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# Australian women's experiences of receiving maternity care during the COVID-19 pandemic: A cross-sectional national survey

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## Abstract

**Background:** The COVID-19 pandemic has led to multiple changes in maternity services worldwide. Systems rapidly adapted to meet public health requirements aimed at preventing transmission of SARS-CoV-2, including quarantine procedures, travel restrictions, border closures, physical distancing and "stay-at-home" orders. Although these changes have impacted all stakeholders in maternity services, arguably the women at the center of this care have been most affected. This study aimed to explore women's experiences of receiving maternity care during the COVID-19 pandemic in Australia.

**Methods:** A national cross-sectional online survey, including fixed choice and open-ended questions, was conducted during the first wave of the COVID-19 pandemic in Australia; pregnant and postnatal women were recruited through social media networks.

**Results:** The survey was completed by 3364 women. Women felt distressed and alone due to rapid changes to their maternity care. Limited face-to-face contact with health practitioners and altered models of care often required women to accommodate significant changes and to coordinate their own care. Women felt that they were often "doing it alone," due to public health restrictions on support people and visitors, both within and outside health services. Women described some benefits of visitor restrictions, such as, more time for rest, breastfeeding establishment, and bonding with their baby.

**Conclusions:** This large nationwide Australian study provides unique data on women's experiences of receiving maternity care during the COVID-19 pandemic. Lessons learned provide an opportunity to rebuild and reshape the maternity sector to best meet the needs of women and their families during current and future public health crises.

**KEYWORDS**
COVID-19, maternity care, midwifery, obstetrics, women's health

## 1 | BACKGROUND

The COVID-19 pandemic has led to multiple changes in maternity services in Australia at an unparalleled pace and scale. Systems needed to rapidly adapt to meet critical public health requirements aimed at preventing transmission of SARS-CoV-2, including quarantine procedures, travel restrictions, border closures, physical distancing, and "stay-at-home" orders. Although these changes have impacted all stakeholders in maternity services, the women at the center of this care experienced a high degree of uncertainty and disruption to their pregnancy, birth, and postnatal experiences.[1,2]

Physical distancing requirements resulted in many pregnancy care assessments moving to telehealth appointments, with face-to-face contact limited and generally reserved for care later in the pregnancy.[3] Antenatal classes were initially discontinued across many maternity services, whereas some quickly reorganized education sessions to be delivered online. During the height of the first wave of the pandemic in Australia, women had significant limitations placed on the number of visitors allowed during any face-to-face antenatal appointments, labor, and birth.[4] In the postnatal period, in-hospital support provided by the woman's support people (partner, family, friends) was significantly limited, due to restricted visitor numbers and hours.[1] In some health services, only partners could visit, and on some postnatal wards visiting hours were restricted (eg, 2 hour limits). In the context of these rapid changes to maternity services, the Australian College of Midwives (ACM) led a survey of 3000 Australian women in April 2020,[1] which found that 26% of women had reconsidered their choice of care practitioner and/or birthing venue. Women were found to be most concerned about giving birth without their chosen support people (73%), their baby's health (68%), and a lack of postnatal assistance, especially at home (59%).

Despite the evidence and policy advice that supports and promotes breastfeeding and maternal-newborn proximity, including for mothers diagnosed with COVID-19,[3] some health services required the separation of mothers and infants until both mother and baby tested negative.[5] For all families, postnatal care was severely disrupted, with many mother-baby follow-up health checks cancelled or conducted via telehealth. Midwives and family health nurses were limited in the time they could spend with the woman and baby in their home,[6] leaving many mothers and newborns without routine postnatal care and examinations. In addition to a lack of postnatal care, wider population physical distancing restrictions may have limited women's face-to-face access to friend and family support networks.

These rapid and wide-ranging changes to maternity care service delivery are likely to have significantly impacted the care received by pregnant and postnatal women in Australia.[7,8] Therefore, the aim of this study was to explore pregnant and postnatal women's experiences of receiving maternity care during the COVID-19 pandemic in Australia. This paper is part of an Australian-wide national study exploring the experiences of key maternity stakeholders in providing and/or receiving care during the COVID-19 pandemic.[9]

## 2 | METHODS

A two-phased cross-sectional descriptive design was used to facilitate collection and measurement of data at a discrete point in time[10]—that is, during the first wave of the COVID-19 pandemic in Australia (May-June 2020). The first phase involved a national online survey and the second phase a series of interviews. This paper reports the findings from the first phase (online survey). Participants were eligible to complete the survey if they were currently pregnant or had given birth in Australia since March 2020. Ethical approval was received from the relevant lead university (HRE2020-0210).

