


Merging motherhood and medicine: A qualitative study exploring barriers and enablers to motherhood among female doctors in Australia

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Abstract

Objectives: To identify barriers and enablers to motherhood experienced by female doctors in Australia.

Methods: Semi-structured telephone interviews were conducted with 18 female physician-mothers in Australia, during March and May 2020. Interview data were examined using thematic analysis to extract key themes.

Results: Six key barriers and seven key enablers were identified. Barriers (B1–6) largely reflected structural and cultural issues operating within health services and the wider medical profession. Barriers were the experience of working in medicine (B1); demands of postgraduate specialty training (B2); attitudes towards mothers in medicine (B3); gender inequality (B4); insufficient entitlements and support (B5); and competing priorities, conflicting roles (B6). Enablers were supportive partnerships (E1); break from traditional gender roles (E2); capacity to delegate/outsource (E3); doctors supporting doctors (E4); flexible work arrangements (E5); increasing acceptance and support (E6); and capacity to combine career and family (E7).

Conclusion: This was the first qualitative study to explore motherhood experiences among female doctors in Australia. Participants reported structural and cultural barriers during all stages of motherhood. The mismatch between identified barriers and available supports reveals opportunities for improving the experience of physician-mothers.

Keywords

doctors, female, gender, medical education, medicine, motherhood, mothers, physicians, qualitative, reproduction

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Introduction

Women comprise 44% of the Australian medical workforce¹ and more than 50% of medical graduates² but remain under-represented in leadership positions³ and many specialties,¹ with a significant gender pay gap.⁴ This inequality persists despite awareness of the undeniable value of women in medicine. Studies demonstrate that female doctors are more likely to engage in patient-centred care, provide preventive health care and psychosocial counselling, follow clinical guidelines, and have lower mortality, morbidity, and readmission rates.⁵

Key to the observed career disparity between male and female doctors is parenthood, which has a gender-differentiated impact on doctors' career development.⁶ Mothers bear biological responsibility for pregnancy, childbirth,

and breastfeeding, with traditional gender norms ascribing primary childrearing responsibility to women. The majority of medical training courses in Australia have adopted postgraduate entry.⁷ Public hospital-based training systems for medical career progression are not easily compatible with childbearing during female doctors' most fertile years.⁸ Private practice flexible work options are not available to the majority of doctors in vocational training.

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Table 1. Participant eligibility criteria.

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1. Female doctors in Australia
 2. Aged 25–45 years
 3. Usually working in clinical practice
 4. Having had a baby within the past 5 years
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Negotiating commitments to parenthood and a medical career is common; however, Australian research in this area is lacking. A recent 2020 Australian systemic review by Hoffman et al.⁹ did not identify any relevant Australian studies. We were able to locate one Australian study from 2013 examining parental leave experiences among Obstetrics and Gynaecology trainees, which indicated negative impacts for both trainee-parents and their colleagues.¹⁰ Given the growing 'feminization' of the Australian medical workforce, evidence-based research is needed to address career barriers and support motherhood in medicine. The aim of this qualitative study was to identify barriers and enablers encountered by physician-mothers in Australia.

Methods

Ethics approval was obtained in February 2020 (University of Medicine and Dentistry Human Ethics Sub-committee; approval number: 1955886). As no previous data on physician-mothers in Australia could be located, an open, inductive methodology was selected, within a constructionist ontology.¹¹ We designed a semi-structured qualitative interview schedule to explore participants' experiences during each stage of motherhood: pregnancy planning, pregnancy, maternity leave, return to work, and as working mothers (Supplementary Table 1).

Participants were invited to participate via social media posts on two invitation-only Facebook groups for Australian medical women: 'Doc To Doc' and 'Medical Mums and Mums To Be' in March 2020. Participant eligibility criteria are listed in Table 1. Sociodemographic data were collected via online survey, including age, location, specialty area, employment details, childbearing history, and partner information. Telephone interviews were conducted and recorded by E.C. between March and May 2020, each lasting 20–50 min. Informed consent was obtained electronically prior to commencing the online survey and reaffirmed verbally at the beginning of each telephone interview.

Interviews were transcribed verbatim and analysed in QSR NVivo 12 software (version 12.6.0). Qualitative data were analysed using reflexive Thematic Analysis (TA), following Braun and Clarke's six-phase approach.¹² Data collection and analysis occurred simultaneously to allow the interviewer to explore new ideas that arose during interviews,¹³ and data collection continued until no new themes emerged from consequent interviews; that is,

data adequacy was achieved.¹⁴ A coding tree was utilized prior to refinement of themes (Supplementary Table 2), and multiple coding was employed to increase the reliability and validity of results.¹⁵ E.C. independently coded all interview transcripts, and M.P. coded 10% of the dataset. E.C. and M.P. then met to discuss the coding, with any interpretative discrepancies resolved through discussion. E.C., M.P., and R.L. identified and refined major themes. Sociodemographic data were analysed descriptively. Manuscript writing employed the SRQR reporting guidelines.¹⁶

Results

Sixty-three eligible expressions of interest were received within 36 h of posting the study invitation (thus recruitment was closed). Interview requests were emailed to the first 20 respondents, and 17 telephone interviews were conducted. To maximize sample diversity, additional requests were sent to the three surgical respondents, producing one further interview. With no new themes emerging, it was deemed that additional interviews were not required.

