Australian Government
Australian Institute of Health and Welfare

infocus

Older mothers in Australia 2019

Published August 2021

The majority of women in Australia will have uncomplicated pregnancies and births (AIHW 2021; Royal Hospital for Women 2016). Giving birth later in life can be associated with pregnancy complications and some poorer early outcomes for babies, particularly for those mothers having their first baby (AIHW 2021; DoH 2020; RCOG 2013). However, there is some evidence later motherhood is associated with positive outcomes for children (Myrskylä et al. 2017; Carslake et al. 2017).

The average age of all women giving birth has been rising, including for first-time mothers. In Australia, the average maternal age of first-time mothers has increased from 27.9 in 2009 to 29.4 in 2019 (AIHW 2021). Looking back further, the average age of *all* women giving birth in Australia has increased from 27.1 in 1979 (OECD 2019) to 30.0 in 2009 and 30.8 in 2019 (AIHW 2021). This shift in maternal age has been observed in many countries around the world (OECD 2019; PHAC 2019).

This report examines the characteristics of; and outcomes for older mothers in Australia (aged 35 or over when they gave birth) in 2019. It also examines the differences between older mothers having their first baby and those who've given birth previously. Statistics cover demographics, use of antenatal care, labour and childbirth, and early outcomes for babies.

In 2019, more than 13,400 mothers were aged 40 and over

The vast majority of babies born to mothers 40 and over were liveborn (99%)

Two in 7 (28%) mothers aged 40 and over were giving birth for the first time

One in 8 (13%) babies born to mothers aged 40 and over were pre-term

AIHW
Stronger evidence, better decisions, improved health and welfare

Key findings

One in 4 (25%) women giving birth in 2019 were aged 35 or over. Around 2 in 7 older mothers gave birth for the first time (28% of mothers aged 40 and over, 29% of mothers 35–39). Older mothers were more likely to be born overseas and less likely to be Aboriginal or Torres Strait Islander than younger mothers (aged 20–34).

Older mothers were less likely to smoke, slightly more likely to receive antenatal care in the first trimester, and more likely to live in higher socioeconomic areas than younger mothers.

Many risk factors and outcomes were similar between 35–39 and 20–34 year old mothers. Some differences appear for mothers aged 40 and over. These include higher rates of pre-existing medical conditions and pregnancy related complications such as gestational diabetes. They were also more likely to give birth by caesarean section.

Babies of mothers aged 40 and over were a similar size for gestational age and had similar Apgar scores 5 minutes after birth compared with babies of younger mothers. However, they were a little more likely to be born pre-term.

Some risks increase further for older mothers having their first baby. Interventions during labour and birth (such as induction of labour, caesarean section, instrumental birth or episiotomies) were more common in older first-time mothers than in older mothers having subsequent babies (multiparas). In addition, their babies were more likely be born pre-term or small for gestational age, compared with babies of older multiparas.

This report is accompanied by supplementary tables available at:
https://www.aihw.gov.au/reports/mothers-babies/older-mothers-in-australia-2019/data

Figure 1: Select characteristics and outcomes of mothers and their babies, by maternal age 40 and over, 35–39 and 20–34 years, 2019

	Age 40 and over	Age 35–39	Age 20–34
	Per cent	Per cent	Per cent
Mother's Indigenous status			
Aboriginal and/or Torres Strait Islander	2.0	1.9	5.1
Non-Indigenous	97.2	97.2	94.4
Remoteness of mother's usual residence			
Major cities	81.1	80.8	71.7
Inner regional	11.9	12.4	17.4
Outer regional and remote	7.1	6.8	10.8
Maternal country of birth			
Australia	56.9	56.8	65.9
Other countries	42.8	42.9	33.8
Socioeconomic status of mother's area of usual residence			
Quintile 1 (Most disadvantaged)	14.7	13.7	21.0
Quintile 5 (Least disadvantaged)	27.8	25.7	15.0
Parity			
0 (first-time mothers)	28.5	28.7	46.4
1	34.5	40.5	34.2
2 or more	36.9	30.8	19.4
Antenatal care[a]			
5 or more antenatal visits[b]	95.0	95.4	94.6
1st antenatal visit in the 1st trimester	78.3	78.4	76.4
Antenatal Risk factors			
Pre-existing diabetes	1.7	1.1	0.8
Pre-existing hypertension	1.7	0.9	0.5
Gestational diabetes	17.8	13.9	10.4
Gestational hypertension	3.3	2.4	2.4
Pre-pregnancy BMI 30 or more	23.7	20.4	21.2
Smoked after 20 weeks of pregnancy[a]	5.3	4.4	7.5
Labour and birth			
Spontaneous labour	23.9	36.3	45.1
Induced labour[c]	33.4	31.8	35.6
No labour onset	42.7	31.9	19.3
Vaginal birth (non-instrumental)[d]	37.4	45.4	53.4
Vaginal birth (instrumental)[d]	7.7	10.4	13.6
Caesarean section[d]	54.8	44.2	33
Intact perineum[e]	26.3	22.6	21.9
Baby characteristics[f]			
Pre-term birth (less than 37 weeks)	12.6	9.0	8.2
Low birthweight (less than 2,500g)	9.2	6.7	6.4
Small for gestational age[g]	9.1	8.8	9.5
Large for gestational age[g]	9.2	9.5	9.0
Baby outcomes[f]			
Apgar score at 5 minutes 0-6	2.1	1.7	1.8
Apgar score at 5 minutes 7-10	97.7	98.0	97.9
Active resuscitation required	21.2	19.2	19.1
Admission to SCN/NICU[h]	21.5	17.7	18.0

Source: AIHW analysis of the National Perinatal Data Collection.

Notes:

a) Percentages are calculated after excluding records with 'Not stated' values. Percentages should be interpreted with caution.
b) Number of antenatal visits are based on women who gave birth at 32 weeks or more gestation.
c) May include cases where induction of labour was attempted but labour did not result.
d) For multiple births, method of birth of the first-born baby was used.
e) For women who gave birth vaginally. For multiple births, the perineal status after the first-born baby was used.
f) Includes liveborn babies only, with the exception of pre-term birth where all babies are included.
g) Includes liveborn singletons only. Excludes those with 'Not stated' values for gestational age, birthweight or sex.
h) Babies transferred between hospitals and subsequently admitted to an SCN or NICU may not be included as 'admitted' in these data. Data exclude Western Australia and New South Wales.

Who are older mothers?

In this report older mothers are women aged 35 or over at the time they gave birth. It should be noted that definitions for older mothers, or advanced maternal age, can differ between reports.

Throughout this report, data for older mothers are mostly described in two age groups; women aged 35–39 and women aged 40 or over when they gave birth. As some risks are reported as increasing with maternal age (DoH 2021; Jolly et al. 2000; Kenny et al. 2013), the report will focus more on outcomes for mothers aged 40 and over.

Data for mothers aged 20–34 years are included to allow comparison of risks and outcomes to younger mothers. Women aged under 20 years are not included as there are a specific set of outcomes associated with this age group. For more information refer to the *Teenage Mothers in Australia 2015* report.

Why report on older mothers?

Women are increasingly having children later in life, and the majority of older mothers will have uncomplicated pregnancies and healthy babies (AIHW 2021; Royal Hospital for Women 2016). In Australia, more than 60% of women were aged 30 or over when they gave birth in 2019 compared with 54% in 2010 (AIHW 2021). In addition, during 2019 more than half (51%) of women giving birth for the first time were aged 30 or over, compared with 42% in 2010 (AIHW 2021).

There are advantages to giving birth later in life. Women who give birth at older ages are more likely to be socioeconomically advantaged, seem happier after having their child, are more resilient and report lower levels of anxiety and depression during pregnancy than younger mothers (McMahon et al. 2011; Mills & Lavender 2011; Myrskylä et al. 2017). Increasing maternal age has also been associated with better social, emotional and cognitive outcomes for children (Carslake et al. 2017; Goisis et al. 2017; Myrskylä et al. 2017; Sutcliffe et al. 2012; Tearne et al. 2014).

However, women who give birth later in life are more at risk of complications during pregnancy and birth. This includes increased risk of gestational diabetes, pre-term birth, low birthweight and babies that are small or large for gestational age (DoH 2021; Jolly et al. 2000; Kenny et al. 2013; RCOG 2013). Additionally, the incidence of stillbirth at term, while generally low, is higher in older mothers (RCOG, 2013). This has been reported as increasing for women aged over 40 (AIHW 2020a; RCOG 2013).

While women in Australia generally conceive without additional intervention, older mothers are more likely to use assisted reproductive technology (ART) to become pregnant. ART has been associated with increased risk of complications including gestational hypertension, pre-eclampsia, congenital anomalies, pre-term birth and stillbirth (Howell & Blott 2021).

This report presents data on pregnancy and childbirth for women aged 35 years and over, with comparisons to women who were younger when they gave birth. It also explores outcomes for older first-time mothers, with comparisons to women who have given birth previously.

How many women give birth later in life?

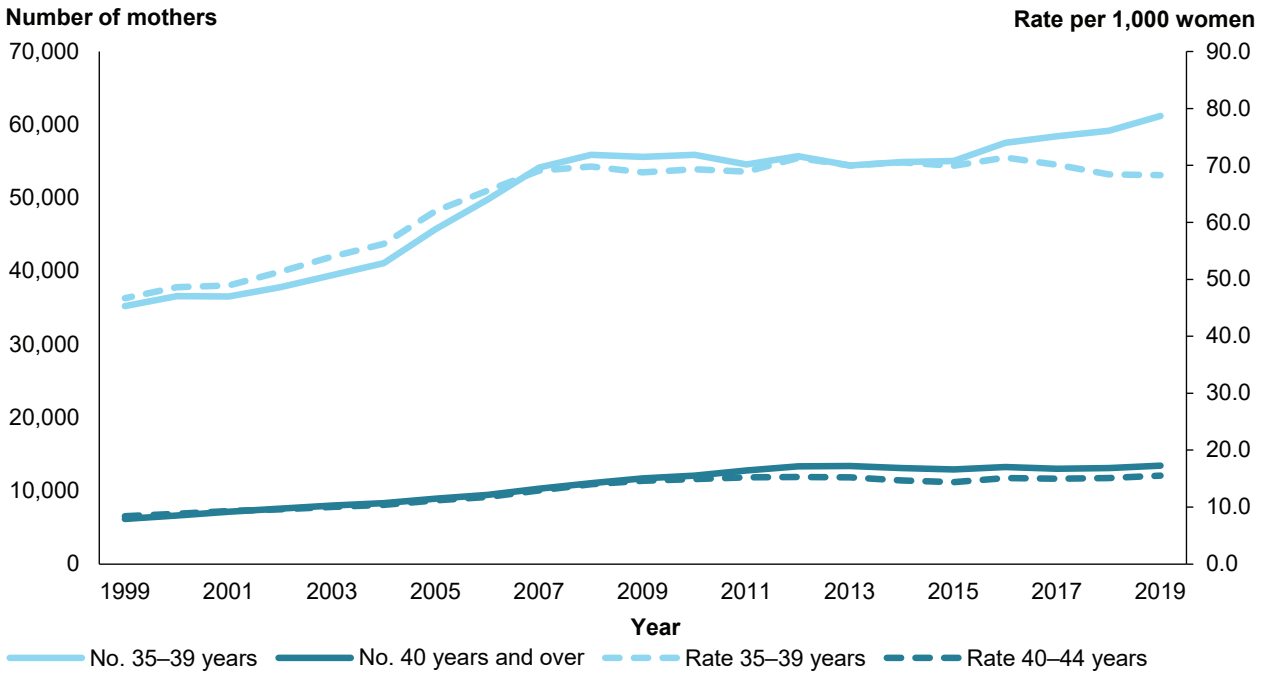
In 2019, one quarter (25% or 74,657) of women who gave birth in Australia were aged 35 or over. Of these, 61,217 were aged 35–39 (21% of mothers) and 13,440 were aged 40 or over (4.5% of mothers).

