

BMJ Open Models of maternal and child healthcare for African refugees: protocol for an exploratory, mixed-methods study

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ABSTRACT

Introduction There is a paucity of research examining models of maternal and child health (MCH) care for refugees in high-income countries. Attention has focused on tailoring existing healthcare services to meet the needs of this population and ensure accessible high-quality patient-centred care. This protocol reports the methodology of a study designed to identify models of care for African refugees in New South Wales (NSW), Australia, to determine the evidence for these models and the improvements necessary to best meet service needs that can be delivered in line with available resources, organisational readiness and capacity to implement.

Methods and analysis This multiphased, participatory research project will employ an exploratory, mixed-methods design. Preparatory activities involve a situational analysis of current MCH services for African refugees and associated policies and guidelines in NSW. We will consult key health service providers and analyse Australian census and settlement data to identify refugee communities and their relation to healthcare services. Phase 1 will ascertain the MCH care needs of African refugees and appropriate service models using: a Delphi survey with health service managers and providers, a nominal group process with African women refugees and; key informant interviews with senior health service managers. This data will be synthesised to provide insight into appropriate models-of-care that could be implemented. These will be discussed in a stakeholder workshop. Phase 2 will comprise a readiness-to-change survey with a selection of providers to explore the willingness, commitment and efficacy of staff members to adopt such models-of-care.

Ethics and dissemination Ethical approval was granted by NSW Health. Findings will be disseminated to all stakeholders at a knowledge exchange forum to inform the development of a high-quality MCH service delivery model that can be feasibly implemented specifically for African refugee communities.

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INTRODUCTION

In the last 10 years wars, civil conflicts and natural disasters have led to the largest number of people who have been forcibly displaced since World War II.¹ In 2018, 70.8 million people globally were displaced by war and violent conflict.² Of these, 25.9 million were refugees, with the vast majority coming

Strengths and limitations of this study

- There is a lack of information on the most appropriate MCH care models for refugee populations.
- The use of consensus-based methodologies will ensure the research is relevant and responds to the specific needs and priorities of refugee women.
- Consensus methodologies can be limited by the time required to collect data and the small number of participants may not represent all stakeholder views.
- The Delphi method promotes structured communication with a panel of experts using a series of iterative questionnaires among the policy and stakeholder participants.
- The nominal group method ensures that women's voices will be heard, further building confidence in the results, strategies and decision-making process.

from middle-income and low-income countries. Many have sought refuge in high-income countries, including Germany (1.1 million), the UK (126 600), the USA (313 200) and Canada (114 100).² In Australia, approximately 180 788 refugees have been recognised or resettled.³

In the last 10 years, data show that approximately 70 894 African humanitarian entrants were resettled across all states and territories⁴ with the largest group comprising refugees from South Sudan, who had fled as a result of the civil war in 2013. Other countries that have contributed to the growing numbers of African refugees in Australia include Ethiopia, the Democratic Republic of Congo, Egypt, Sierra Leone, Liberia, Somalia, Kenya and Eritrea.⁴

The scope and complexity of the premigration environment of refugees have a well-documented impact on their physical and mental health. Before their arrival in Australia, many Africa-born humanitarian entrants may have spent several years in refugee camps and may have been exposed to violence, famine and poverty. The most vulnerable are often women and children.⁵⁻⁷ These women may have experienced



traumatic events, sexual violence and undergone female genital mutilation (FGM).^{8 9} They may also have been deprived of adequate nutrition, clean water, sanitation, shelter, education and healthcare in their countries of origin and while in transit.

In addition to health issues specific to their countries of origin and migration experience, Africa-born refugee women have similar maternal health concerns such as extreme exhaustion, back pain, constipation, urinary incontinence, relationship difficulties, breast cancer and diabetes compared to Australia-born women.^{10–12} However, their health outcomes are not similar. Humanitarian entrants of African descent are reported to have elevated odds of perinatal mortality,¹³ have higher risk pregnancies⁹ and the highest estimated prevalence of FGM.¹⁴ They often present late to services and have higher rates of complications arising from caesarean section deliveries⁹ and stillbirths¹⁵ than Australian-born women. African-born women also have significantly increased odds of severe perineal trauma during normal birth¹⁶ and are at greater risk of experiencing perinatal mental illness than Australian-born women that may be compounded by presettlement and postsettlement trauma and stress.¹⁷