Sociodemographic data for interviewed participants ($n=18$) and all survey respondents ($n=63$) are presented in Table 2, with comparable characteristics demonstrated between both groups. Respondents were generally aged in their 30s and 40s, and spread across a range of vocational pathways. They typically had one or two children, and two-thirds had given birth to their first child at age 30–35. The great majority were doctors in postgraduate specialty training, limiting personal control over working conditions. Physician-mothers were less likely than their partners to be working full-time.

TA of interview transcripts generated 13 major themes, comprising six key barriers and seven key enablers. Themes are described below, with additional representative quotes presented in Supplementary Table 3.

Barrier 1: experience of working in medicine

Participants highlighted difficulties combining motherhood with medical employment. Challenges included shift-work, on-call duties, and long working hours. Combined with motherhood, inflexible work arrangements resulted in sleep disruption, exhaustion, difficulties arranging childcare and personal medical appointments, and periods of extended separation from children. Impacts were heightened during pregnancy, and for mothers with young babies:

I found it pretty tough, doing surgery, and being pregnant . . . I'd be on-call overnight, two or three nights a week, every week . . . I would have to drive in an hour to come and do an operation, and then drive home an hour. And then I might

Table 2. Key demographic characteristics of interview participants and all respondents.

Characteristic	Interview participants (n = 18)	Survey respondents (n = 63)
Current age, n (%)		
25–30 years	1 (6)	5 (8)
30–35 years	10 (56)	28 (44)
35–40 years	4 (22)	22 (35)
40–45 years	3 (17)	8 (13)
State or Territory, n (%)		
Australian Capital Territory (ACT)	0 (0)	2 (3)
New South Wales (NSW)	3 (17)	16 (25)
Queensland (QLD)	4 (22)	13 (21)
South Australia (SA)	1 (6)	11 (17)
Victoria (VIC)	6 (33)	15 (24)
Western Australia (WA)	4 (22)	6 (10)
Remoteness area, n (%)		
Metropolitan (metro)	14 (78)	51 (81)
Regional	1 (6)	5 (8)
Rural	2 (11)	6 (10)
Remote	1 (6)	1 (2)
Specialty, n (%)		
Anaesthetics (ANZCA)	1 (2)	3 (5)
Emergency Medicine (ACEM)	3 (17)	8 (13)
General Practice (RACGP)	4 (22)	21 (33)
Obstetrics and Gynaecology (RANZCOG)	1 (6)	3 (5)
Paediatrics (RACP – Paediatric)	2 (11)	6 (10)
Physician (RACP – Adult)	3 (17)	11 (17)
Psychiatry (RANZCP)	1 (6)	4 (6)
Rural and Remote Medicine (ACRRM)	2 (11)	3 (5)
Surgery (RACS)	1 (6)	3 (5)
Undecided	0 (0)	1 (2)
Current position, n (%)		
Intern	0 (0)	1 (2)
Resident	1 (6)	1 (2)
Registrar	8 (44)	26 (41)
Fellow	2 (11)	9 (14)
Consultant	7 (39)	25 (40)
Other	0 (0)	1 (2)
Current employment status, n (%)		
Full-time	8 (44)	21 (33)
Part-time	4 (22)	32 (51)
Casual	0 (0)	1 (2)
On leave	6 (33)	9 (14)
Number of children, n (%)		
1	8 (44)	31 (49)
2	10 (56)	27 (43)
3	0 (0)	5 (8)
Age at birth of first child, n (%)		
25–30 years	6 (33)	20 (32)
30–35 years	12 (66)	43 (68)
Position at birth of first child, n (%)		
Medical student	0 (0)	2 (3)
Intern	0 (0)	1 (2)
Resident	2 (11)	4 (6)

(Continued)

Table 2. (Continued)

Characteristic	Interview participants (n = 18)	Survey respondents (n = 63)
Registrar	11 (61)	36 (57)
Fellow	1 (6)	8 (13)
Consultant	3 (17)	11 (17)
Other	1 (6)	1 (2)
Use of assisted reproduction, n (%)		
Yes	2 (11)	7 (11)
No	16 (89)	55 (87)
Prefer not to answer	0 (0)	1 (2)
Partner's occupation, n (%)		
Doctor	6 (33)	17 (27)
Stay-at-home parent	3 (17)	7 (11)
Other	9 (50)	39 (62)
Partner's current employment status, n (%)		
Full-time	10 (56)	44 (70)
Part-time	3 (17)	9 (14)
Casual	1 (6)	2 (3)
On leave	1 (6)	1 (2)
Other	3 (17)	7 (11)