The number of babies born to older mothers has been increasing over time. In 2019, there were 76,069 babies born to mothers aged 35 or over, compared to 68,777 in 2009 and 42,330 births in 1999.

The rate of women giving birth in the older age groups has increased since 1999 (Figure 2). Rates of women giving birth have:

- almost doubled for women aged 40–44 since 1999, with 15.5 mothers per 1,000 women in 2019 compared with 8.4 mothers per 1,000 women in 1999
- almost quadrupled among women aged 45–49 with 1.1 mothers per 1,000 women in 2019 compared with 0.3 mothers per 1,000 women in 1999.

Figure 2: Number of older mothers and rate giving birth per 1,000 women, 1999–2019, Australia



Source: AIHW analysis of the National Perinatal Data Collection and the ABS Estimated Resident Population data June 2019.

However, rates have remained relatively steady over the last 10 years in the older age groups. Meanwhile, there has been a generally decreasing rate of women giving birth in Australia for all women of reproductive age (15–44) from 64.6 per 1,000 in 2009 to 57.6 per 1,000 in 2019 (AIHW 2021).

In many Organisation for Economic Cooperation and Development (OECD) countries, the fertility rates among women aged 35–39 and 40–44 have been increasing over the last few decades (OECD 2019). At the same time, fertility rates among women aged 15–19, 20–24 and 25–29 have been decreasing (OECD 2019).

Characteristics of older mothers?

In 2019, around 60% of older mothers (aged 35 or older) were aged between 35 and 37. The number of mothers over 35 decreases rapidly with each year of age. In 2019, 86 women were aged 50 or older when they gave birth.

More likely to live in cities

In 2019, the majority of older mothers lived in major cities. The rate increased with age, with 81% of mothers aged 35–39 or 40 and over living in major cities. This is compared to 72% of younger mothers (20–34).

Around 7% of older mothers lived in outer regional, remote or very remote locations (6.8% or 4,104 mothers aged 35–39, and 7.0% or 926 mothers aged 40 and over).

Less likely to live in low socioeconomic areas

More than a quarter of older mothers (28% of mothers 40 and over, 26% aged 35–39) resided in the highest socioeconomic areas. These are the areas that experience the least disadvantage (fewer households with low income, fewer people without educational qualifications, or not many people in low skill occupations). Older mothers were least likely to reside in the most disadvantaged areas, with 15% of mothers 40 and over and 14% of mothers 35–39 residing in the lowest socioeconomic areas. In comparison, 21% of mothers 20–34 lived in the lowest socioeconomic areas.

In this report socioeconomic status is determined by using the Australian Bureau of Statistics Socio-Economic Index for Areas Index of Relative Socio-Economic Disadvantage (SEIFA IRSD, ABS 2018).

Aboriginal and/or Torres Strait Islander mothers

Mothers aged 35 and over were less likely to be Aboriginal and/or Torres Strait Islander compared to younger mothers. In 2019, around 2% of mothers aged 35–39 or 40 and over reported identifying as Aboriginal or Torres Strait Islander, compared to 5.1% of mothers 20–34.

More likely to be born overseas

Women giving birth aged 35 and over were more likely to have been born overseas, compared with mothers aged 20–34. Around 43% of mothers aged 35–39 and 40 and over were born overseas, compared to 34% of mothers aged 20–34. Mother's country of birth may influence health and wellbeing of both mother and baby for a variety of complex cultural and societal reasons (AIHW 2021).

Most had previously given birth

The majority of older mothers had previously given birth (71% of both 40 and over and 35–39). Women aged 40 and over were more likely to have had multiple previous births than mothers aged 35–39. Half (52%) of mothers aged 40 and over had previously given birth once or twice and 10% had previously given birth 4 or more times. This is compared with 59% of mothers aged 35–39 having given birth 1 or 2 times previously, and 5.4% giving birth 4 or more times previously.

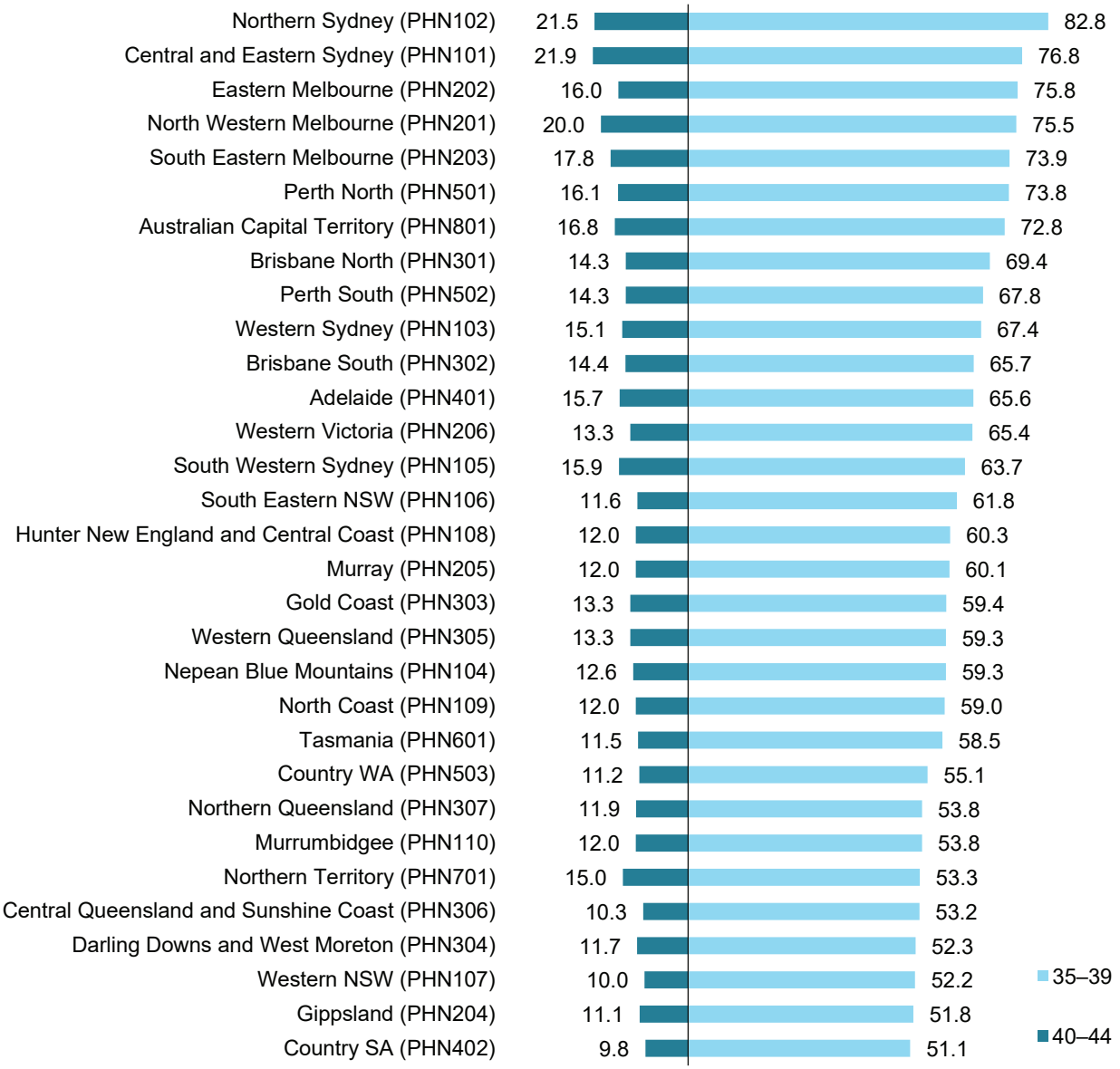
Where do they live?

Across the states and territories, mothers who usually resided in the Australian Capital Territory and Victoria were more likely to be aged 35 or over (28% each). Around a quarter (26%) of mothers who usually resided in New South Wales were aged 35 or over. Northern Territory and Tasmania had the smallest proportions of older mothers (19% and 20%).

Figure 3 shows the rates (per 1,000 women) of older mothers by the Primary Health Network (PHN) of their area of usual residence. PHNs are organisations that connect health services across a specific geographic area. Northern Sydney had the highest rate of women giving birth for mothers aged 35–39 at 82.8 births per 1,000 women. The birth rate for mothers aged 40–44 was also comparatively high in this PHN (21.5 births per 1,000 women).

There were generally higher rates of older mothers in metro PHNs, particularly in Sydney and Melbourne, than in PHNs for regional areas.

Figure 3: Rate of women giving birth per 1,000 women, by Primary Health Network, 2019



Source: AIHW analysis of the National Perinatal Data Collection and the ABS Estimated Resident Population data June 2019.

Antenatal period

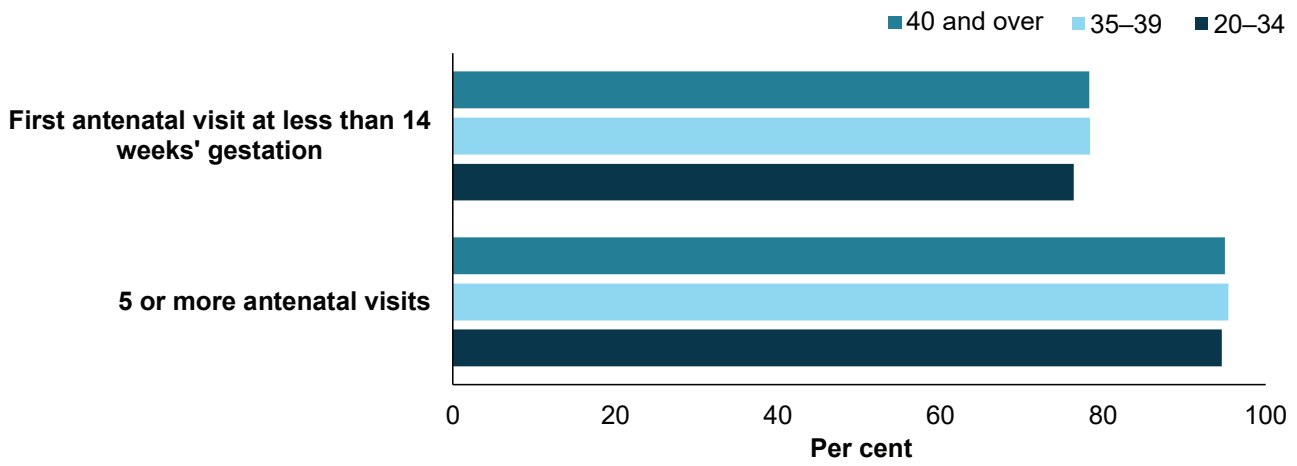
The antenatal period covers the time from conception until birth (the pregnancy). Antenatal care is an important part of pregnancy monitoring and has been associated with positive outcomes for both mother and baby (AIHW 2021; WHO 2016). Ongoing visits between women and their midwife or doctor help to identify and manage any health problems during pregnancy, and to encourage healthy behaviours.