These women have also had different experiences and varying levels of knowledge concerning medical procedures and use of healthcare services, and also have different cultural beliefs.^{9 16 18 19} They may face challenges in accessing maternity services, including long waiting times at the health facility on the day of their appointment and difficulties accessing public transport.⁹ Besides, it may be challenging for a woman to attend medical appointments due to a lack of child care.⁹ Some women may also have a poor understanding of their healthcare entitlements and the costs involved in their care.^{20–22}

Refugee women may also face barriers in accessing health services as a result of their limited English language skills, low health literacy and a reluctance to seek help from professionals that they are unfamiliar with.^{20 23} They may also face challenges in obtaining interpreting services due to the limited availability of appropriate interpreters at the primary care level and in the hospital after birth. Refugee women also report having negative experiences during appointments with clinicians, a lack of information materials in their own language, with some indicating that the information provided was incomplete and inadequate in helping them prepare for labour, birth and the postnatal period.^{9 17}

Sociocultural and economic factors influence access to healthcare for refugee women. They may lack traditional support networks due to loss and separation from their family and community.²⁴ Gender norms that limit a woman's autonomy may affect their decision-making power and the ability to seek healthcare post-relocation.²⁵ These women may also have difficulties discussing their mental health issues with providers and as a result, do not access the necessary care.¹⁷

Access to care can also be impeded by the limited number of facilities offering specialised health services

for refugee women in Australia.^{8 22 26} In addition, the quality of interaction with health professionals may also be affected by clinicians' unfamiliarity with the complex needs of refugees or preconceived views of their healthcare needs.^{22 23 27} A survey of healthcare workers found that providers were frustrated by difficulties in communicating with African women due to language barriers, even when using interpreters.⁹ Thirty-eight per cent of respondents believed that the time allowed for delivering care with an interpreter was insufficient. In terms of professional competence, only 34% of respondents reported being familiar with the effects of torture and trauma, while only 30% and 10% were aware of FGM and the traditional birthing practices of Africa-born women, respectively. These gaps in knowledge and skills were seen to affect the ability of health professionals to provide high-quality care.⁹

Australia's refugee policies recognise the complex needs and challenges that impede women's access to quality healthcare.^{28 29} Research findings from a study undertaken in a large maternity care hospital also point towards the need to develop a comprehensive model of refugee maternity care that comprises continuity of care, quality interpreter services and educational programmes for both women and healthcare professionals.⁹ The 2016 New South Wales (NSW) Refugee Health Plan calls for models of care that can address critical service gaps that hinder comprehensive care for this vulnerable group.³⁰ The NSW Agency for Clinical Innovation³¹ also places a high priority on developing flexible, evidence-based patient-focused models of care. A 'model of care' can be defined as the 'way health services are organised and delivered, the components of this care and structure for the implementation of care options, the workforce involved and the place of delivery'.³¹ In this study, we will focus on the specific needs and priorities of refugee women accessing MCH care, and to what extent their needs are aligned with current models.

The active participation of women and service providers is central to ensuring that their experiences and understanding of care challenges and needs are explicitly considered, throughout the research process. This will require building relationships to develop trust and rapport and involve community members in decisions about the research so that participants take ownership of the process and outputs. Sharing power and listening deeply has the potential to not only produce useful results but empower vulnerable populations.³² The study seeks to answer the following research questions: (1) how is maternal child and healthcare delivered to African refugees in NSW? (2) What models can best meet the current needs of African refugee women, and how can these be delivered with available resources? Using participatory research methods,³³ the study aims to generate evidence to inform the optimisation of these models of care and the available resources and the organisational readiness and capacity to implement them. The overall aims and objectives are to inform the design of quality MCH

services that meet the needs and expectations of African refugee communities and can be feasibly implemented in NSW and transferrable to other high-income country contexts.

METHODS AND ANALYSIS

Study design

This multiphased exploratory mixed-methods research employs consensus methods³⁴ in a participatory design.^{35 36} The proposed research project will involve a strategic partnership with NSW Health, namely Multicultural Health and the Refugee Health Service. Activities to establish relationships and build rapport with appropriate community stakeholders will be undertaken early in the research process. An advisory group will be formed comprising local expertise, to provide advice on the research process and contribute to the dissemination of the findings.