Recruitment for the study was conducted through social media networks (Facebook, Twitter, and Instagram). The two major maternity professional bodies in Australia—ACM and the Royal Australia and New Zealand College of Obstetricians and Gynaecologists (RANZCOG)—also assisted with advertising the study through their online platforms.

### 2.1 | Online survey

An online survey was developed for the study and hosted on a secure platform (Qualtrics). The novel, global nature, and scale of the COVID-19 pandemic required the development of new data collection tools. The experienced research team developed the questions based on the World Health Organization (WHO) Guidelines on Intrapartum Care for a Positive Birth Experience[11] and Pregnancy and Childbirth considerations during COVID-19.[12] The survey was piloted with women for face validity and clarity, and minor modifications were made to sentence structure and layout following pilot feedback. The survey design was purposely succinct, guided by the awareness that there may be increased cognitive strain on participants due to experiences associated with

the pandemic, as well as pregnancy. The first survey question prompted participants to confirm their consent to take part in the study.

The survey was divided into three sections. Section A collected demographic information, Section B collected descriptive data through multiple choice questions and free-text options, and Section C asked specifically about women's experience using Likert scales. The section B free text options asked women to describe: (a) any changes to their birth plan; (b) if they were able to have their support people of choice; (c) if they were able to have visitors during their stay; and (d) if they had any further comments. The survey was accessed via an anonymous generic link and could be completed within 15 minutes.

## 2.2 | Data analysis

Data from multiple choice and Likert scale questions were exported into an analytical software package. Descriptive statistical analyses were performed. Section B free text responses were analyzed together in NVivo 12,[13] using a content analysis approach.[14,15] This approach involved reading and re-reading the free-text responses to get a sense of the main issues described, followed by breaking up the text into smaller "meaning units." These "meaning units" were further condensed and then transformed into codes. Codes were then grouped into categories, and categories collated to generate themes.[14,15]

# 3 | RESULTS

## 3.1 | Women's socio-demographic characteristics

The online survey was completed by 3364 women (Table 1). Women from all states and territories in Australia participated. Most women lived in Victoria (1005, 30%), New South Wales (762, 23%), Queensland (561, 17%), or Western Australia (553, 16.5%), followed by smaller numbers of women from South Australia, Australian Capital Territory, and Tasmania. Of the women who participated, 96 (3%) were Aboriginal and/or Torres Strait Islander. Women reported 55 different countries of birth; the majority (2916, 87%) were born in Australia, followed by the United Kingdom (113, 3%), New Zealand (92, 3%), and South Africa (33, 1%). Most women (99%) reported speaking English at home; however, 23 other languages were reported as primary languages. Most women were aged between 18 and 30 years (1718, 51%), followed by those aged 31-40 years (1573, 47%). Less than 10% of women (281, 8%) had been tested for COVID-19. Only one woman (of those tested) had tested positive.