Risk factors such as smoking during pregnancy, having diabetes or hypertension, and being overweight or obese are known to increase the risk of pregnancy complications. These have been associated with poorer outcomes for babies including low birthweight, pre-term birth and perinatal death (AIHW 2021, RANZCOG 2013).

Most older mothers received antenatal care early and often

In 2019, around 78% of mothers aged 35 and over had their first antenatal visit in the first trimester (before 14 weeks gestational age). Over 95% of older mothers had 5 or more antenatal visits during their pregnancy (Figure 4). This is similar to mothers aged 20–34.

Figure 4: Antenatal care by maternal age, 2019



Source: AIHW analysis of the National Perinatal Data Collection.

Notes:

1. Percentages are calculated after excluding records with 'Not stated' values. Care must be taken when interpreting percentages.
2. Number of antenatal visits are based on women who gave birth at 32 weeks or more gestation.

Of older mothers who didn't receive antenatal care in the first trimester, the majority had their first antenatal visit at 14–19 weeks gestation.

Mothers aged 40 and over in the lowest socioeconomic areas (most disadvantaged) were less likely (75%) to have had an antenatal visit in the first trimester than those in the highest socioeconomic areas (81%).

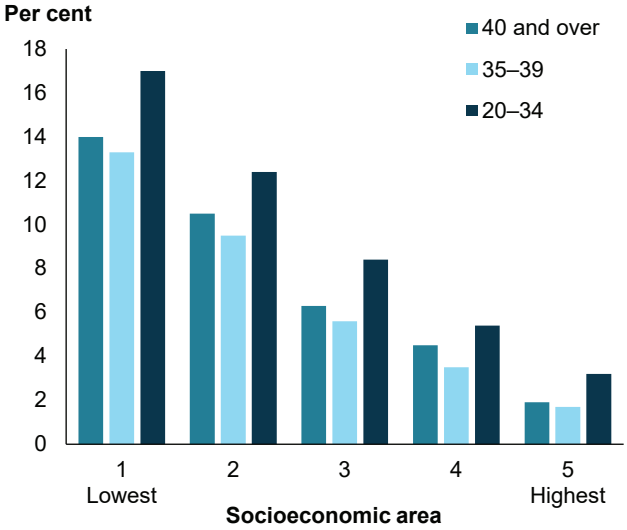
Less likely to smoke during pregnancy

In 2019, 6.4% of mothers aged 40 and over reported smoking during the first 20 weeks of pregnancy. This decreased slightly after 20 weeks of pregnancy (5.3%).

Mothers aged 35–39 had similar smoking rates, with 5.7% reporting smoking during the first 20 weeks of pregnancy, and 4.4% reporting smoking after 20 weeks. In comparison, 9.5% of mothers aged 20–34 reported smoking in the first 20 weeks of pregnancy, and 7.5% reported smoking after 20 weeks.

Smoking rates decreased as socioeconomic status increased. However, in all socioeconomic areas, younger mothers were more likely to smoke than mothers aged 35 and over (Figure 5).

Figure 5: Mothers who smoked during the first 20 weeks of pregnancy, by maternal age and socioeconomic area, 2019



Source: AIHW analysis of the National Perinatal Data Collection.

Notes:

1. Percentages are calculated after excluding records with 'Not stated' values. Care must be taken when interpreting percentages.
2. Mother's tobacco smoking status during pregnancy is self-reported

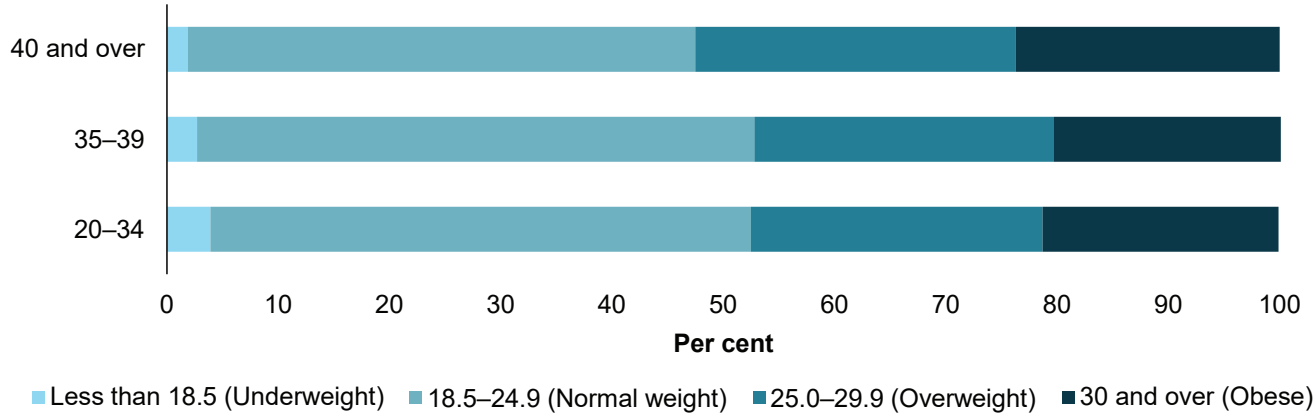
Body Mass Index is higher

The weight of Australian women has been increasing in recent years. In 2017–18, 3 in 5 women were considered overweight or obese (AIHW 2019).

A similar proportion of mothers aged 35–39 had a pre-pregnancy Body Mass Index (BMI) in the normal weight range (18.5–24.9) compared with younger mothers (50% compared with 49%) (Figure 6).

However, mothers aged 40 and over were more likely to have a BMI of 25 or more. Less than half (46%) had a pre-pregnancy BMI in the normal weight range, 29% were considered overweight but not obese (BMI between 25 and 29.9), and a further 24% had a BMI of 30 or higher.

Figure 6: Proportion of mothers by body mass index (BMI) and maternal age, 2019



Source: AIHW analysis of the National Perinatal Data Collection.

Note: Percentages are calculated after excluding records with 'Not stated' values. Care must be taken when interpreting percentages.

Rates of diabetes and hypertension increased with maternal age

The likelihood of experiencing either diabetes or hypertension during pregnancy increased with increasing maternal age and decreasing socioeconomic status.

Whilst the majority of older mothers don't have these conditions, mothers aged 40 and over were twice as likely to have pre-existing diabetes as younger mothers (1.7% compared with 0.8%). Almost 18% of mothers 40 and over had gestational diabetes, compared with 10% of mothers aged 20–34.

Rates of pre-existing hypertension increased with maternal age, with 0.5% of mothers 20–34, 0.9% of mothers 35–39 and 1.7% of mothers 40 and over having the condition.

Rates of gestational hypertension were similar between mothers aged 35–39 and 20–34 (2.4% each). Mothers aged 40 and over were more at risk, 3.3% having gestational hypertension.

More previous caesarean sections

Of women who had given birth previously, older mothers were more likely to have had a previous caesarean section compared with younger mothers. In 2019, 41% of mothers aged 40 and over had previously had a caesarean section (with 12% having had two or more), compared with 37% of mothers aged 35–39 and 28% of mothers aged 20–34. These data exclude Victoria, and only include women who had given birth previously.

Labour and birth

In general, there has been a reported increase in the use of interventions during labour and birth over time (AIHW 2020b). Some interventions include induction of labour, caesarean sections, instrumental births and episiotomies.

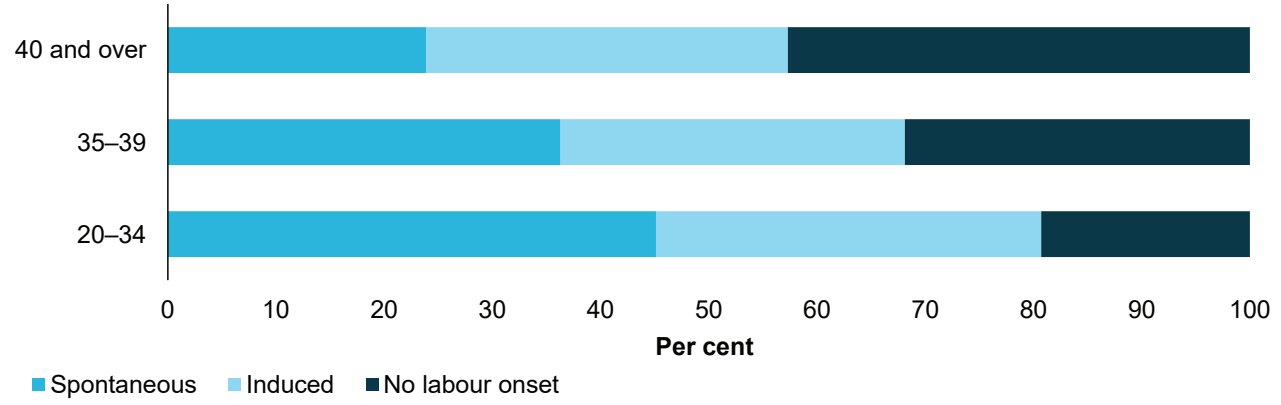
The majority of older mothers gave birth in a hospital (98% of mothers aged 40 and over, and 97% of mothers aged 35–39).

Less likely to have spontaneous labour onset

More than a third (36%) of mothers aged 35–39 had a spontaneous labour (onset of labour required no intervention), the remainder being equally likely to have labour induced or have no labour onset (around 32% each). If there was no labour onset, then a caesarean section was performed.

In general, older mothers were more likely to have no labour onset, compared with younger mothers (Figure 7). Of mothers aged 40 and over 33% had their labour induced and 43% had no labour onset. Less than 1 in 4 (24%) of women this age had spontaneous labour.

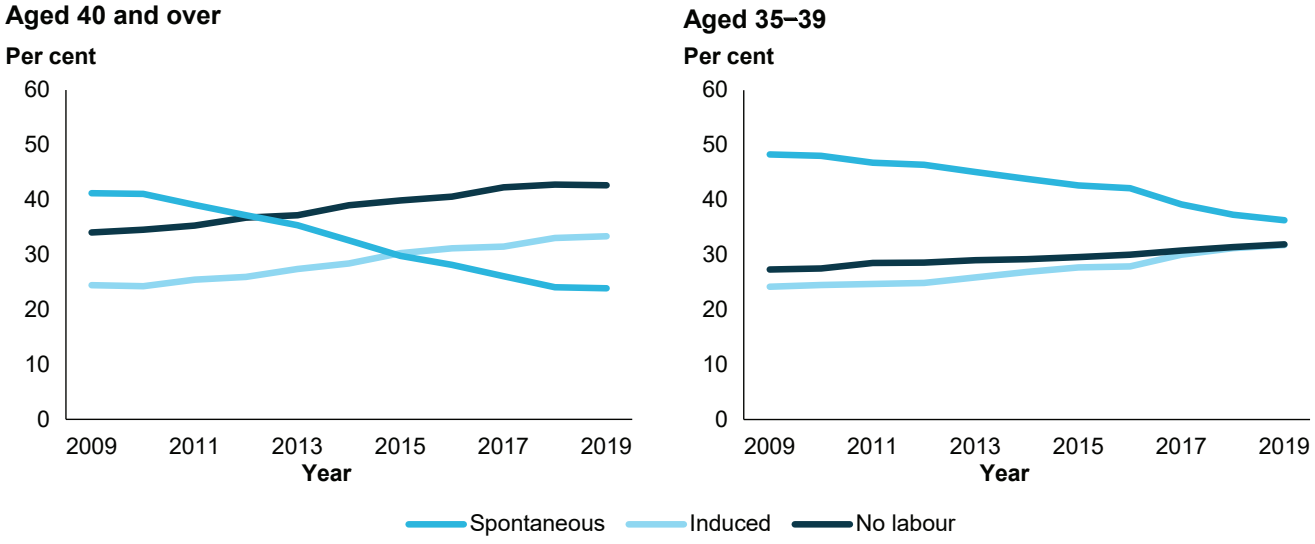
Figure 7: Proportion of mothers by onset of labour and maternal age, 2019



Source: AIHW analysis of the National Perinatal Data Collection.