ANZCA : Australian and New Zealand College of Anaesthetists; ACEM: Australasian College for Emergency Medicine; RACGP: Royal Australian College of General Practitioners; RANZCOG: Royal Australian and New Zealand College of Obstetricians and Gynaecologists; RACP: Royal Australasian College of Physicians; RANZCP: Royal Australian and New Zealand College of Psychiatrists; ACRRM: Australian College of Rural and Remote Medicine; RACS: Royal Australasian College of Surgeons.

have to be at work again in three hours . . . so then I'd have to get up in two hours and then drive back . . . The second [pregnancy] was even worse. On-call as a fellow I was literally, probably, working 100 hours a week . . . I worked up until 36 [weeks], and the final week I was on-call. (RACS, Fellow, 35–40 years, metro)

Participants reported physical, mental, and emotional stress. Overlapping of personal and professional spheres was particularly stressful, for example, caring for another mother or child, or if the doctor's own child was ill and required medical care. Pregnant doctors faced occupational exposure risks including infection and radiation, requiring precautionary measures or early disclosure of pregnancy. Several participants felt that work-related stress had contributed to fertility issues or complications experienced during pregnancy:

My first year as a GP registrar was unexpectedly stressful . . . I think that didn't potentially help [with infertility] . . . We nearly got pregnant on ovarian stimulation and lost it at six weeks, and that week I was at a new GP practice, and first consult in with my supervisor sitting next to me, was a person asking for a termination. (RACGP, Fellow, 40–45 years, metro)

Medical work culture promoted prioritization of workforce needs over personal needs. Participants felt they had pushed themselves to keep working too long or too hard during pregnancy. Pressures included feelings of responsibility

towards patients and concerns about burdening colleagues. This was often mentioned in the context of understaffing, particularly for those working in rural or remote settings:

. . . I didn't feel like I had permission to stop. So, I just kept doing my job. So I'd be vomiting in consults, I was fainting in theatre doing sections . . . (ACRRM, Consultant, 30–35 years, rural)

Barrier 2: demands of postgraduate specialty training

Part-time training positions were lacking within many specialties. Studying for exams was challenging, on top of existing work and family commitments. Many participants studied during family time, while children were sleeping, or during maternity leave. Participants found many clinical training requirements inflexible and difficult to satisfy in the context of unpredictable timing and demands of pregnancy and parenting:

Full-time shift-work, and exhaustion, and managing fatigue, around having a baby and studying for an exam has all been really hard. I think studying while you've got kids is the cruelest. (ACRRM, Registrar, 30–35 years, regional)

Short-term contracts generated inequity in maternity leave entitlements, job applications, and job security. Rotating clinical roles and locations caused stress and childcare

difficulties. Compulsory work secondments or relocation frequently involved long commutes or separation of physician-mothers from their partners and/or children:

I was given a verbal contract earlier in the year, but I didn't want to say anything [about being pregnant] until I had a written contract, because I'd heard of people having bad experiences with their jobs . . . So, I was a bit nervous about that. (ANZCA, Registrar, 30–35 years, metro)

Barrier 3: attitudes towards mothers in medicine

Concerns about maternal stigma and discrimination were widespread, regarding perceptions of commitment and capability. Participants feared disclosing pregnancy intentions at work, expecting discrimination in job opportunities and career progression. Short-term contracts exacerbated these concerns:

I was probably worried that I would be seen as an inferior candidate, if I had asked for [a part-time advanced trainee position]. (RACP (Adult), Consultant, 30–35 years, regional)

Many participants experienced workplace maternal stigma directly. Negative comments from colleagues or administrators about covering leave were common; participants were frequently asked to arrange cover themselves. Participants also described negative comments from senior staff regarding job prospects for mothers. Three participants were asked about their childbearing intentions during a job interview. Another participant was given a verbal job offer prior to maternity leave, which was then not honoured. Additional examples of maternal discrimination included being overlooked for leadership positions and research opportunities, missing out on key rotation preferences, and denial of roster requests:

One of the BPT physicians who sits on the panel had said that his thought was that pregnant people should not apply for training positions, because it's not possible to have children and do things like pass exams and progress to advanced training during that time, it's just not possible. (ACEM, Registrar, 30–35 years, metro)

Other problematic attitudes included unsolicited advice about pregnancy and motherhood, and false assumptions about participants' capabilities or preferences. Overall, participants highlighted a lack of awareness or consideration given to the needs of mothers in the workplace.