**TABLE 1** Sociodemographic characteristics of participants

| Sociodemographic characteristics | Women n (%) N = 3364 |
|---|---|
| State/territory of residence | |
| Victoria | 1005 (30.0%) |
| New South Wales | 762 (22.8%) |
| Queensland | 561 (16.8%) |
| Western Australia | 553 (16.5%) |
| South Australia | 220 (6.6%) |
| Australian Capital Territory | 136 (4.1%) |
| Tasmania | 101 (3.0%) |
| Northern Territory | 8 (0.2%) |
| Indigenous identity | |
| Aboriginal | 94 (2.8%) |
| Torres Strait Islander | 2 (0.06%) |
| Language spoken at home | |
| English | 3314 (98.7%) |
| Other – Spanish, Nepali, Portuguese, Swedish, Russian, Sinhalese, German, Afrikaans, Malay, Urdu, Arabic, Cantonese, Mandarin, Croatian, Dutch, Hindi, Hungarian, Italian, Mandarin, Tagalog, Telugu, Wakhi (1 to 4 participants for each) | 45 (1.3%) |
| Country of birth | |
| Australia | 2916 (87.0%) |
| United Kingdom | 113 (3.4%) |
| New Zealand | 92 (2.7%) |
| South Africa | 33 (1.0%) |
| Ireland, India, Malaysia, Canada, Philippines, United States, Germany (10-20 participants for each) | 98 (2.9%) |
| Singapore, Brazil, Italy, Sri Lanka (5-8 participants each) | 23 (0.5%) |
| Other - France, Nepal, Russia, Sweden, Zimbabwe, Colombia, Estonia, Belarus, China, Fiji, Greece, Israel, Japan, Mexico, Netherlands, Norway, Pakistan, Poland, Samoa, Spain, Bangladesh, Belgium, Bosnia & Herzegovina, Denmark, Guatemala, Hungary, Indonesia, Iran, Iraq, Jordan, Kenya, Oman, Papua New Guinea, Portugal, Slovakia, Somalia, Sudan, Ukraine, Venezuela, Vietnam (1 to 5 participants for each) | 72 (2.5%) |
| Age | |
| 18-30 y | 1718 (51.2%) |
| 31-40 y | 1573 (46.9%) |
| 41-45 y | 62 (1.8%) |
| ≥46 y | 3 (0.1%) |
| Ever tested for Covid-19 | |

(Continues)

**TABLE 1** (Continued)

| Sociodemographic characteristics | Women n (%) N = 3364 |
|---|---|
| Never | 3080 (91.6%) |
| Once | 260 (7.7%) |
| Twice | 19 (0.6%) |
| Three or more | 2 (0.1%) |
| Covid-19 test positive (of those who were tested) | (n = 281 tested) |
| No | 271 (96.4%) |
| Yes | 1 (0.4%) |

## 3.2 | Women's experiences of care

Most women (3202, 95%) had received support from a partner during pregnancy and birth (Table 2). Over a third of women (1093, 33%) had support from family and friends, with a small number describing a doula or other birth worker as a support person (256, 8%). A small number of women reported that they were going through the pregnancy and birth on their own (52, 2%). Nearly all women who noted a support person, lived with their support person (3196, 96%). Over a third of women (1231, 37%) had not given birth before, a similar number had given birth once before (1229, 37%), and two thirds (2262, 67%) were currently pregnant. Most women gave or were planning to give birth in a public (2326, 71%) or private (750, 23%) hospital, followed by at home (97, 3%), or in a birth center (85, 3%).

Women received antenatal care via multiple modes including face-to-face (2586, 77%), telephone (1630, 49%), home visit (309, 9.2%), and video call (259, 8%). Only a third of women received antenatal education (947, 29%), mostly face-to-face and via video. Birth plans were changed due to COVID-19 for a third of women (1039, 32%). Fewer than half (1371, 42%) were able to have their support persons of choice during labor and birth, whilst few women (273, 9%) were able to have the visitors they wanted during their postnatal stay. Most women stated that COVID-19 had not changed the way they had intended to feed their babies (2972, 95%).

## 3.3 | Open-ended responses

Analysis of free-text responses revealed five main themes: (a) Accommodating and making change; (b) Deprived of anticipated maternity experience; (c) Feelings of distress; (d) "Doing it alone"; and (e) Looking on the bright side. Themes are supported by verbatim quotes from numbered participants (P1 - 3202) who provided free-text responses (Table 3).

### 3.3.1 | Accommodating and making change

Women spoke about the ongoing changes to health services and maternity care which they felt they constantly needed to understand, navigate, and adapt to. Some of these changes included the number of support people and visitors allowed during labor and birth, and on the postnatal ward, the length of time visitors could stay, changes to antenatal and postnatal care, and changes to birth plans. Women also spoke about driving their own changes, especially changing care practitioners or birth settings. Many women who had initially planned to give birth in the public system spoke of changing to private obstetric or midwifery care, to enable them to achieve their desired labor and birth experience. These women felt they would be seen more frequently and given greater support by the private sector. Women made changes to birthing plans to increase the likelihood of preferred support people being present during labor and birth, and/or due to the need to control the timing of labor to cater to the needs of other children; this was especially an issue with associated childcare and school closures during various lockdown stages. Other changes included deciding to have an elective caesarean, scheduling induction dates, or choosing to home- or free-birth (giving birth without health professionals present).