Onset of labour for older mothers has changed over time. Since 2009, the rate of spontaneous labour for women aged 35 and over has decreased, with rates of induction and no labour increasing over this period (Figure 8). In particular, for women aged 40 and over, the rate of spontaneous labour has declined from being the most common type of labour in 2009 (41%) to the least common in 2019 (24%) among this age group.

Figure 8: Onset of labour for older mothers, 2009–2019, by maternal age



Source: AIHW analysis of the National Perinatal Data Collection.

Notes:

1. Induced may include cases where induction of labour was attempted but labour did not result.
2. Data for onset of labour over time is available in the Australia's mothers and babies 2019 – data tables (table 3.2)

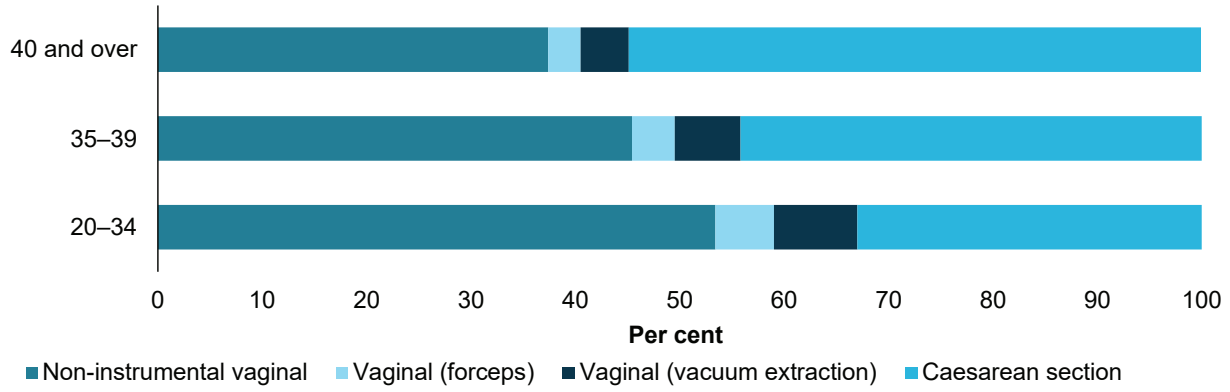
Diabetes was recorded as the main reason for induction for 18% of mothers aged 40 and over, and 17% of mothers aged 35–39 who had their labour induced.

More likely to give birth by caesarean section than younger mothers

More than half (56%) of mothers aged 35–39 had a vaginal birth. Instrumentation (forceps or vacuum delivery) was used for 10% of mothers this age (Figure 9).

Generally, rates of caesarean section increase with age. More than half (55%) of mothers aged 40 and over gave birth by caesarean section. This is compared to 33% of mothers aged 20–34. This increase is seen both in first-time mothers and women who have given birth previously. Over two thirds (68%) of first-time mothers aged 40 and over gave birth by caesarean section, compared with 35% of first-time mothers aged 20–34.

Figure 9: Proportion of mothers by method of birth and maternal age, 2019



Source: AIHW analysis of the National Perinatal Data Collection.

Note: for multiple births the method of birth for the first-born baby was used.

Previous caesarean section was the most common reason indicated for older mothers who gave birth by caesarean section (37% for mothers aged 40 and over, 41% for mothers 35–39).

Less likely to have a perineal laceration or episiotomy with vaginal birth

Among women who gave birth vaginally, more than a quarter (26%) of mothers aged 40 and over had an intact perineum (compared to 22% of mothers 20–34). This means mothers aged 40 and over were less likely to have a perineal laceration or an episiotomy than younger mothers.

This is partly because older mothers are more likely to have given birth previously. Episiotomies are more common in first-births than in subsequent births. Among women aged 40 and over, 11% of multiparous women had an episiotomy compared with 49% of first-time mothers.

Where there was a laceration, it was less likely to be severe. Among mothers aged 40 and over, 26% had a first degree laceration, and 28% had a second degree laceration. Only 1.5% of mothers aged 40 and over experienced a third or fourth degree laceration, compared with 3.1% of mothers aged 20–34.

More likely to use a private hospital than younger mothers

Older mothers were more likely to give birth in a private hospital compared with younger mothers (35% of mothers aged 40 and over, 34% of mothers aged 35–39, and 22% of mothers 20–34).

Overall, older mothers stayed in hospital longer after the birth than younger mothers. In general, women who give birth by caesarean section have a longer postnatal hospital stay than women who give birth vaginally (AIHW 2021).

4 or more days postnatal stay:

45% mothers 40 and over

26% mothers 20–34

The median postnatal length of stay was 3 days for both mothers aged 35–39 and those aged 40 and over. This only includes women who were discharged home after the birth (that is not transferred to another facility). Around 2 in 5 (38% of 35–39 and 45% of 40 and over) stayed in hospital at least 4 days after the birth. This is compared to a median of 2 days for mothers aged 20–34, where 26% had a postnatal stay of 4 or more days.

Baby outcomes

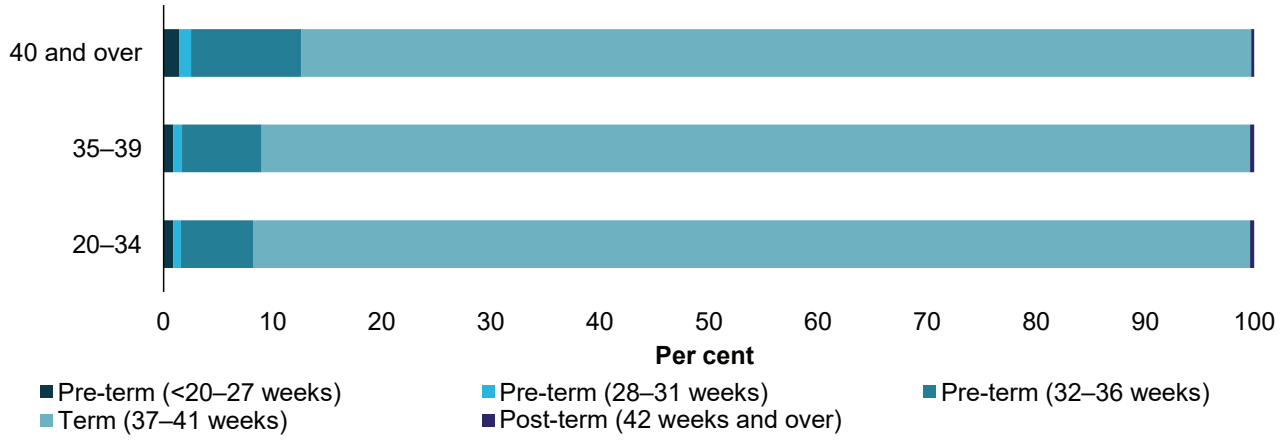
This section explores outcomes for babies born to older mothers in the first 28 days of life. Nearly all babies born to mothers aged 35 and over are liveborn (around 99%). However, increasing maternal age has been associated with increased risks relating to the health and wellbeing of the baby (RCOG, 2013).

Babies of older mothers were more likely to be pre-term

The majority of babies were born at term, 37–41 weeks gestation (91% for babies born to mothers aged 35–39 and 87% for babies whose mothers were 40 and over). One in 8 (13%) babies of mothers aged 40 and over were pre-term (before 37 completed weeks gestation) compared to 9.0% babies of mothers aged 35–39, and 8.2% babies of mothers aged 20–34 (Figure 10).

Rates of pre-term birth decreased in higher socioeconomic areas.

Figure 10: Proportion of babies by gestational age and maternal age, 2019



Source: AIHW analysis of the National Perinatal Data Collection.

Similar size for gestational age and similar Apgar scores

Liveborn babies of older mothers were mostly in the normal size range, when adjusted for their gestational age (82% for babies born to mothers aged 40 and over or 35–39). This the same as babies of younger mothers (82%). Data on birthweight adjusted for gestational age is limited to liveborn singleton babies.

The majority (around 98%) of liveborn babies to mothers aged 35 and over had an Apgar score of 7 or higher at 5 minutes after birth. This is the same for babies of younger mothers. An Apgar score is a numerical score used to indicate the baby's condition after birth. An Apgar score less than 7 indicates complications for the baby.

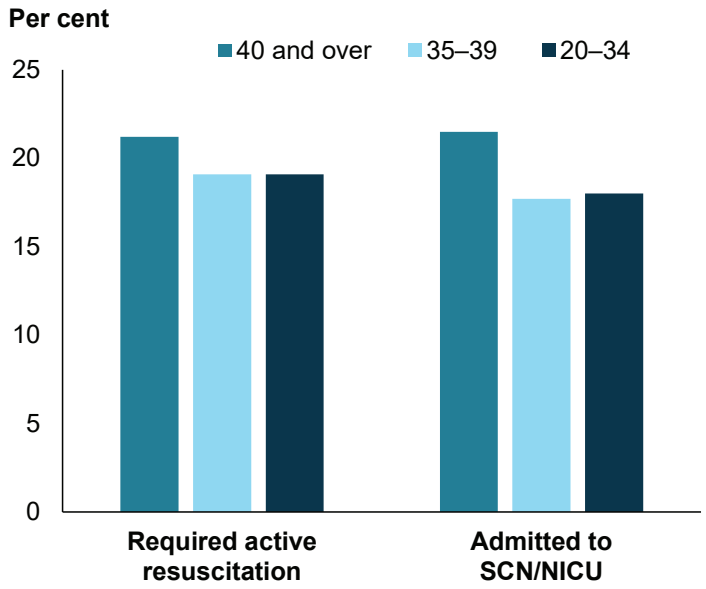
Resuscitation and special care increase slightly for babies of mothers 40 and over

Babies born to mothers aged 35–39 were just as likely to require active resuscitation as babies born to younger mothers (Figure 11), with around 81% of babies born to mothers in both age groups not requiring any form of active resuscitation.

Use of active resuscitation increases slightly for babies born to mothers aged 40 and over (21% compared to 19% for younger mothers).

Active resuscitation methods range from less advanced methods like suction or oxygen therapy to more advanced methods, such as external cardiac massage and ventilation.

Figure 11: Babies that required active resuscitation and/or were admitted to an SCN/NICU, by maternal age, 2019



Source: AIHW analysis of the National Perinatal Data Collection.

Notes:

1. Data are for liveborn babies.
2. Babies transferred between hospitals and subsequently admitted to an SCN or NICU may not be included as 'admitted' in these data. Data for SCN/NICU excludes Western Australia and New South Wales.