Barrier 4: gender inequality

Participants reported physician-mothers take longer parental leave than physician-fathers and are more likely to work part-time. They highlighted the gender disparity this

creates in medical career progression, although recognized that fathers had fewer parental entitlements. Within their own families, many participants reported having greater responsibility for childrearing and domestic responsibilities than their partners, including 'mental load':

It's kind of socially accepted that the woman will take the time off work . . . [Whereas] the boys . . . they're not taking nine months off, so they get through training a hell of a lot faster than we do . . . But I think equally, [for] some of [my] male colleagues . . . people have been surprised that they want to take time off, or that they're really tired. (RACP (Paediatric), Registrar, 30–35 years, metro)

Some participants had partners who had taken lengthy paternity leave, worked part-time, or were stay-at-home fathers. Such arrangements were often met with surprise, with concerns raised about impacts on the father's career. Mothers returning to work faced judgemental questions about who was caring for their child. Many participants reported being questioned about childbearing intentions at work, unlike male colleagues:

I like to often ask other male doctors, 'How do you manage with the kids?' Ask all the same questions that we get asked all the time. 'Where are the kids? Who's looking after them? What do you do?' And make them answer everything. And then, they realise. (RANZCOG, Consultant, 35–40 years, metro)

Barrier 5: insufficient entitlements and support

Participants with short-term contracts struggled to access employer-paid maternity leave entitlements, causing financial distress. This precipitated stress around family planning, applying for jobs, and pregnancy disclosure. Some felt employers had designed contract arrangements to purposefully avoid paying maternity leave. Participants were only sometimes able to access the Australian government-paid maternity leave, due to eligibility criteria. Frequently highlighted was the lack of employer-paid maternity leave available to general practitioners (GPs), employed as independent contractors. Inadequate paternity entitlements were also commonly reported. Stay-at-home partners experienced difficulty accessing government parental leave payments, with current eligibility based on maternal rather than family income. Participants felt providing gender-equal parental leave entitlements would improve female career progression and advancement:

I had a lot of trouble getting the hospital to pay my maternity leave. So, despite the fact that I had worked there for six years, we were on yearly contracts . . . And even though I was three years into a five-year training program . . . I went on leave at exactly the end of the year, so they said, 'Oh, you don't qualify for maternity leave, 'cause you have no contract, 'cause your contract has ended'. And I said, 'But if I wasn't

going on maternity leave, I would have a contract'. (RACS, Fellow, 35–40 years, metro)

Negative rostering experiences were widespread. This was linked to systemic and cultural barriers, including understaffing, prioritization of work needs over personal needs, lack of awareness or assumptions around pregnancy and motherhood, and resistance to change. Workplaces commonly failed to adjust rostering or work duties during pregnancy, particularly with respect to night shifts and on-call responsibilities. Participants believed that rostering during pregnancy should be regulated, rather than discretionary. For working mothers, key challenges included lack of predictable shifts, releasing or changing rosters at short notice, rostering night shifts immediately prior to days off (impacting childcare on days off), asking participants to work on rostered days off, and requesting part-time employees to provide leave cover for each other:

[They] don't quite grasp the concept that for me to work, I need childcare. I can't just pull childcare out of thin air to be able to cover somebody's sick leave. It's just not possible! (RACP (Paediatric), Registrar, 30–35 years, metro)

Returning to duties after maternity leave created anxiety, particularly for mothers commencing new roles or at unfamiliar hospitals; however, most found their medical knowledge and skills returned quickly. Lack of workplace breastfeeding facilities and protected time to express at work was a common issue. Many participants weaned their baby to return to work. Childcare access varied with location. Shift-work and long hours were barriers to sourcing childcare. Associated financial costs were high, particularly where a private nanny was required.

Participants reported limited awareness around existing workplace parental entitlements, such as breastfeeding facilities. Concerns about maternal stigma and discrimination lead to reluctance to enquire about maternity entitlements. Participants suggested this type of information should be transparent and actively distributed by employers and professional bodies.

Barrier 6: competing priorities, conflicting roles

Over half of participants considered family planning when selecting their specialty, preferencing specialties which offered part-time or flexible work arrangements; several specifically avoided surgery, due to the lifestyle required of surgical trainees. Similarly, most participants considered career factors (e.g. training stage and timing of specialty exams) when planning their pregnancies. Many participants delayed childbearing despite age-related fertility pressure; two participants required assisted reproduction, and multiple others reported fertility difficulties. Career factors also significantly impacted the timing and duration of maternity leave:

I had the baby and went back to university nine days afterwards . . . to meet the requirements of that term . . . Technically I had done all the academic requirements, but there were the attendance requirements at the placement. (FRACP (Adult) Resident, 35–40 years, metro)

Conflict between mother and doctor roles led to guilt and regret, and feelings of inadequacy. Career consequences included being unable to participate in auxiliary professional development or engagement activities (e.g. research, conferences, or committees). Part-time trainees experienced delayed career progression and reduced income. Many participants regretted inadequate family time, missing out on special moments:

Particularly in the early days . . . you feel like you are doing neither one well . . . you're just getting back in the rhythm of things. And you're not feeling particularly skilled or expert . . . [then] you come home, and you don't feel like you're doing the parenting thing particularly well either. 'Cause you're, sort of, half doing both. (ACEM, Registrar, 30–35 years, metro)

Enabler 1: supportive partnerships

Participants were appreciative of supportive partners who shared parenting and domestic responsibilities. Combining career and family required teamwork, flexibility, and compromise from both parents, in addition to careful planning and organization. The demanding nature of medical work frequently involved prioritizing career needs of participants over their partners:

I think a supportive family has been very life saving for us. And a supportive husband. I don't know how . . . single parents do it. There's no way that we'd manage without two of us. (RACGP, Consultant, 35–40 years, metro)

Enabler 2: break from traditional gender roles

Having a partner willing and able to contribute to child-rearing, or become primary caregiver, was a substantial enabler. Physician-mothers with partners at home (either part-time or full-time) reported challenging traditional gender norms within their own families. Participants strongly advocated for increased parental entitlements for fathers, including substantial paternity leave duration, and family-friendly work arrangements:

My partner's a stay-at-home dad, so that's a huge factor. Particularly as I do after-hours on-call, and on the nights I'm on, I have to just drop everything and go, and so his willingness to do that has been the thing that has made it work . . . He's effectively given up his career . . . I know that with the gender flip that's not an uncommon story, but I think for a bloke, it's still perceived in a way that if he was then trying to get back into the workforce, that would be

quite challenging for him. (RACP (Paediatric), Consultant, 40–45 years, remote)

Enabler 3: capacity to delegate/outsource

Participants relied on assistance from extended family or paid services. Many expressed gratitude for extended family help. Paid childcare and domestic services were widely utilized:

I would say that if I didn't have a large community around me supporting, the supporting partner and my mum, I'm pretty sure I would be unable to continue the way I have . . . My mum moved in with us, and . . . stayed for a year. (RACP (Adult), Resident, 35–40 years, metro)

Enabler 4: doctors supporting doctors

Strongly positive workplace experiences were commonly attributed to individual colleagues, such as having a supportive Head of Department or supervisor. Participants emphasized benefits of physician-mother mentors and role models. Peers provided support interpersonally and via advocacy. Asserting and advocating for their workplace needs was significantly more challenging for first-time mothers:

I think in hospital work, having understanding consultants and encouraging consultants is so underestimated. When I started . . . the head of [my department] . . . sought me out and said, 'Look, we know you've got a small child, we're all parents. If you ever have a day that you need to leave, or that you can't come in, or that something's going on, we're very happy for you to let us know, and please don't worry'. And, even just having someone say that to me was really nice . . . So, I think bosses, yes, they hold a lot more influence than they probably realise that they hold. And, if they say it in front of other members of your team, they say it in front of your registrars, or they say it in front of your colleagues, it's a really powerful message to send to junior doctors. It's okay that you're a parent, it's okay that that has implications for you. (ACRRM, Registrar, 30–35 years, regional)

Enabler 5: flexible work arrangements

Certain specialities were considered more family-friendly, culturally and logistically. These included General Practice, Emergency Medicine, Paediatrics, Anaesthetics, and Psychiatry. Part-time positions, family-friendly hours and flexible rostering were highly valued. Autonomy and flexibility of rostering were regarded as major advantages of delaying childbearing until after specialization:

I think I'm pretty lucky in [my field] . . . Everyone's very understanding, and so when I went to my boss and told them that I was pregnant, they were very good. They said, 'You can choose when you want to take leave, how much you want,

when you want to come back, that's all fine' . . . I think it comes almost entirely from our clinical director, who is a paediatrician and a psychiatrist. And I think it comes from the importance that we place in this workplace on families and children. . . (RANZCP, Registrar, 30–35 years, metro)

Enabler 6: increasing acceptance and support

Optimism about increasing acceptance and support for mothers in medicine was expressed. Some participants found barriers encountered were less severe than anticipated. Others recalled observing positive changes over their career. Key areas of continued improvement include female representation in leadership, maternity policies and entitlements, and the capacity for flexibility and individual accommodation:

[My] second [pregnancy], they were actually very, very accommodating . . . So, we've obviously been making some inroads, in three and a half years, if I managed to have, with the same employer and hospital system, completely different experiences. Which is good. (RACP (Paediatric), Registrar, 30–35 years, metro)

Enabler 7: capacity to combine career and family

Participants described the experience of being a physician-mother as highly challenging yet intensely rewarding. They could achieve success and satisfaction both personally and professionally, although balancing the roles of mother and doctor required hard work and modified expectations. Moreover, participants strongly felt that being a mother helped them to be a better doctor:

Maternity leave is often seen as a period of deskilling . . . [but] I think that the things that you learn, being on maternity leave, and looking after a newborn . . . [are] all skills that then translate into your workplace, and make parents generally better at their jobs . . . I think maternity leave actually upskilled me as a doctor . . . (ACEM, Registrar, 30–35 years, metro)

Discussion

Significance

This is the first Australian qualitative study to explore motherhood within medicine. Our results indicate that like their international counterparts, female doctors in Australia encounter barriers across all stages of motherhood, from pregnancy planning through to working motherhood. In addition to the aforementioned 2020 Australian systematic review by Hoffman et al.,⁹ several large international review articles have been published in recent years, examining pregnancy and parenthood among physicians.^{17–19} Many of the barriers identified by our participants appear

ubiquitous within medicine globally, including the demanding and inflexible nature of medical work and specialty training, experiences of maternal stigma and discrimination, inadequate parental entitlements, and work/family role conflict. Our participants likewise reported comparable negative impacts on both work and family life, including delayed career progression, reduced income, delayed childbearing, stress, and negative emotions.

International research indicates that female doctors tend to have children later in life,^{19–22} with higher rates of infertility,^{19,21} assisted reproduction,¹⁹ and pregnancy complications^{19,23} than the general population. Australian data are lacking; however, with the rise of graduate-entry programmes, the average age of Australian medical graduates is increasing, inducing overlap of medical training with parenthood.⁷

Socio-ecological model

Barriers and enablers identified by participants can be conceptualized using a modified socio-ecological model, depicting the interplay between individual behaviours and multilevel environmental factors.²⁴ Barriers (Figure 1) tended to be higher-tier structural and cultural issues, operating within health services or the wider Australian medical profession. By contrast, enablers (Figure 2) were largely lower-tier individual-level personal and interpersonal factors, thus revealing a mismatch between current need and provision of supports.

For example, while many participants described valuable support received from other doctors (Enabler 4), these positive experiences tended to involve individual peers and colleagues rather than reflecting formal policies or entitlements (Barrier 5), and reports of maternal stigma and discrimination were widespread (Barrier 3). Similarly, although a number of participants had partners who were stay-at-home fathers, worked part-time, and/or had taken lengthy paternity leave (Enabler 2), the predominant experience remained that of gender inequality (Barrier 4), including inadequate paternity leave provisions (Barrier 5).

Recommendations

Documenting barriers can assist in creating tangible targets for positive change. Many entrenched characteristics of medical employment and work culture are ill-suited to mothers, yet non-essential to the practice of medicine. Medical parents would benefit from greater entitlements and workplace support. Medical employers and senior staff must adapt to mothers' needs in their workplace. Formal policies and procedures should be developed, encompassing key issues such as rostering, adequate staffing for leave cover, contract management, return to work, and protected study time. Although Australian parental leave entitlements may appear substantial when compared with other jurisdictions such as the United States,^{9,17–19} our

participants indicated that accessing these entitlements in an environment of 12-month employment contracts is discriminatory. Similarly, the lack of employer-paid maternity leave for GPs remains a considerable barrier, despite its reputation as a family-friendly speciality.

While the Australian Medical Association's recent position statement on support for parents in medical training is encouraging,²⁵ political interest and funding must gain priority to facilitate meaningful change within Australia's state-based healthcare system. Policy development and advocacy must be a focus for hospital-based vocational training centres and Specialist Colleges, including provision of parental entitlements for fathers. Participants strongly felt that increasing access and acceptability of paternity leave would lessen the gender disparity in medical career progression and advancement. In the short-term, a quota system for physician-mothers in leadership positions could be considered.

Study limitations and future directions

Our recruitment method may have produced selection bias: doctors from certain specialties or locations may have been more likely to view the social media post, and those with strongly negative or positive experiences may have felt more motivated to participate. Although our 18 participants were geographically diverse and represented nine different specialist medical colleges, aspects of the sample were still relatively homogeneous. None of our participants were single mothers or same-sex parents. Several states/territories were not represented in our sample, and differences based on culture/ethnicity were not specifically explored. We also had poor representation from strongly male-dominated specialties, where barriers to motherhood are likely to be greater (e.g. surgery, occupational and environmental, intensive care, ophthalmology, sports and exercise, pain, addiction, and radiology, which all have greater than 70% male representation).¹ Given the nature of qualitative research, findings may have been influenced by the authors' own beliefs and experiences regarding motherhood and medical employment.

Although our eligibility criteria sought to capture current medical motherhood experiences, certain key groups were excluded. These included male doctors, medical student parents, women who were currently pregnant, and women intending to have children but currently delaying pregnancy. Future studies including these perspectives would be of further benefit, as would larger quantitative studies examining the prevalence of identified barriers and enablers, and childbearing trends among Australian female doctors.