### 3.3.2 | Deprived of anticipated maternity experience

Changes to health services and maternity care left many women feel "robbed" of their anticipated maternity experience. This included not being able to have selected people present, feeling overlooked and under-informed, and experiencing a lack of woman-centered care. This was particularly difficult for women who had a history of problems conceiving or those with early pregnancy problems (such as experiencing miscarriages or fertility treatment). Some women commented that they felt that their partner or support person had missed out on the opportunity to share these special moments and experiences.

### 3.3.3 | Feelings of distress

Less face-to-face antenatal care, uncertainty about COVID-19 risks, and constantly changing health service practices left women feeling anxious and scared. Feelings of distress were compounded by a lack of access to antenatal education classes, which resulted in women feeling underprepared and under informed about their pending labor and birth. Ever-changing restrictions further increased women's anxiety and fear. Many women attempted to alleviate their anxiety and

**TABLE 2** Women's experiences of care

| Items | Women n (%) N = 3364 |
|---|---|
| Support people (able to select all that apply) | |
| Partner | 3202 (95.2%) |
| Other family / friends | 1093 (32.5%) |
| Doula or birth worker | 256 (7.6%) |
| Doing on own | 52 (1.5%) |
| Live with support people | |
| Yes | 3196 (95.9%) |
| No | 138 (4.1%) |
| Number of babies given birth to | |
| 0 | 1231 (36.9%) |
| 1 | 1229 (36.8%) |
| 2 | 610 (18.3%) |
| 3 or more | 268 (8%) |
| Currently pregnant | 2262 (67.8%) |
| Given birth since March 2020 | 1076 (32.2%) |
| Birthplace (actual or intended) | |
| Home | 97 (3.0%) |
| Public Hospital | 2326 (71.1%) |
| Private Hospital | 750 (22.9%) |
| Birth Centre | 85 (2.6%) |
| Other | 13 (0.4%) |
| Antenatal care delivery due to COVID-19 (able to select all that apply) | |
| Face to face | 2586 (76.9%) |
| Telephone | 1630 (48.5%) |
| Video call | 259 (7.7%) |
| Home visit | 309 (9.2%) |
| In hospital/health service | 253 (7.5%) |
| Received/attended childbirth education (actual or intended) | |
| Yes | 947 (28.7%) |
| No | 2347 (71.3%) |
| How will/were delivered (if attended or planned to attend) | (Of the 940)[a] |
| Face to face | 325 (34.6%) |
| Video | 226 (24.0%) |
| Telephone | 8 (0.9%) |
| Information sheets | 7 (0.7%) |
| Online resources | 153 (16.3%) |
| I don't know | 221 (23.5%) |
| Birth plan changed by woman due to COVID-19 restrictions | |
| Yes | 1039 (31.7%) |
| No | 2240 (68.3%) |
| Woman were able to or believed they would be able to have all preferred support people present during labour and birth | |
| Yes | 1371 (42.3%) |

(Continues)

**TABLE 2** (Continued)

| Items | Women n (%) N = 3364 |
|---|---|
| No | 1075 (33.2%) |
| I don't know yet | 795 (24.5%) |
| Woman were able to or believed they would be able to have all preferred visitors present during postnatal stay | |
| Yes | 273 (8.6%) |
| No | 2047 (64.6%) |
| I don't know yet | 849 (26.8%) |
| Postnatal care received or anticipated to receive once home (able to select all that apply) | |
| None | 95 (2.8%) |
| In home visit | 1173 (34.9%) |
| Telephone follow-up | 739 (22.0%) |
| Returned to the health service | 375 (11.1%) |
| I sought follow-up in the community | 290 (8.6%) |
| I don't know yet | 1589 (47.2%) |
| COVID-19 changed the way woman did or intended to feed their baby | |
| Yes | 149 (4.8%) |
| No | 2972 (95.2%) |

[a]Missing data.

to gain more control over their pregnancy, labor, and birth experience by changing their own birth plans. Women feared they would be alone without their support people and family during and after birth. Some women feared their birth experiences would have lasting negative impacts, such as themselves and/or their partner developing postnatal depression.