There is evidence some factors, including maternal hypertension or diabetes, emergency caesarean section, forceps or vacuum delivery and preterm birth, are associated with increased likelihood of the baby requiring resuscitation (ANZCOR 2021, Berazategui et al. 2017, Mader et al. 2021).

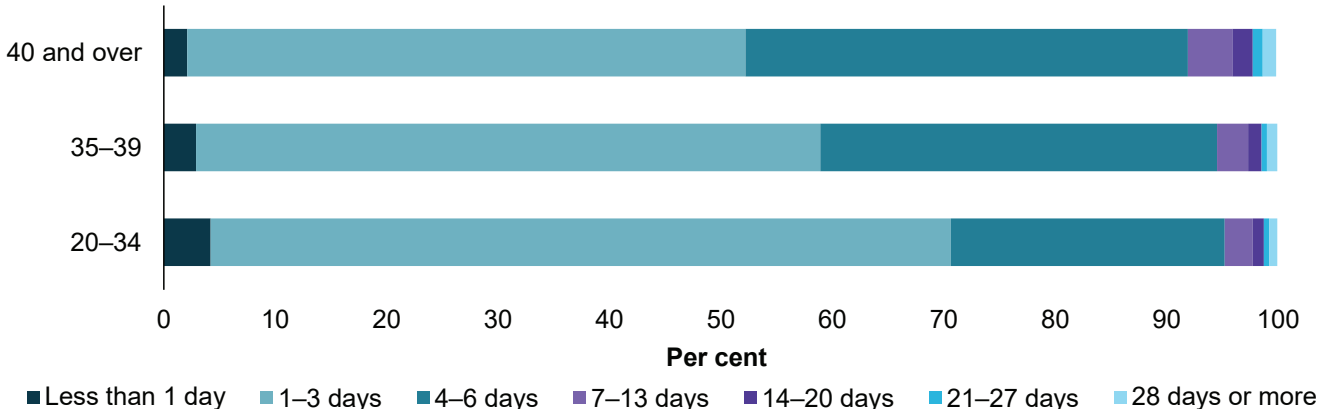
Around 22% of babies born to mothers aged 40 and over were admitted to a special care nursery (SCN) or neonatal intensive care unit (NICU) compared with babies born to mothers aged either 35–39 or 20–34 (18% each) (Figure 11). This may not include babies transferred between hospitals and subsequently admitted to an SCN/NICU, and excludes New South Wales and Western Australia. Overall, liveborn babies born by caesarean section are 1.9 times as likely to be admitted to an SCN or NICU than babies born vaginally without instrumentation (AIHW 2021).

More than half of babies discharged home stayed in hospital less than 4 days

Along with their mothers, babies of older mothers spent more time in hospital. Length of hospital stay for babies is also influenced by factors including low birthweight, gestational age (pre-term) and private hospital birth (AIHW 2021).

More than half of liveborn babies, born in hospital to older mothers, stayed in hospital for less than 4 days (59% of babies born to mothers 35–39 and 52% for 40 and over) (Figure 12). This only includes babies that were discharged home after birth (that is not transferred to another facility), and does not include Western Australia. Overall, babies of older mothers spent more time in hospital (median 3 days) than babies of younger mothers (median 2 days).

Figure 12: Length of stay in hospital for babies discharged home, by maternal age, 2019



Source: AIHW analysis of the National Perinatal Data Collection.

Note: Data are for liveborn babies born in hospital (excludes birth centres attached to hospitals) and discharged home. Data excludes Western Australia.

Mortality

Information on perinatal and maternal mortality was sourced from the *Stillbirths and Neonatal Deaths in Australia 2018* and *Maternal Deaths in Australia 2018 reports*. While this report presents maternal age as a characteristic of pregnancies resulting in perinatal death, or death of a woman (during or within 42 days of the end of pregnancy), it is not implied that this is the cause of the death. Please refer to these reports for more detailed information and explanations.

Maternal mortality

Maternal deaths in Australia are rare events. In 2018, there were 15 maternal deaths for over 298,600 women who gave birth, a rate of 5 deaths per 100,000 giving birth (AIHW 2020c).

With the exception of mothers aged less than 20, the maternal mortality ratio (MMR) increases with increasing maternal age. Over the period 2012–2018 there were 11.9 maternal deaths per 100,000 women who gave birth aged 40 and over (11 deaths in total). For mothers aged 35–39 there were 9.9 deaths per 100,000 mothers (39 deaths). This is compared to 4.7 deaths per 100,000 mothers aged 20–34 (74 deaths) (AIHW 2020c).

Perinatal mortality

Although, the incidence of stillbirth at term in women is low, it is higher among women of advanced maternal age (RCOG 2013). A stillbirth is a fetal death prior to labour and/or birth of a baby, at a gestational age of 20 weeks or more, or of a birthweight of 400 grams or more. A neonatal death is the death of a liveborn baby within 28 days of birth. Perinatal deaths include both stillbirth and neonatal deaths.

In 2018, there were 11.9 perinatal deaths per 1,000 births (159 deaths) for babies born to mothers aged 40 and over, and 9.0 perinatal deaths per 1,000 births (545 deaths) for babies born to mothers aged 35–39 (AIHW 2020a). This is compared to 8.8 perinatal deaths per 1,000 births (1,962 deaths) of babies born to mothers age 20–34 (AIHW 2020a).

Aboriginal and Torres Strait Islander older mothers

Aboriginal and/or Torres Strait Islander (respectfully hereafter Indigenous) women are more likely to give birth at a younger age compared with non-Indigenous women. This is due to a number of factors, including the younger age structure of the Indigenous population relative to the non-Indigenous population in Australia. In 2019, the average age of Indigenous women giving birth was 26.3 years, compared with 31.0 years for non-Indigenous mothers (AIHW 2021).

Around 2% of mothers aged 35–39 or 40 and over were Indigenous. In 2019, there were 268 Indigenous women aged 40 and over who gave birth. Among mothers aged 35–39, 1,179 were Indigenous. Due to the small number of Indigenous mothers aged 40 and over, caution should be used when interpreting these data, including when making comparisons with other age groups.

There have been some improvements in outcomes for Indigenous mothers in recent years. These include an increase in attendance of the first antenatal visit in the first trimester, attending 5 or more antenatal visits and a decrease in smoking rates during pregnancy (AIHW 2021).

1 in 6 live in remote areas

Older Indigenous mothers were most likely to live in cities. One in 6 (16%) of Indigenous mothers aged 40 and over lived in remote or very remote areas, as did 18% of Indigenous mothers aged 35–39. Older Indigenous mothers were more likely to live in higher socioeconomic areas than younger Indigenous mothers. However, a similar proportion older and younger Indigenous mothers lived in lower socioeconomic areas.

In 2019:

- 6.0% of Indigenous mothers aged 40 and over lived in the highest socioeconomic areas (compared with 3.7% of younger mothers).
- 43% of Indigenous mothers aged 40 and over living in the lowest socioeconomic areas (compared with 44% of younger mothers).

Have more babies

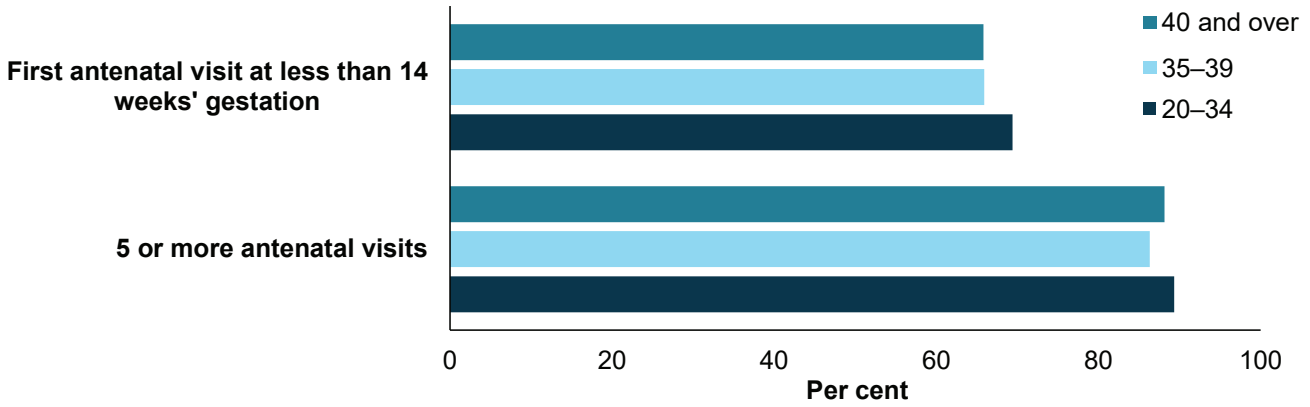
The majority of Indigenous older mothers have given birth previously. Less than 9% of Indigenous mothers 40 and over were first-time mothers in 2019. Among Indigenous mothers 35–39, 11% were first-time mothers. Almost half (46%) of Indigenous mothers 40 and over had given birth at least 4 times previously.

The majority had at least 5 antenatal visits

Around 2 in 3 Indigenous older mothers had their first antenatal visit at less than 14 weeks gestation (66% for both mothers aged 40 and over or aged 35–39) (Figure 13).

The majority of Indigenous older mothers had at least 5 antenatal visits (88% of Indigenous mothers 40 and over, 86% mothers 35–39). Unlike trends observed in the general population, Indigenous older mothers were slightly less likely to have 5 or more antenatal visits compared to younger Indigenous mothers (89%).

Figure 13: Antenatal visits for Aboriginal and Torres Strait Islander mothers, by maternal age, 2019



Source: AIHW analysis of the National Perinatal Data Collection.

Notes:

1. Percentages are calculated after excluding records with 'not stated' values.
2. Number of antenatal visits are based on women who gave birth at 32 weeks or more gestation.

Higher rates of smoking and health conditions

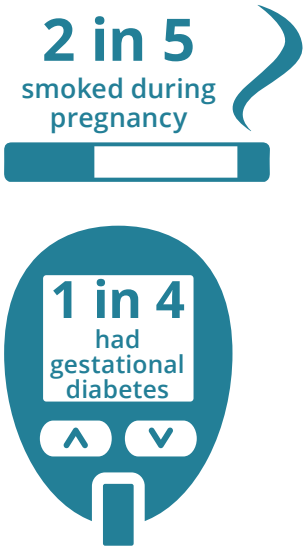
The proportion of Indigenous mothers who reported smoking during pregnancy has fallen since 2010 (AIHW 2021).

Around 41% of Indigenous mothers aged 40 and over smoked during the first 20 weeks of pregnancy, and 39% smoked after 20 weeks.

Most Indigenous older mothers did not have diabetes. One quarter (25%) of Indigenous mothers 40 and over had gestational diabetes, and 6.3% had pre-existing diabetes.

Around 92% of Indigenous mothers aged 40 and over did not have hypertension. Pre-existing hypertension was reported for 3.7% of Indigenous mothers 40 and over, and 4.5% had gestational hypertension. Indigenous mothers aged 35–39 were less likely to have hypertension, 2.7% had pre-existing hypertension and 2.9% had gestational hypertension.

Indigenous mothers aged 40 years and over



Gave birth in public hospitals and had shorter hospitals stays after birth

For women who gave birth in a hospital, the majority (92%) of Indigenous mothers aged 40 and over gave birth in public hospitals. This is compared to 65% of non-Indigenous mothers in the same age group. Older Indigenous mothers were more likely to give birth in a private hospital than younger Indigenous mothers (7.7% of mothers aged 40 and over compared with 4.5% aged 20–34 years).