Preparatory activities

We undertook a systematic review to address the lack of summarised evidence regarding the acceptability and cost-effectiveness of current models of MCH care for African refugees. We employed content analysis to extract pertinent data, classify findings and interpret these using tables.³⁷ The review identified a range of models but aggregated data from refugee and migrant populations prevented clear insight into best fit models of care. The few studies included in the review indicated that the views of African women from refugee background on care strategies varied. This review provided the justification for research in this area, as well as a classification system to describe models that are currently used to deliver MCH care to African refugee women. This system also contributed to the development of the Delphi questionnaire.

We also mapped MCH services for refugee communities in NSW, and identified existing policies and key stakeholders. We examined the Department of Social Services settlement dataset for NSW, to better understand the demographic characteristics of the African refugee population in NSW, and mapped refugees according to

location, and distance to hospitals and primary health services. This work informed the location of the study sites and potential participants.

Research plan

We will conduct a mixed-method research study in three locations across NSW with the largest number of the African refugee population. These sites include the local government areas of Blacktown (2938), Bankstown (1608) and Wagga Wagga (313), representing a mix of urban and rural contexts. Qualitative and quantitative data will be collected in two phases (table 1).

Table 1 provides an overview of the data gathering proposed activities, with information on the target population and sample size. The methods aim to maximise diversity among stakeholders and to ensure participant engagement.

Phase 1 assessing need and service model fit

Phase 1 will identify how models of MCH care in NSW, meet the needs of African women refugees and their children as well as their limitations and insights for improvements. The findings will inform the development of new or improved models of refugee healthcare. Stakeholders will be invited to assess the feasibility of these models and their readiness to implement them in a workshop in phase 2. This mixed-method strategy is underpinned by respectful partnerships and acknowledges that community members have the contextual expertise, and that programmes and interventions cannot be considered a one size fits all. The method is flexible allowing the identification of problems and solutions thereby enhancing refugee women's capacity to identify and address their own issues. The proposed strategies can thus be pivotal to social justice promotion, knowledge utilisation, sustainability and health-promoting intersectoral linkages.^{38 39}

In phase 1, we plan to use two consensus-based methods to gather data. The multistakeholder Delphi method^{40 41} will be employed to facilitate engagement with the health professionals, while the nominal group method^{42 43} will be employed to ensure the active participation of African women refugees. Additional insights from senior

Table 1 Data gathering activities

Design	Data collection strategy	Study population and sample size
Phase 1	Delphi survey	15 MCH services decision makers, experts, service specialists, health service providers
	Nominal group workshop	40 African women refugees
	Key informant interviews	15 Senior staff of professional organisations, agencies, service providers, representatives of community organisations
Phase 2	Readiness to change survey (survey questionnaire)	15 Staff members of services selected for evaluation (from case studies above)
	Knowledge exchange and dissemination forum	20 Heads of programmes/services, key staff, representatives from the communities

MCH, maternal and child health.



members of NSW Health will be gained through key informant interviews (KIIS). These approaches will provide an avenue for multi-issue deliberations that will allow the stakeholder groups and service users (women) to voice their views and ideas, take ownership of decisions and agree on mutually acceptable service delivery solutions that meet current needs.^{41 44}

Delphi survey

The Delphi method offers a structured form of data collection for in-depth analysis by combining expert opinions using a series of iterative questionnaires.¹⁶ We will use the Delphi method to collect both qualitative and quantitative data as per domains identified in the systematic literature review. In the first domain the views of providers will be sought regarding the needs of women refugees (such as resources available to them, care options, referral pathways, out-of-pocket expenses, literacy, sociocultural considerations during service delivery, language and interpreting services, decision-making in care, etc). The second area focuses on the fit of the model with women's needs (clearly defined service user pathway, care options, interpreters, linkages with health promotion services, etc). The adequacy of the time, resources and personnel required to deliver care is the focus of the third section of questions and includes questions about staffing and roles supporting refugee clients, training and professional development, use of tools and job aids. Finally, the participants will be asked questions about sustainability such as the level of coordination between sectors, partnerships/collaborations, funding mechanisms, resources dedicated for peer support programmes, continuity of care and follow-up post hospital, staff feedback, processes for monitoring performance.

Fifteen individuals with in-depth knowledge of the refugee population who are engaged either in policy development or the delivery of MCH services for refugees will be invited to share their knowledge, views and experiences. These individuals will broadly consist of MCH service providers, managers and researchers and programme heads and non-governmental organisation (NGO) staff.

