocol. BMJ Open 2016;6:e012491.
- 38 Jones HE, O'Connell White K, Norman WV, et al. First trimester medication abortion practice in the United States and Canada. PLoS One 2017;12:e0186487.
- 39 Harris PA, Taylor R, Minor BL, et al. The REDCap Consortium: building an international community of software platform partners. J Biomed Inform 2019;95:103208.
- 40 Health MS, Report I. Reproductive choices. 2021. Melbourne: MS Health, 2020.
- 41 QSR International Pty Ltd. NVivo (released in March 2020);2020.
- 42 Braun V, Clarke V. Using thematic analysis in psychology. Qual Res Psychol 2006;3:77–101.
- 43 Brannen J. Mixing methods: the entry of qualitative and quantitative approaches into the research process. *Int J Soc Res Methodol* 2005;8:173–84.
- 44 Creswell J. Mapping the Developing Landscape of Mixed Methods Research. In: Tashakkori A, Teddlie C, eds. SAGE handbook of mixed methods in social & behavioral research. 2nd ed.. Los Angeles: Sage Publications, Inc, 2010: 45–68.
- 45 Graves JM, Abshire DA, Amiri S, et al. Disparities in technology and broadband Internet access across rurality: implications for health and education. Fam Community Health 2021;44:257–65.