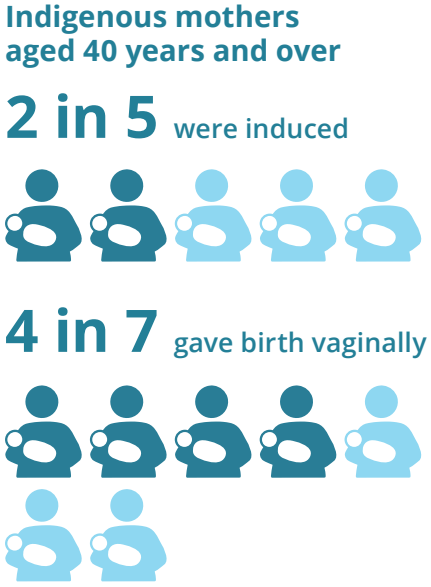
Older Indigenous mothers spent less time in hospital after birth. Just under one quarter (23%) of Indigenous mothers aged 40 and over had a postnatal length of stay of at least 4 days (compared with 45% non-Indigenous mothers the same age). However, they had a longer stay compared with younger Indigenous mothers (16% postnatal stay of 4 or more days). These figures relate to women who gave birth in hospitals (excluding birth centres attached to hospitals) and were discharged to home and do not include Western Australia.

Mostly had labour induced and gave birth vaginally

As with all mothers, rates of labour induction and caesarean section increased with maternal age. However, while non-Indigenous mothers 40 and over were most likely to have no labour onset and give birth by caesarean section, Indigenous mothers in this age group were most likely to be induced (41%) and give birth vaginally (52% non-instrumental, 4.5% instrumental).

The majority of Indigenous mothers aged 35–39 also gave birth vaginally (57%). Spontaneous labour was the most common labour onset (36%) among this age group, followed by induction of labour (34%).

Indigenous mothers aged 40 years and over



Nearly half had an intact perineum

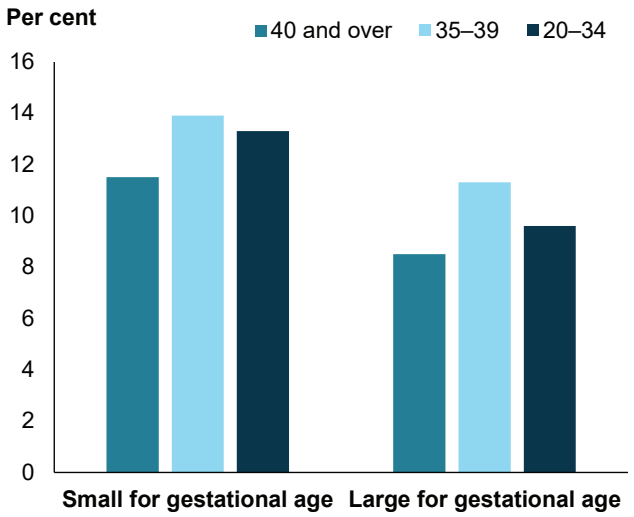
More than half (53%) of Indigenous mothers aged 40 and over, who gave birth vaginally, had an intact perineum (that is no perineal lacerations or episiotomy performed). This was twice as likely as non-Indigenous mothers the same age (26%) and 1.4 times as likely as younger Indigenous mothers aged 20–34 (39%).

The majority of babies had normal birthweight for gestational age

The majority (80%) of liveborn singleton babies born to Indigenous mothers 40 and over were of a normal size adjusted for gestational age. Similarly, 75% of babies born to Indigenous mothers 35–39 were of a normal size for gestational age.

Liveborn babies of Indigenous mothers in the oldest age group were less likely to be small size for gestational age (11%) than babies of younger Indigenous mothers (13%) (Figure 14).

Figure 14: Small and large for gestational age babies of Indigenous mothers, by maternal age, 2019



Source: AIHW analysis of the National Perinatal Data Collection.

Note: Includes singleton liveborn babies only. Excludes babies with 'not stated' values for gestational age, birthweight or not stated or indeterminate sex.

One in 3 babies were admitted to special care nurseries

The majority of liveborn babies born to Indigenous older mothers had an Apgar score of 7 or higher 5 minutes after birth (95% babies of mothers 40 and over, 97% babies of mothers 35–39). This indicates a normal condition after birth.

One in 3 liveborn babies born to older Indigenous mothers were admitted to an SCN/NICU (40% babies of mothers aged 40 and over, 33% babies of mothers aged 35–39). This is compared with 25% of babies born to younger Indigenous mothers. This data exclude Western Australia.

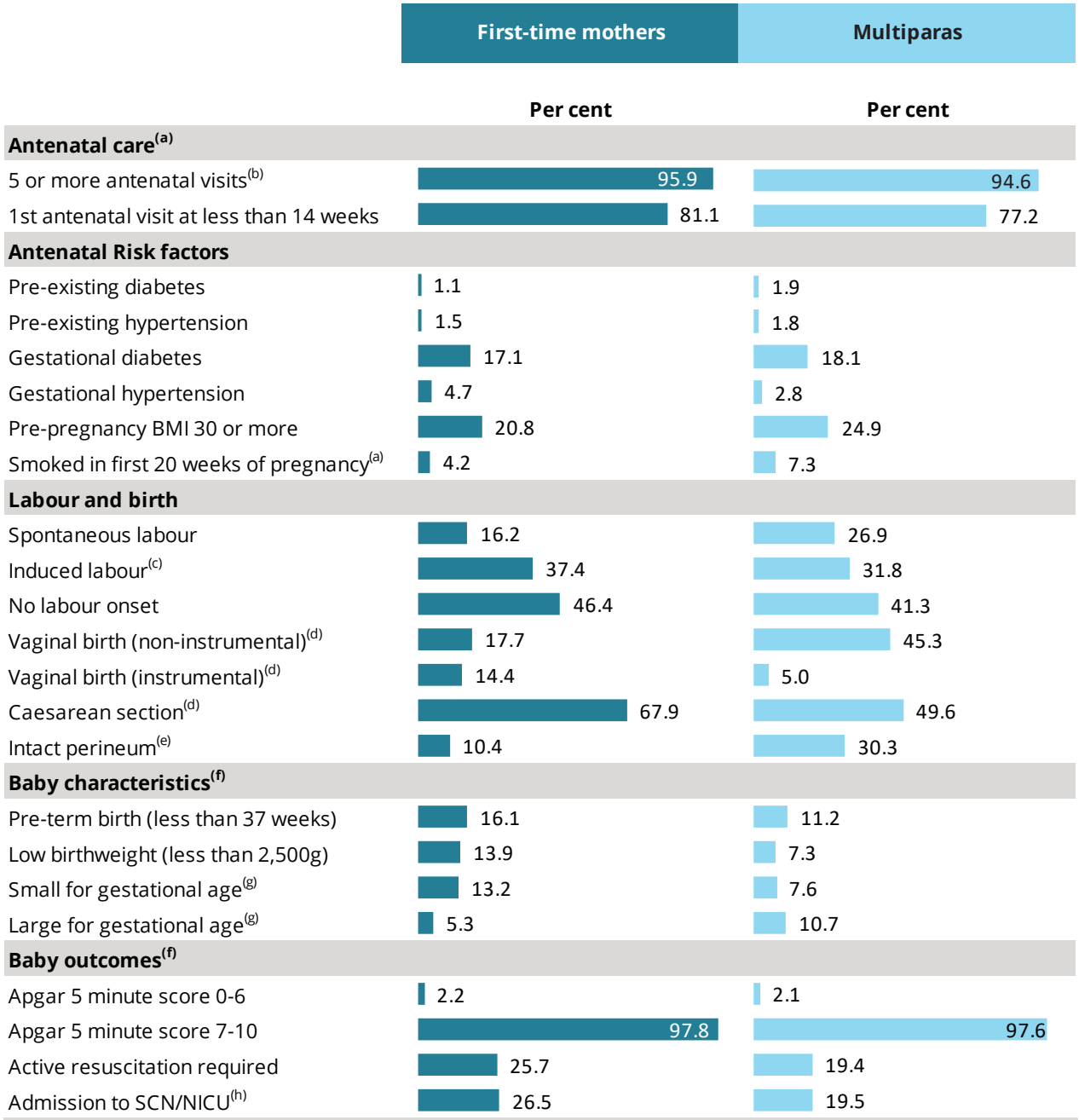
More than a quarter (27%) of liveborn babies born to Indigenous mothers aged 40 and over required active resuscitation. This is compared with 25% of babies born to Indigenous mothers 35–39 years and 20% of babies born to younger Indigenous mothers.

First-time older mothers

As the average age of all women giving birth has been increasing in recent years, so has the average age of women giving birth for the first-time. In 2019, the average age of first-time mothers was 29.4 years, an increase from 27.9 in 2009 (AIHW 2021). There were 17,571 mothers aged 35–39 (29%), and 3,824 mothers aged 40 and over (28%) who gave birth for the first-time in 2019.

The first birth for a mother at any age has also been reported as being associated with some increased risk (compared to women who have given birth previously). These risks include higher rates of low birthweight and small for gestational age, and increased risk of perineal tears (Shah 2010; Wilson & Homer 2020). Figure 15 provides a summary of key statistics for first-time mothers aged 40 and over compared with multiparous mothers the same age.

Figure 15: Selected risk factors and outcomes for first-time and multiparous mothers who gave birth age 40 and over, and their babies, 2019



Source: AIHW analysis of the National Perinatal Data Collection.

Note:

a) Percentages are calculated after excluding records with 'Not stated' values. Percentages should be interpreted with caution.

b) Number of antenatal visits are based on women who gave birth at 32 weeks or more gestation.

c) May include cases where induction of labour was attempted but labour did not result.

d) For multiple births, method of birth of the first-born baby was used.

e) For women who gave birth vaginally. For multiple births, the perineal status after the first-born baby was used.

f) Includes liveborn babies only, with the exception of pre-term birth where all babies are included.

g) Includes liveborn singletons only. Excludes those with 'Not stated' values for gestational age, birthweight or sex.

h) Babies transferred between hospitals and subsequently admitted to an SCN or NICU may not be included as 'admitted' in these data. Data exclude Western Australia and New South Wales.

Parity refers to the number of previous pregnancies resulting in live births or stillbirths, excluding the current pregnancy.

In this report a first-time mother is a woman who has not given birth previously. Multiparas, or multiparous women, are pregnant women who have had at least one previous pregnancy resulting in a live birth or stillbirth.

Earlier antenatal care

Across all age groups, first-time mothers were more likely to have their first antenatal visit in the first trimester compared with multiparas. For women aged 40 and over, 81% of first-time mothers had an antenatal visit in the first trimester compared with 77% of multiparous mothers.

Among mothers aged 35–39, 79% of first-time mothers had their first antenatal visit in the first trimester compared with 78% of multiparas the same age.