Experts will be recruited from a database of experts from a variety of organisations developed to support this selection process. We will use purposive sampling to maximise diversity among stakeholders, selecting participants from various study settings, including urban and rural areas and within the public, private and/or non-profit sectors. The inclusion criteria for this group of experts will consist of any of the following: professional experience in a key role within an organisation that is responsible for (or has a comprehensive understanding of) health service delivery in NSW; experience working with refugee populations or professionals directly attending to the healthcare of refugee populations; working in a primary healthcare facility, community or family health programme serving refugee populations; researchers

with expertise in refugee and women's health and above all, willingness to participate in the survey.

Two rounds of Delphi surveys will be conducted using an online SurveyGizmo tool. Potential participants will be emailed an invitation to participate, with embedded links to the survey. The first page of the online survey will contain the 'consent to participate' information, with provision to opt-out if not interested. The SurveyGizmo questionnaire contains both Likert-scale and free-text response questions. The free-text response option will provide experts with an opportunity to elaborate or explain responses. The questions will be based on information gathered from a review of MCH service delivery models that provide services for African women refugees. Questions in the first round of the survey will seek to establish stakeholders' perceptions of healthcare needs, priorities and strengths of the service delivery models that need to be enhanced to improve access and use of services by the target women. In the second round, a summary of responses to the questions in the first round will be sent back to the experts, to give them an opportunity to reconsider their responses in light of the group's responses, and allow them to reassess (and modify) their responses. These reflections on group responses will further strengthen the assessment, by allowing the stakeholders to make trade-offs between the different issues to contribute to a mutually acceptable solution(s).⁴⁴ Ideally, this multiround process will be continued until a consensus is reached and all (or most) of the relevant priorities of stakeholders are agreed on.

Descriptive statistics will be used to define the experts' demographic characteristics and calculate frequency counts of individual and group responses to statements in both rounds. We will create a list that combines all items and mean scores that will be calculated for each unique item. The similarities and differences in stakeholder perceptions of healthcare needs, priorities and strengths of the respective models will also be identified. The use of ratings to accurately quantify the results will allow for direct comparisons and feedback.⁴⁵ Consensus will be defined as >70% of providers agreeing/strongly agreeing or disagreeing/strongly disagreeing with a statement. This level of agreement has been considered appropriate in previous studies.^{46 47} Free-text responses to the survey will be qualitatively analysed and coded thematically. The coding frame and all the relevant data will be reviewed, in relation to the research questions and discussed with all researchers.⁴⁸

Nominal group technique

The nominal group technique (NGT) is a structured group-based method that aims to elicit opinions and reflections from participants on an individual and collective basis and involves prioritising the ideas and suggestions of all group members.⁴² The nominal group process prevents the domination of discussion by a single person, and encourages more passive group members to participate while allowing for the generation of creative ideas. It

enables the group to select the best ideas to identify a set of prioritised recommendations that represent their preferences.⁴⁹ The method has been validated with African populations including those from cultures included in this proposed study,⁵⁰ and in MCH contexts.⁵¹

This method will be used to explore refugee women's MCH care trajectories and experiences accessing MCH care services and the benefits of the care options that were provided to them. The focus will be on their experiences and their satisfaction with antenatal, intrapartum and postnatal care and ways that this care could be improved. The direct involvement of women in this research will bring attention to contextual factors that affect women's access to care including issues relating to power and cultural safety. This method will also help in identifying and prioritising their unanswered questions about pregnancy, birth, treatment and postnatal care.

Forty women will be recruited. The participants will be a diverse sample of African women on a refugee category visa and living in NSW. Participants will be healthy women, over the age of 18 years and accessing MCH services. They should either be pregnant (low-risk pregnancy), or have had a live healthy baby in the last 5 years. We will target a sample mix of 10 nationalities who represent the largest groups of African-born refugees in NSW, to capture nuances and perceptions in MCH care from the main groups living in NSW. The nationalities will include Sudan, Ethiopia, Congo, Egypt, Sierra Leone, Liberia, Somalia, Kenya, Eritrea and Burundi (Department of Social Services Settlement Reporting 2018). At least three participants from each of these communities will be selected for the study.