Conclusion

In this first Australian qualitative study of its kind, female doctors describe facing considerable systemic structural

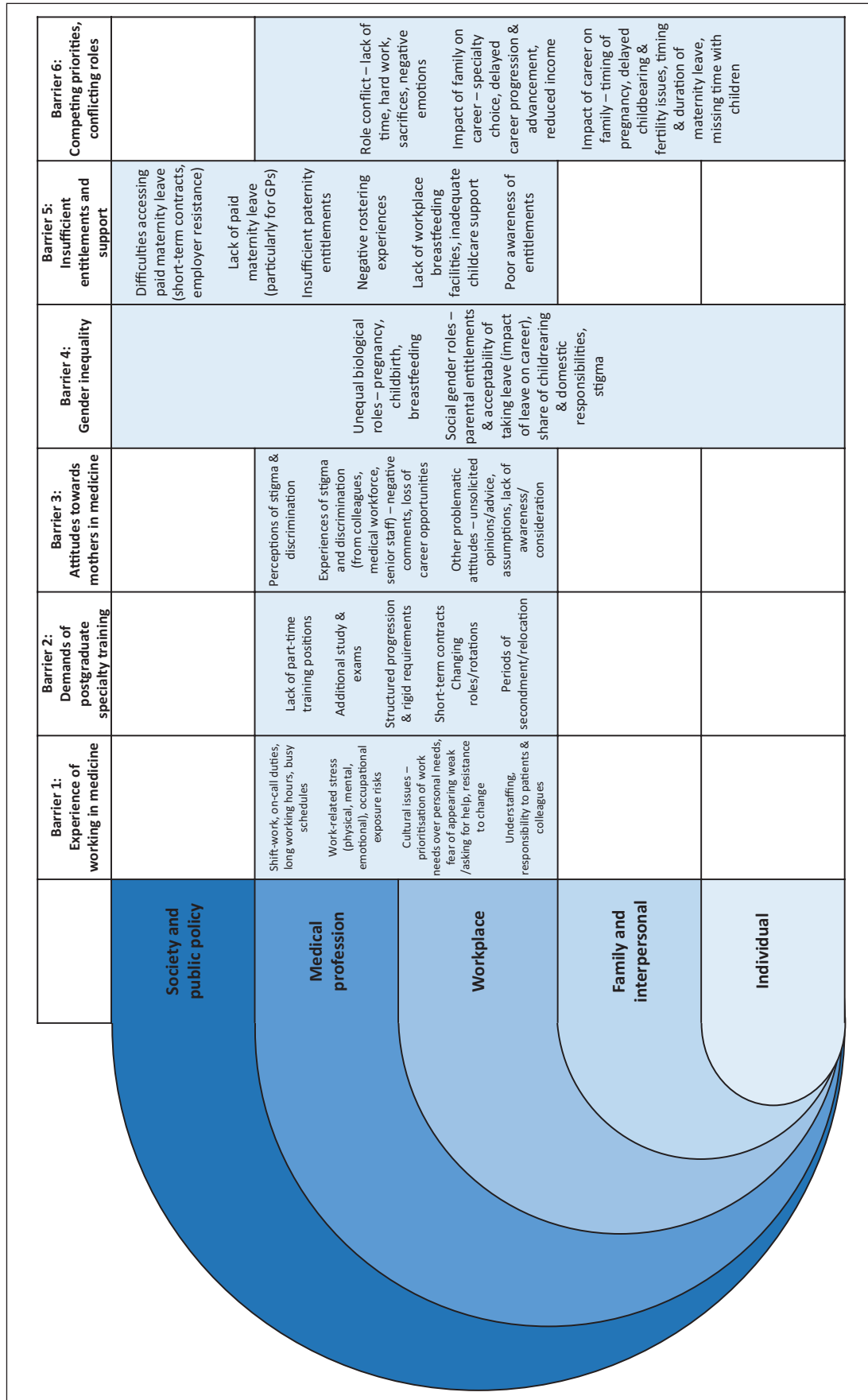


Figure 1. Key barriers (modified socio-ecological model).