Less likely to be overweight or smoke

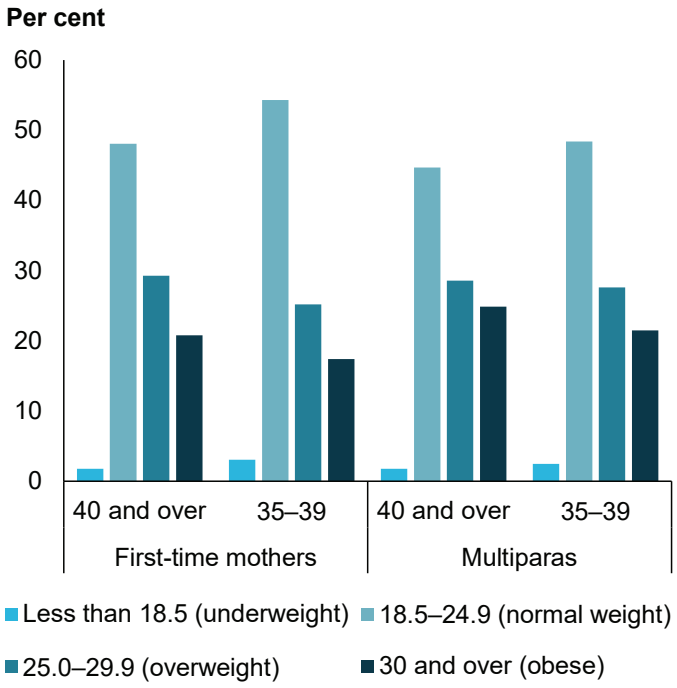
First-time mothers in the older age groups were more likely to have a pre-pregnancy BMI in the normal weight range (18.5-24.9) than mothers who had given birth before (Figure 16).

Among first-time mothers aged 40 and over:

- almost half (48%) had a BMI between 18.5 and 24.9 (compared to 45% of multiparas)
- 21% had a BMI of 30 or higher (obese) (compared to 25% of multiparas).

First-time mothers were also less likely to smoke during their pregnancy compared with mothers who had previously given birth. First-time mothers aged 40 and over were around half as likely to report having smoked after 20 weeks of pregnancy compared with multiparous mothers (2.8% compared with 6.2%).

Figure 16: Pre-pregnancy Body Mass Index of older mothers by parity and maternal age, 2019



Source: AIHW analysis of the National Perinatal Data Collection.

Note: Percentage calculated after excluding records with 'Not stated' values. Percentages should be interpreted with caution.

Similar rates of diabetes, higher rates of hypertension

Among mothers aged 35–39, there was little difference in the rates of pre-existing diabetes and hypertension, or gestational diabetes between first-time mothers and multiparous mothers. First-time mothers 40 and over were a little less likely than multiparas the same age to have pre-existing diabetes (1.1% compared with 1.9%), pre-existing hypertension (1.5% compared with 1.8%) or gestational diabetes (17% and 18%).

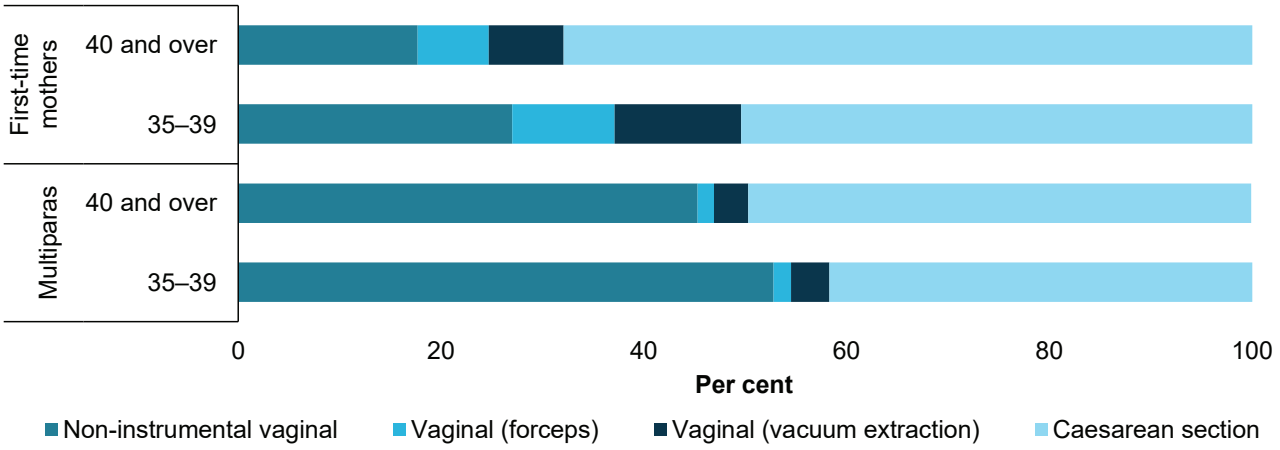
Rates of gestational hypertension were higher in first-time older mothers. In 2019, 4.7% of first-time mothers aged 40 and over and 3.2% of first-time mothers aged 35–39 had gestational hypertension, compared with 2.8% and 2.1% of multiparous mothers the same age.

More intervention during labour and birth

Intervention during labour and birth were more common for older first-time mothers compared with those who had given birth previously. Mothers aged 40 and over were less likely than multiparous mothers of the same age to have a spontaneous labour onset (16% compared with 27% respectively). Nearly half (46%) had no labour onset (compared with 41% of multiparas).

Over two thirds (68%) of first-time mothers aged 40 and over gave birth by caesarean section, compared with half (50%) of multiparous mothers the same age (Figure 17). The trend was similar for mothers aged 35–39, where half (50%) of first-time mothers had a caesarean section compared with 42% of multiparas.

Figure 17: Method of birth for older mothers, by parity and maternal age, 2019



Source: AIHW analysis of the National Perinatal Data Collection.

Note: for multiple births method of birth for the first-born baby was used.

First-time mothers who gave birth vaginally were more likely to have an episiotomy (around 49% for both mothers aged 35–39 and 40 and over) and/or a perineal laceration than multiparas. As a result, first-time older mothers were less likely to have an intact perineum (8.1% for mothers aged 35–39, 10% of mothers 40 and over). This is compared to 28% and 30% respectively in older multiparas.

More time in hospital and more likely to give birth in a private hospital

Private hospital use is higher among first-time mothers. More than 40% of first-time mothers aged 40 and over gave birth in a private hospital, compared with 32% of multiparas the same age.

They also stayed in hospital longer following the birth. In 2019, 62% of first-time mothers aged 40 and over who gave birth in hospital and were discharged home had a hospital stay of 4 or more days after birth. This is compared with 38% of women the same age who had given birth previously. This trend was similar among mothers aged 35–39.

Fewer term births and smaller babies

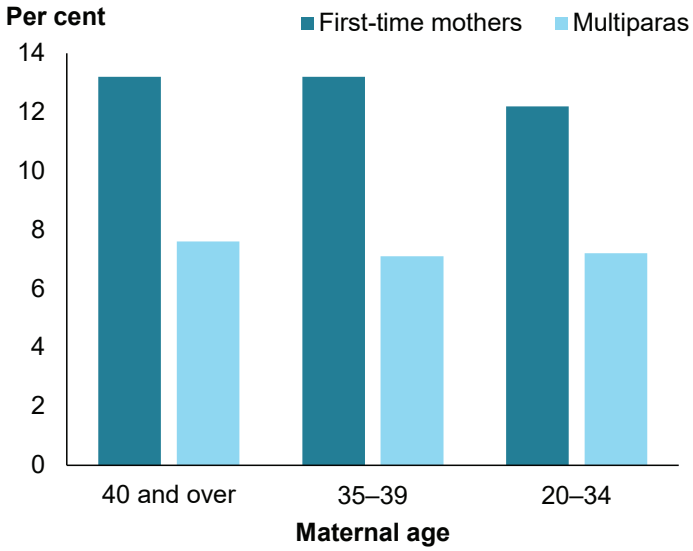
The vast majority of babies born to both first-time mothers and multiparous women are liveborn (around 99%).

Babies of first-time older mothers were less likely to be born at term (37–41 weeks gestation) and were more likely to be small for gestational age (Figure 18) compared with babies born to older mothers who had previously given birth.

In relation to babies of first-time mothers aged 40 or more:

- 16% were born pre-term (compared with 11% of babies born to multiparous mothers)
- 13% of liveborn singleton babies were small for gestational age (compared with 7.6% born to multiparas), and
- 5.3% of liveborn singleton babies were large for gestational age (compared with 11% born to multiparas).

Figure 18: Proportion of liveborn babies small for gestational age by maternal age and parity, 2019



Source: AIHW analysis of the National Perinatal Data Collection.

Note: Includes singleton liveborn babies only. Excludes babies with 'not stated' values for gestational age, birthweight or not stated or indeterminate sex.

First-time older mothers were more likely to have a multiple birth, particularly those 40 and over. First-time mothers in this age group were more than twice as likely to have a multiple birth compared with multiparous women the same age (4.3% compared with 1.9%). This could be related to increased use of assisted reproductive technologies, such as IVF (in vitro fertilisation), among this group.

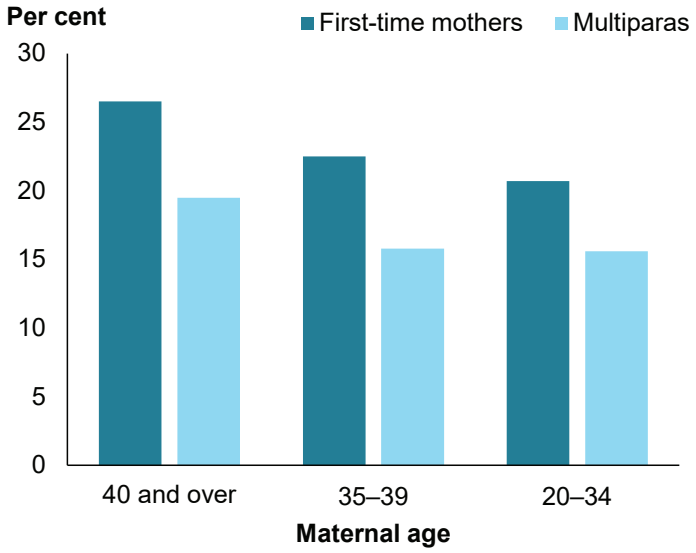
Babies of first-time older mothers were more likely to require special care

The majority of babies born to older first-time mothers were healthy, had high Apgar scores 5 minutes after birth (around 98% score 7–10), did not require resuscitation or admission to special care nursery, and were discharged home within a week of birth.

However, there was some increase in rates of resuscitation, admission to an SCN/NICU and longer hospital stays for babies of first-time older mothers compared those who have given birth previously.

One in 4 liveborn babies born to older first-time mothers required active resuscitation (26% for mothers aged 40 and over and 24% for mothers aged 35–39).

Figure 19: Proportion of babies admitted to an SCN/NICU, by maternal age and parity, 2019



Source: AIHW analysis of the National Perinatal Data Collection.