Community liaison officer(s) with extensive experience working with women from specific African language groups to improve access to appropriate services associated with childbirth and prenatal and postnatal care, will be employed to recruit potential participants and provide them with study information. The community liaison officers will be required to provide the refugee women with study information, before proceeding to provide consent to contact. If the woman is interested, she will be invited to sign the 'consent to approach' form, which will provide their contact details and permission to enable the research team to contact them. This process will provide the desired 'arm's-length' recruitment strategy to minimise any perceived coercion to participate. The researchers will then contact the potential participant to extend an invitation to the NGT workshop and to arrange formal consent to be gained'. The woman can choose not to proceed at any time.

Group size will be limited to a manageable number of participants (6–8) per session. This number has been defined taking into account the time limits and feasibility of this study. Participants will be informed of the nature and expectations of the study so that they are able to determine the personal benefit and burden of their participation. While many of the African women may have a working knowledge of English, some may still have

issues with literacy. Given this, we will employ accredited interpreters from the major African languages of participants identified for the study. These languages are Swahili, Somali, Oromo, Dinka, Creole, French, English and Arabic. All women will be reimbursed \$25 for their time following their participation in the study.

A discussion schedule will be developed for use at the workshop, to explore the women's pre-pregnancy, antenatal, delivery, postnatal and postpartum care experiences. Questions will invite participants to share their experiences and level of satisfaction with the services. They will be asked questions about access to services and their interactions with staff. Given that these are very vulnerable women, who may have suffered considerable trauma prior to arrival in Australia, ethical considerations to prevent harm will be assured before each workshop. The research will be conducted in a safe and compassionate manner, ensuring that privacy is observed, and that venue and discussion time is suitable and convenient to the participants. The group will also have the opportunity to provide information about their own cultural, linguistic, ethnic or religious background, attitudes and values that will enable the facilitators to build on the participants' strengths and resilience. Acknowledging the diverse backgrounds and experiences through discussions will facilitate group members feel at ease and make an effort to connect their context and cultural realities with the discussions and proposed actions.

The nominal group process essentially consists of four main steps.⁴³ The first step involves the facilitator presenting the question or issue to the group verbally and on a sheet of paper that is given out to each member. In keeping with this approach, each participant in our study will respond individually by writing down their ideas on paper. We will invite those with low literacy, to dictate their responses to the researchers, who will write this down and read back to check for accuracy. Given the different personalities, cultures and levels of confidence and experiences of the participants, the workshops will be designed to help establish and maintain a safe, supportive and responsible space for participants. All discussions will be facilitated in an environment where the participants feel comfortable, confident to participate and in an environment where they are not restricted by the fear of disclosure and judgement. The workshops will take place in a private setting, such as the public library or a room at the University of Technology Sydney. The facilitators will refrain from providing their own opinions about the topic or slipping into a teaching or counselling role during the sessions. They will promote structure and ensure that the participants are clear on expectations; that everyone in the group remains respectful during the discussions and allow each individual to have a chance to express their ideas.

All group members will be encouraged to display a positive attitude and enthusiasm to ensure the group stays motivated and that all are willing to participate cooperatively and in confidence. Participants will be asked to sign a non-disclosure statement at the beginning of the NGT workshop, to assure them that confidentiality and privacy will be maintained, and make them feel more



comfortable talking during the sessions. Furthermore, to encourage the sharing of ideas, those with low literacy will be encouraged that ‘perfect’ grammar is not necessary and that they can convey their message using different words, giving examples and using hand gestures or diagrams to make meaning clear.

In the second part of this process, participant ideas will be shared in the group by way of a round-robin session (one response per person each time), until all ideas have been exhausted, and everyone has had the opportunity to voice their opinion freely. The ideas will be recorded verbatim by the facilitator, allowing everyone to see the listed ideas on a whiteboard. In the third step, participants will be invited to discuss each of the listed ideas to determine their understanding of the logic and relative importance of the ideas. An open discussion will be encouraged to clarify the ideas, to group similar ideas, exclude some items and include others.

In the final step, participants will vote to select the most important ideas and rank them, with the most important receiving the highest rank of five, and the least important receiving the lowest rank of one. The facilitator will provide the ranking criteria and clarify what each ‘preference’ entails. Depending on the number of ideas that emerge, the participants may be asked to rank the most highly rated ideas a second time. On completion of the second round, an immediate reporting of the scores of the most highly rated ideas as the most favoured actions will be undertaken. Data will be collected and ranked until an agreement is reached.