### 3.3.4 | "Doing it alone"

Women felt an overwhelming sense of doing it alone. Many women felt they had little autonomy or choice, and were forced to endure a solitary experience given public health and health service restrictions. This feeling of "doing it alone" included attending antenatal care appointments and ultrasounds alone, visitor restrictions on the postnatal ward, and not receiving routine postnatal care at home. Women were concerned over not having their partner or support person present. Women who had previously been pregnant spoke with considerable empathy for first time mothers, noting that they felt the overall experience of having a baby during a pandemic would be much worse for first time mothers.

### 3.3.5 | Looking on the bright side

Although women acknowledged the many downsides associated with having a baby during a pandemic, there were many unexpected positive outcomes. Health service and public health restrictions, which limited the number of visitors (excluding the partner) both in the hospital and at home, provided women with an opportunity to focus on themselves, their baby, and their family. Women felt that they had more time to bond with their baby, focus on establishing breastfeeding, and recover from the birth. Whilst in hospital, women felt that fewer visitors meant that midwives had more time to provide information and advice. COVID-19 restrictions also meant women felt they could better safeguard their baby and family from COVID-19.

## 4 | DISCUSSION

This large national study has provided important findings about women's experiences of receiving maternity care during the first wave of the COVID-19 pandemic in Australia. These experiences included both challenges and benefits. Our study revealed that many women's pregnancy and birth plans changed over the antenatal period, due to both health service directives and women making changes to their own care. Women revealed that they sometimes felt unsupported and uninformed, and were "let down" by a reduced level of antenatal care, leaving them feeling anxious and scared. In contrast, postnatal visitor restrictions were of value to women who felt they benefitted from fewer interruptions.

**TABLE 3** Free-text themes

| Themes | Sample of coded text |
|---|---|
| Accommodating and making change | *"We went in at 6AM, I was given endone [narcotic pain medication] and sent home. At this time, it was still ok for me to have the 2 support people. I returned at 10AM and the rules had changed, and I was no longer allowed to have my mother or any visitors during my stay" – P 1961*<br>*"Moved from birth centre in a public hospital to private midwifery services delivered at home and by video call. Now planning a home birth and very happy to have made this decision. I may have done it anyway but COVID certainly gave us a big push" – P 1971*<br>*"[I] changed from public antenatal care and birthing in public hospital to private care under an obstetrician so that I can birth in a private hospital and not be kicked out after 2-3hrs. Also wanted my partner there for the birth" – P 1852*<br>*"I have decided to go completely private at 30 weeks as the public system I feel has let me down" - P98*<br>*"I was planning a hospital birth but have since changed to a free-birth" – P 650*<br>*"Opting to be induced so my husband can definitely attend. If he isn't there at the beginning, he won't be allowed in" – P 375*<br>*"Chose c section [caesarean section] over vbac [vaginal birth after a caesarean section] due to logistical issues around restrictions and caring for other children" – P 479*<br>*"No longer able to have husband or first child present for antenatal appointments and was scared this would happen for the birth as well. Also nervous about attending hospital. So sought out a home birth midwife and booked in for a home birth on my due date. Baby was born at home 4 days later" – P 234* |
| Deprived of anticipated maternity experience | *"[I] was not able to have my mum due to the restrictions of having only 1 support person which was my husband. It was awful not being able to have my mum, my daughter was my first born and the first grandchild and none of us will ever get that time back" – P 1307*<br>*"Absolutely heartbroken not being able to have my mum there. I have had to grieve for the birth experience I didn't get" – P 1910*<br>*"We weren't allowed visitors, [so] no one I wanted to see could come. It has been tough, no one got to meet my daughter when she was a few hours old and my daughters didn't get to meet her until 2 days later. I'll never have photos of them meeting in hospital and I can't get that back. My baby's grandparents will never have memories of meeting their grandchild at a few hours old and nothing will ever change that. My daughter's first moments will forever be different to her siblings and that will one day be hard to explain to her why there are no photos or why no one was there" – P 615* |
| Feelings of distress | *"Covid-19, I'm literally f..king terrified" – P 2910*<br>*"I've learnt nothing or been given no information to prepare myself for birth or caring for my baby & myself. My appointments are home based, quick & uninformative. If I've been referred to an ob[stetrician] it's always been cancelled or moved to phone even though I'm a high-risk pregnancy. I feel I've been overlooked & under managed. It's made the whole situation worse as I feel even more so underprepared & scared as I feel left behind & overlooked. I wished I could have done classes & had a much stress-free experience for my first pregnancy. It's really such a shame!" – P 50*<br>*"I knew I wanted my partner there. But there were so many rumours and not confirmed information. I had heard that the partners were allowed for active birth only and I know I am being induced!! That terrifies me that I could be in hospital for 3 days before he is allowed in. I hadn't decided how early I wanted my mum to come in, but I did want that option. I also REALLY wanted a student midwife, and they were banned right at the start" – P 1002*<br>*"The fact that my husband may need to leave us within one hour is causing me stress and anxiety and I am dreading being left alone with an hour-old baby without my husband there to help me" – P 214*<br>*"1hr after I had my baby my wife was told to leave. She was not allowed to visit us at all at the hospital despite being my baby's parent and no visitors were allowed at all. It was traumatising! I had a challenging time mentally during labour, and then my only support person was told to go home and be away from me and her child. It was awful" – P 3057*<br>*"We feel like 'it isn't really happening' and I worry about both of us developing postnatal depression" – P 1578* |
| "Doing it alone" | *"My partner isn't allowed to attend any of my appointments with me due to COVID-19. It's lonely and sad to not have my only support system with me" – P 2247*<br>*"Having been told there is an issue with our baby it was extremely scary to be at the ultrasound at 20 weeks on my own. It was a terrifying experience" – P 970*<br>*"Very isolating experience in a very vulnerable time of my life" – P1101*<br>*"I was robbed of having any visitors. I was left alone on the ward, I'm only 21 and it's my first baby. The midwives abandoned me, and I was left alone to figure out how to look after the baby. She wouldn't stop crying, and I had no sleep for 3 days. I wish I could have had a visitor to come help settle her so I could get a few hours sleep" – P 1448*<br>*"The hospital had a policy of zero visitors. Only the father, no siblings allowed to visit. I was alone most of the time as my husband had to look after my son because of the lockdown" – P 1175*<br>*"This is my second baby and I am low-risk but I feel for first-timers, it must be so daunting for them." – P 148* |