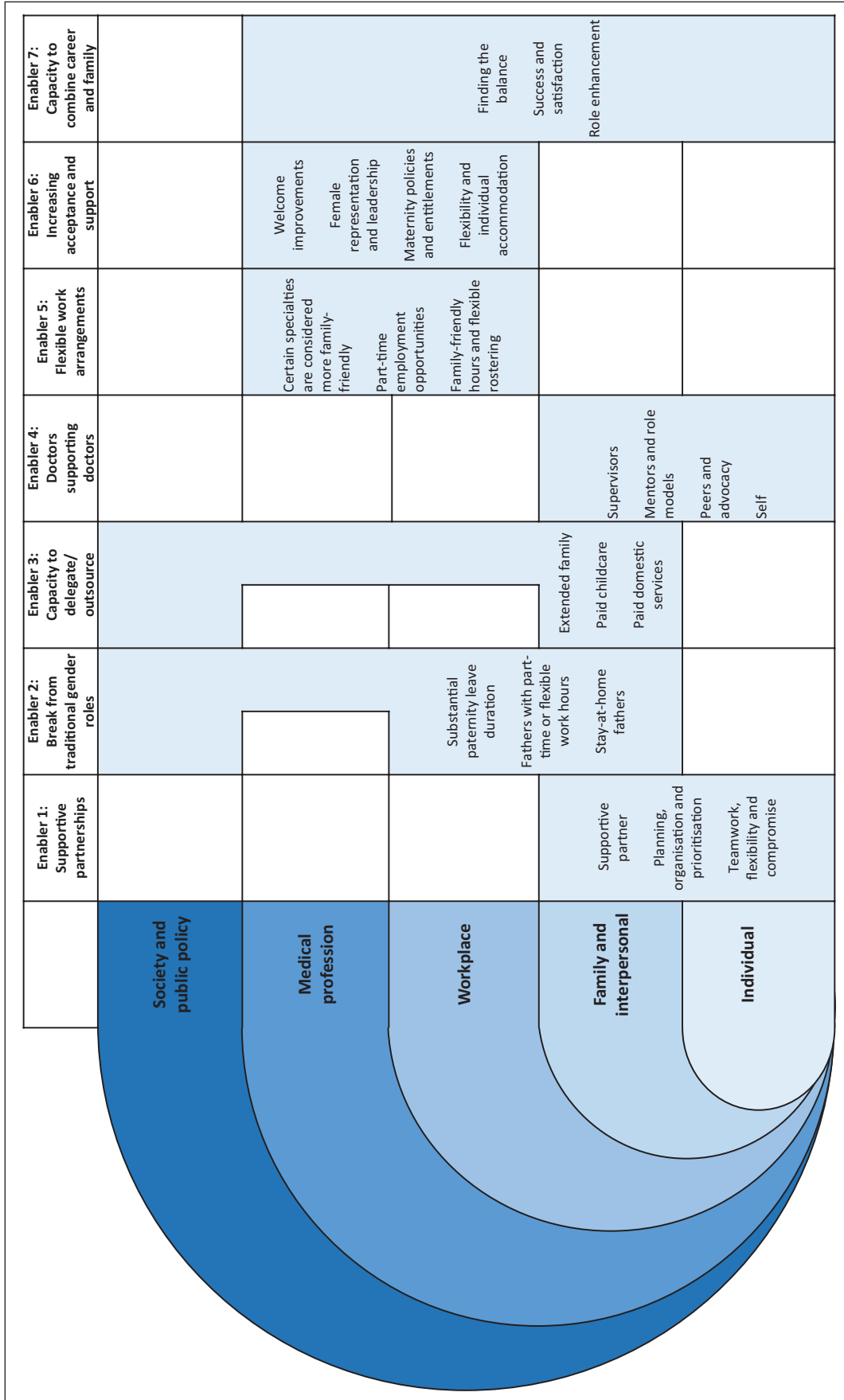


Figure 2. Key enablers (modified socio-ecological model).

and cultural barriers to motherhood, with resulting negative impacts both personally and professionally. There is a mismatch between these barriers and reported enablers, where personal and interpersonal factors instead predominate. Importantly, all identified barriers appear modifiable in nature and non-essential to the practice of clinical medicine.

Given the increasing representation of women in medicine, effective systems-level interventions are possible and desirable to improve the lives of physician-mothers and their families, and lessen the observed career disparity between male and female doctors. Changes should include facilitation of part-time employment without compromise of opportunities for career progression, adequate staffing to cover parental and general leave, elimination of short-term employment contracts with guaranteed maternity leave benefits for physician-mothers, stipulated rostering requirements to ensure all doctors in training have access to high-quality rotations and remunerated vocational examination/assessment preparation time, mentorship programmes to facilitate career progression, and equal parental entitlements for partners of pregnant people.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Ethics approval and consent to participate

This research received relevant ethics approval (University of Medicine and Dentistry Human Ethics Sub-Committee; approval number: 1955886). Informed consent to participate was obtained (see 'Methods' section for details).

Consent for publication

Informed consent for publication was provided by participants. Non-essential identifying details have been omitted.

Author contribution(s)

Erika Collie: Conceptualization; Data curation; Formal analysis; Investigation; Methodology; Project administration; Visualization; Writing – original draft; Writing – review & editing.

Raelia Lew: Conceptualization; Formal analysis; Methodology; Supervision; Writing – review & editing.

Michelle Peate: Conceptualization; Formal analysis; Methodology; Supervision; Writing – review & editing.

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Availability of data and material

Please refer to provided supplementary materials.

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Supplemental material

Supplemental material for this article is available online.

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