Analysis: Thematic analysis will be done to merge the questions list and to explore similarities and differences in priority topics and questions across women refugee groups generated during the NGT discussions. These will be reviewed and integrated into a single list to provide feedback on the women’s perceptions of MCH service interventions. The answers to open-ended questions will be analysed and coded. The coding will identify major themes.

Key informant interviews

Design: semistructured interviews.

Participants: the researchers will purposively select 15 senior MCH care decision-makers and experts from the Ministry of Health, NGOs and representatives of community organisations to participate in the study.

Recruitment: potential key informants will be contacted via email and telephone and invited to participate. We will also invite potential participants to recommend others who may be interested in participating in this study, thereby using a snowballing sampling strategy.

Data collection: the KIIs will seek to clarify MCH service models and identify service delivery gaps for women and in particular African refugees. The consultations will be guided by an interview schedule. The interviews will be recorded and transcribed verbatim.

Analysis: thematic analysis will be undertaken using NVivo software. Open coding will be carried out on the interview transcripts to generate ‘free codes’, which will be

added to the ‘codebook’. This will allow the researchers to translate different concepts across the transcripts, and to generate subthemes and themes from the interviews, allowing the results to be data driven.

Expected outcomes of phase 1: assessing need and service model fit

The findings from these independent sets of analyses will be presented to stakeholders in a series of meetings and via email for their comments. These stakeholders will include prior participants, and other expert individuals, service providers and staff of programme implementing organisations, identified through a directory of stakeholders working in the refugee health field. The findings will be discussed and reconciled to generate a model of MCH care for refugees. Qualitative and quantitative data will be analysed and presented separately to establish the level of consensus or divergence in the findings. If there are differences or inconsistencies between findings from these independent analyses regarding the ‘best fit’ model of care, the study team will engage stakeholders further for comment to identify where consensus is apparent. These meetings will also be an avenue to better understand the internal (strengths, weaknesses) and external (opportunities and threats) factors influencing MCH care for refugees. The aim of integration using a further synthesis method is to make the process as inclusive as possible. The process of synthesis will allow us to broaden our insights into the different issues under study, identify common themes and enabling factors and to corroborate results with relevant evidence.⁵² This process will ensure that the final data are appropriate for the analysis to meet the research objectives, and will generate a service model of care that is inclusive and appropriate.

Phase 2: assessing readiness for change

Aim: to examine the readiness of healthcare staff and services to implement suggested recommendations.

Design: the researchers will conduct a survey of service providers selected from those identified in phase 1. The aim is to examine the perceptions of individual staff concerning the level of preparedness of their health facilities to adopt the suggested recommendations generated in the earlier phases of the study. Studies define ‘readiness for change’, as a multilevel response phenomenon relevant at the individual, group, programme and practice level analysis,^{53,54} involving complex interactions between people, capacity and environment.^{53 55 56} Establishing insights into ‘how, whether and to what level of readiness’ staff are willing to implement suggested innovations is, therefore, an important factor in the successful delivery of interventions.^{54,57} In this study, readiness factors will be decided by the willingness, confidence and commitment of staff members to adopt the suggested modifications or new model of care for African refugee communities.

Participants: fifteen service providers (who participated in earlier phases of the research project) will be selected. These will include managers, midwives, clinicians,

registered nurses, practice nurses, counsellors, psychologists and other relevant staff involved in service delivery to women refugees, both at facility and community level.

Recruitment: only staff from women's clinics, maternity units, outreach and child and family health services, who gave permission to be contacted for follow-up interviews or surveys, will be invited to participate. An email invitation with embedded links to the survey will be sent to these potential participants. The online survey will be administered via the SurveyGizmo tool for collecting data.

Data collection: we will use a change readiness assessment instrument adapted from Blackman and colleagues.⁵⁸ The proposed assessment methodology allows the researchers to quantify factors regarding the readiness of staff members to successfully deliver the benefits of the suggested recommendations. The survey instrument contains Likert-scale questions including questions on critical enablers and inhibitors, readiness factors and motivations to consider when assessing the strength of evidence for the suggested change(s), as well as general and specific capacities required. The survey will be short and the statements simple enough for staff to understand.