(Continues)

**TABLE 3** (Continued)

| Themes | Sample of coded text |
|---|---|
| Looking on the bright side | *"it gave me and my partner really special bonding time with baby and gave me time to recover and rest well. I wouldn't have had it any other way. I think no visitors was a blessing in disguise" – P 513*<br>*"I truly believe I was able to get the hang of breastfeeding a lot more successfully given the lack of interruptions from visitors" – P 2186*<br>*"I loved that there were no visitors allowed in maternity ward. Meant there was time for rest and quality time with newborn and getting advice from midwives without visitors interrupting. I would support a permanent move to no visitors" – P 15* |

Almost all women who participated in this study reported having a support person over the childbirth continuum, mainly in the form of a partner, family member, a friend, doula, or other health care professional. However, fewer than half were able to include their chosen support person during care episodes, leading to increased feelings of anxiety, isolation, and being deprived of their anticipated maternity experience. Many centers restricted support people during routine antenatal care and ultrasound appointments, with women generally required to attend alone. Most Australian maternity services allowed only one support person to be present during labor and birth, with restrictions on the number of people and visit duration on the postnatal ward. Some women in our survey described that certain centers would allow partners to be present only once active labor had commenced.

These study findings align with health service changes globally, where services prevented partners and other support people from attending births.[16] A study of pregnant women's experiences of COVID-19 in the United Kingdom found that partner presence was the biggest concern for women during labour.[17] Similarly, another large study in the United Kingdom found that restrictions placed on partner involvement during maternity care caused significant distress and anxiety for women.[18] Companionship during pregnancy, labor and birth is a key tenet of respectful, woman-centered maternity care.[19] Not only do companions improve women's experiences of care, they also fulfil other important roles including practical and emotional support, non-pharmacological pain relief, such as massage, and are important advocates, speaking up for women's preferences and choices.[20] The presence of a support person is even more important during a pandemic where uncertainty about infection risk and ever changing public health and health service restrictions have left women feeling distressed, alone, and with reduced access to social networks.