Data analysis: the participants will be asked to record their level of agreement with each item using a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Descriptive and inferential analyses will be used to present data. The number of responses, mode and distribution of responses will be assessed. χ^2 tests will be used to compare the differences between the medians of groups. As in the phase 1 study, consensus will be defined as >70% of providers agreeing/strongly agreeing or disagreeing/strongly disagreeing with a statement. This level of agreement has been considered appropriate in previous studies.^{46 47} We will identify the distribution of the results by grouping response categories, then giving them a weighted average and ranking participants' responses by categories to assess readiness.

Expected outcome of phase 2: Identifying key enablers and inhibitors of providers is important and will allow the study to gauge the level of staff who are ready to implement a new or revised model of care. These recommendations may be of significance to those in leadership positions responsible for planning and implementing change initiatives within health programmes and clinical practice.

Overall expected outcome: this research project has been developed with the goal that investment in these interrelated studies will provide a clear summary of actions or recommendations on the improvements that are necessary to best meet the current service needs of African refugees living in NSW. Additionally, the insights generated will provide a roadmap for strategies that can be considered to assist in the implementation of the new or revised model of care.

Patient and public involvement

We aim to maximise consumer engagement in this study through the use of participatory action research and

robust consensus-based methods. Consumers will be recruited by a community liaison worker who will be a local woman and snowball sampling. These approaches will provide a forum for multi-issue deliberations with women. Findings will be disseminated to all participants at a knowledge exchange forum.

Discussion

The complex needs, challenges and barriers that impede refugee women's access to quality MCH care can be addressed through models of health service delivery that are informed by both service users' and providers needs. However, there is a lack of sufficient information concerning effective MCH models of healthcare service delivery for refugees.^{9 30 31} This study will generate evidence to strengthen models of care that have been developed and articulated in Australia, specifically for marginalised communities and MCH care. The outcomes of this study will bring into focus models of care that may not be identified otherwise, including models that take into consideration shared decisionmaking and social determinants of health. In addition, this research project has the potential to provide insights to improve service delivery models that can be transferred to other high-income country contexts. While this participatory research project will consider the perceptions, experiences, expectations and insights of different levels of stakeholders in a collaborative and inclusive approach, an important challenge to data collection will be ensuring that all participants have the time to contribute to the consensus workshops.

Ethics and dissemination

In line with the guidance provided in the literature,^{59–62} this study will adopt several strategies to minimise risks of harm and facilitate culturally appropriate and sensitive communication and data collection. These include observing the right to autonomy and informed consent, where potential participants have a right to make their own decision to participate voluntarily and to withdraw at any stage in the research process without any consequences. The right to confidentiality and privacy of information; and right to justice, where participants will be purposively recruited strategically to provide data that is relevant to the research question, and that exclusion from participating will only be because the defined and relevant inclusion criteria are not met.

A distress protocol will be used that outlines how the risks of discomfort or distress will be minimised and information about how to access appropriate services for professional support. To further minimise risks related to participant privacy, all data will be de-identified using pseudonyms, fictional service names and geographical locations.

The investigators have considerable experience undertaking research with vulnerable populations groups including women and girls who have experienced violence and those from culturally and linguistically diverse backgrounds; have experience with group

facilitation of refugees and are fully aware and respectful of the premigration, resettlement and postsettlement situation of refugees; and the stresses associated with MCH experiences during pre-pregnancy, pregnancy, delivery and postnatally.

This study has been approved by NSW Health, the Western Sydney Local Health District Human Research Ethics Committee and the University of Technology Sydney Human Research Ethics Advisory Committee. The study will be conducted following the National Health and Medical Research Council's national statement on ethical conduct in human research and the appropriate institutional ethics approval obtained. Every potential participant will be informed about the study aims and procedures before obtaining informed consent. Participants will be ensured confidentiality and can withdraw from the study at any point. Study participants will receive a unique study-ID on enrolment in the study.

A 1-day knowledge exchange forum is planned to share the findings of this research. This forum will bring together selected experts and 'knowledge users' to discuss, agree and prioritise recommendations for a service model fit for purpose. A summary of key findings in appropriate formats will be made publicly available to community, peak professional bodies such as the Maternal Child and Family Health Nurses Australia, Australian College of Nursing and Australian College of Midwives, the Royal Australian and New Zealand College of Obstetricians and Gynaecologists, Public Health Association Australia, Refugee Council of Australia and the NSW Health.

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Contributors CN, AJD and AH are the investigators of the proposal. CN and AJD wrote the manuscript and AH reviewed the manuscript. All authors have read and approved the final version of the manuscript.

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