The rapid changes to maternity services required women to quickly adapt to, and negotiate, change. Although a third of the women in our survey received antenatal education, due to the timing of the survey, much of this education may have been provided pre-pandemic and hence under normal conditions. Women received antenatal care through multiple modalities. Birth plans were changed for around 30% of survey participants. There was a noticeable shift toward having a home birth, particularly for women who desired having their preferred support people present. Some women even reported that they had chosen to free birth.

Our findings are consistent with an online Australian survey conducted early in the pandemic, which found that around 30% of women had reconsidered their care practitioner and birthing venue, with a major move toward home birth.[1] It is important for women to have choice and to feel in control during pregnancy and birth,[21] and despite the upheavals to the maternity care sector, many women took their own initiative to change their maternity care to meet their needs and values. However, it is important to note that the ability for women to navigate the maternity sector and access private midwifery or obstetric care, requires a certain level of health literacy and financial security. For women with poor health literacy and of low socioeconomic status, coordinating changes to their maternity care may be neither recognized as an option nor affordable.

Being pregnant and having a baby during COVID-19 has presented numerous challenges for women, particularly for their mental health. In our study, we found that women felt distressed and isolated. This distress was exacerbated by uncertainty about COVID-19 infection risk, with women feeling under informed and underprepared, and being subject to constant and often unclear changes to restrictions both within and outside the health service. Multiple studies worldwide have also documented the significant psychological impact that COVID-19 has had on pregnant women,[22-24] and the overwhelming sense of being alone and isolated.18 A US-based global study of pregnant women's experiences during COVID-19 found that 60% of women were experiencing anxiety at levels that affected day-to-day activities.[25] Chronic anxiety and stress during pregnancy can have short and long-term impacts on the health and well-being of both the mother and baby and should be treated wherever possible.[26,27] As the COVID-19 pandemic continues to cause havoc globally, it is essential that maternity care services actively promote and protect maternal mental health,[28] with concerted changes to public health policy and service planning. As we manage the current pandemic and future public health crises, ensuring that childbearing women and their babies are able to access

care in ways that consider their identified needs and optimize their health and well-being is a significant investment in the health of future generations.

It is important to note that women also reported unexpected benefits, such as less pressure to have visitors during and after birth, and more time for bonding and breastfeeding establishment.[29] This evidence should also be considered in routine maternity service planning, by acknowledging factors that support and contribute to the health and well-being of mothers and babies. That women had mixed responses to visitor restrictions—some positive and some negative—highlights the importance of woman-centered care and tailoring care to meet the needs and preferences of individual woman and what matters to them.

### 4.1 | Strengths and limitations

Our study provides a snapshot of women's experiences of maternity care during the first wave of the pandemic, and further research is needed to evaluate women's experiences over time. Strengths include a large, representative sample of women from all Australian states and territories. The distribution was comparable to state and territory population data in relation to parity, country of birth, being Aboriginal or Torres Strait Islander and age.[30] Limitations of our study include that it was only available in English, and therefore, the experiences of women from non-English speaking backgrounds may not have been well represented. In addition, due to the use of convenience sampling our findings may not be generalizable. It is also possible that women with particularly good or particularly bad experiences may be over-represented due to a greater motivation to share their experiences. It is also important to note that the survey responses reflect a six-week point in time during the first wave of the pandemic in Australia, and the impact on health services and the wider community were frequently changing.

## 5 | CONCLUSIONS

The COVID-19 pandemic has led to multiple changes to maternity care in Australia that occurred at an unparalleled pace and scale. The women at the center of this care have experienced great uncertainty and potential disruptions to their pregnancy, birth, and postnatal experience. We found that women felt distressed and alone as a result of these changes. However, they also described rapidly adapting to change and, in many instances, drove their own changes to ensure their maternity care needs were met. Many women felt deprived of their expected maternity experience, although women also noted benefits associated with restrictions, including fewer visitors and more time for family bonding and breastfeeding. As the COVID-19 pandemic continues to impact maternity care in Australia and globally, understanding women's experiences of care provides an opportunity for maternity care services to develop policies that enable, rather than obstruct, a range of needs being met—including those that expand beyond the need for immediate clinical care or reduced disease transmission. Incorporating this new evidence into maternity sector planning may help ensure that the holistic needs of women and their families are prioritized during current and future public health crises.

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## DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author, [AW], upon reasonable request.

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