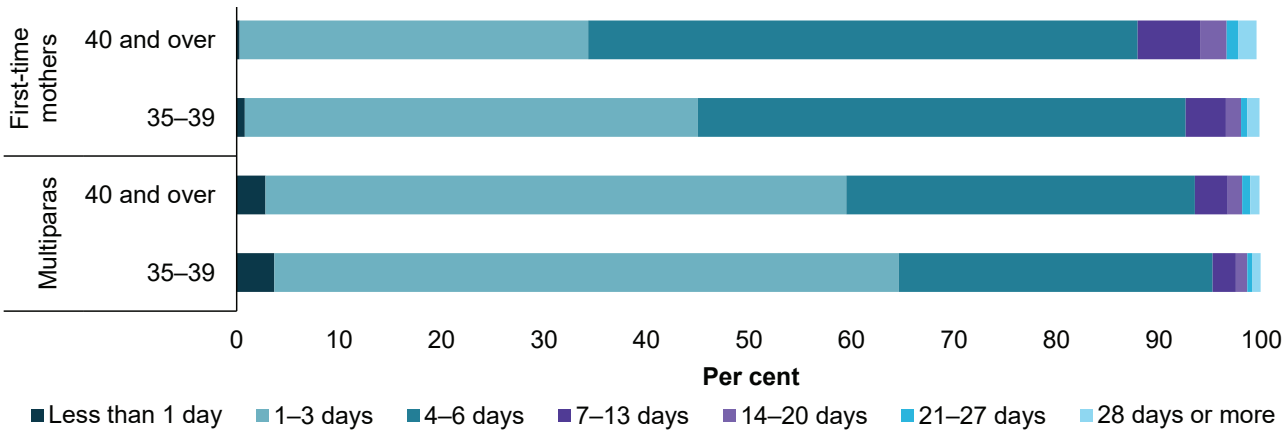
Notes:

1. Includes liveborn babies only.
2. Babies transferred between hospitals and subsequently admitted to an SCN or NICU may not be included as 'admitted' in these data. Data excludes New South Wales and Western Australia.

Additionally, around 1 in 4 (27%) of liveborn babies born to first-time mothers 40 and over were admitted to an SCN or NICU (Figure 19). Of first-time mothers 35–39, 23% of babies were admitted to an SCN/NICU. Data does not include New South Wales or Western Australia.

Babies born in hospital, and discharged home after birth had a median hospital stay of 4 days (both for babies for first-time mothers aged 35–39 and 40 and over). Around 12% of babies born to first-time mothers aged 40 and over stayed in hospital for a week or longer before going home (Figure 20). These figures do not include babies transferred to other facilities before going home or data from Western Australia.

Figure 20: Length of stay in hospital for liveborn babies discharged home, by maternal age and parity, 2019



Source: AIHW analysis of the National Perinatal Data Collection.
Note: Data are for liveborn babies born in hospital (excludes birth centres attached to hospitals) and discharged home. Data excludes Western Australia.

Conclusion

As with most mothers giving birth in Australia, outcomes for older mothers and their babies are generally good. However, older mothers, particularly first-time mothers aged 40 and over, are more likely to experience complications during pregnancy and birth when compared with younger mothers.

More information

This report is accompanied by supplementary tables available at: *https://www.aihw.gov.au/reports/mothers-babies/older-mothers-in-australia-2019/data*

For more information on mothers and babies, please see Australia's mothers and babies 2019 at: *https://www.aihw.gov.au/reports/mothers-babies/australias-mothers-babies/contents/summary*

Notes

09/11/2021 – An update to the report and data tables was performed to replace data for smoking status during the first 20 weeks of pregnancy and smoking status after the first 20 weeks of pregnancy.

About the data

National Perinatal Data Collection

The majority of the data in this report are drawn from the National Perinatal Data Collection (NPDC). The NPDC is a national population-based cross-sectional collection of data on pregnancy and childbirth. The data are based on births reported to the perinatal data collection in each state and territory in Australia. More information on the NPDC available at: *https://www.aihw.gov.au/reports/mothers-babies/australias-mothers-babies/contents/technical-notes/data-sources*

Detailed information on completeness, accuracy and other aspects of data quality for the National Perinatal Data Collection (NPDC) is in the data quality statement at: *https://meteor.aihw.gov.au/content/index.phtml/itemId/745304*

Methods

For more information on the methods see: *https://www.aihw.gov.au/reports/mothers-babies/australias-mothers-babies/contents/technical-notes/methods*

Glossary

For a full list of definitions of terms used in this report please see: aihw.gov.au/reports-data/population-groups/mothers-babies/glossary

maternal age: mother's age in completed years at the birth of the baby.

mother: a woman who has given birth during 2019.

multipara or multiparous: a pregnant woman who has had at least one previous pregnancy resulting in a livebirth or stillbirth.

parity: number of previous pregnancies resulting in livebirths or stillbirths, excluding the current pregnancy.

Acknowledgments

This report was written by Alana Cameron and Alison Childs of the Australian Institute of Health and Welfare. The authors gratefully acknowledge the contributions of the following AIHW staff: Bernice Cropper, Louise Gates, Fadwa Al-Yaman, Michael Humphrey, Jeremy Oats, Jacqueline Rek, Kathryn Sedgewick, Denae Cotter, Louise Catanzariti, Maddy Elkington, Rebecca Dickson and Michelle Welch.

State and territory health departments are thanked for their contribution to the NPDC and their review of this report. The AIHW acknowledges the funding provided by the Department of Health as part of the National Maternity Data Development Project (NMDDP), and the input provided by the NMDDP advisory group.

References

ABS (Australian Bureau of Statistics) 2018. Census of Population and Housing: Socio-Economic Indexes for Areas (SEIFA), Australia, 2016. Cat No. 2033.0.55.001. Canberra: ABS. Viewed 30 April 2021. https://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/2033.0.55.001~2016~Main%20Features~IRSD~19

AIHW (Australian Institute of Health and Welfare) 2018. Teenage mothers in Australia 2015. Cat. No. PER 93. Canberra: AIHW. *https://www.aihw.gov.au/reports/mothers-babies/teenage-mothers-in-australia-2015/contents/table-of-contents*

AIHW (Australian Institute of Health and Welfare) 2019. The health of Australia's females. Cat. No. PHE 240. Canberra: AIHW. https://www.aihw.gov.au/reports/men-women/female-health

AIHW (Australian Institute of Health and Welfare) 2020a. Stillbirths and Neonatal Deaths in Australia. Cat. No. PER 107. Canberra: AIHW, https://www.aihw.gov.au/reports/mothers-babies/stillbirths-and-neonatal-deaths-in-australia/contents/overview-of-perinatal-deaths

AIHW (Australian Institute of Health and Welfare). 2020b. National Core Maternity Indicators. Cat. No. PER 95. Canberra: AIHW. https://www.aihw.gov.au/reports/mothers-babies/ncmi-data-visualisations/contents/summary

AIHW (Australian Institute of Health and Welfare). 2020c. Maternal deaths in Australia. Cat. No. PER 99. Canberra: AIHW. https://www.aihw.gov.au/reports/mothers-babies/maternal-deaths-in-australia/contents/maternal-deaths-in-australia

AIHW (Australian Institute of Health and Welfare) 2021. Australia's mothers and babies 2019. Cat. No. PER 101. Canberra: AIHW. https://www.aihw.gov.au/reports/mothers-babies/australias-mothers-babies/contents/summary

ANZCOR (Australian and New Zealand Committee on Resuscitation) 2021. Guideline 13.2 – Planning for Neonatal Resuscitation and Identification of the Newborn at Risk. Section 13 – Neonatal Guidelines. Viewed 23 June 2021. https://resus.org.au/guidelines/

Berazategui JP, Aguilar A, Escobedo M, Dannaway D, Guinsberg R, de Almeida MFB, Saker F, Fernández A, Albornoz G, Valera M, Amado D, Puig G, Althabe F, Szyld E, for the ANR study group 2017. Risk factors for advanced resuscitation in term and near-term infants: a case-control study. Archives of disease in childhood. Fetal and neonatal edition. 102(1):F44-F50 https://doi.org/10.1136/archdischild-2015-309525

Carslake D, Tynelius P, van den Berg G, Smith GD & Rasmussen F 2017. Associations of parental age with health and social factors in adult offspring. Methodological pitfalls and possibilities. Scientific Reports 7:45278. https://doi.org/10.1038/srep45278

DoH (Australian Government Department of Health) 2021. Clinical Practice Guidelines: Pregnancy Care. 2020 Edition. Canberra: DoH. https://www.health.gov.au/resources/publications/pregnancy-care-guidelines

Goisis A, Schneider DC & Myrskylä M 2017. The reversing association between advanced maternal age and child cognitive ability: evidence from three UK birth cohorts. International Journal of Epidemiology 46(3):850-859. https://doi.org/10.1093/ije/dyw354

Howell A & Blott M 2021. Very advanced maternal age. The Obstetrician & Gynaecologist 23:38–47. https://doi.org/10.1111/tog.12710

Jolly M, Sebire N, Harris J, Robinson S & Regan L 2000. The risk associated with pregnancy in women aged 35 years or older. Human Reproduction 15(11):p2433-2437. https://doi.org/10.1093/humrep/15.11.2433

Kenny LC, Lavender T, McNamee R, O'Neill SM, Mills T & Khashan AS 2013. Advanced Maternal Age and Adverse Pregnancy Outcome: Evidence from a Large Contemporary Cohort. Plos one. https://doi.org/10.1371/journal.pone.0056583

Madar J, Roehr CC, Ainsworth S, Ersdal H, Morley C, Rüdiger M, Skåre C, Szczapa T, te Pas A, Trevisanuto D, Urlesberger B, Wilkinson D & Wyllie JP 2021. European Resuscitation Council Guidelines 2021: Newborn resuscitation and support of transition of infants at birth. Resuscitation 161:291-326 https://doi.org/10.1016/j.resuscitation.2021.02.014

McMahon CA, Boivin J, Gibson FL, Hammarberg K. Wynter K. Saunders D & Fisher J 2011. Age at first birth, mode of conception and psychological wellbeing in pregnancy: findings from the parental age and transition to parenthood Australia (PAPTA) study. Human Reproduction 26(6):1389-1398. https://doi.org/10.1093/humrep/der076

Mills TA & Lavender T 2011. Advanced maternal age. Obstetrics, Gynaecology & Reproductive Medicine 21(4):107-111 https://doi.org/10.1016/j.ogrm.2010.12.003

Myrskylä M, Barclay K, & Goisis A 2017. Advantages of later motherhood. Der Gynäkologe 50:767–772. https://doi.org/10.1007/s00129-017-4124-1

OECD (Organisation for Economic Co-operation and Development) 2019. SF2.3: Age of mothers at childbirth and age-specific fertility. Paris: OECD. http://www.oecd.org/els/soc/SF_2_3_Age_mothers_childbirth.pdf

PHAC (Public Health Agency of Canada) 2019. Perinatal Health Indicators for Canada 2017. Cat. HP7-1E-PDF. Ottawa: PHAC. http://publications.gc.ca/collections/collection_2020/aspc-phac/HP7-1-2017-1-eng.pdf

RANZCOG (Royal Australian and New Zealand College of Obstetricians and Gynaecologists) 2013. Management of Obesity in Pregnancy. RANZCOG College statement C-Obs 49. RANZCOG. Viewed 30 April 2021. https://ranzcog.edu.au/statements-guidelines/obstetrics/obesity-in-pregnancy,-management-of-(c-obs-49)

RCOG (Royal College of Obstetricians and Gynaecologists) 2013. Induction of Labour at Term in Older Mothers. Scientific Impact Paper No. 34. London: RCOG. Viewed 30 April 2021. https://www.rcog.org.uk/en/guidelines-research-services/guidelines/sip34/

Royal Hospital for Women 2016. Advanced maternal age (AMA) and outcomes. Local operating procedure clinical policies, procedures & guidelines. Sydney: Royal Hospital for Women. Viewed 30 April 2021. https://seslhd.health.nsw.gov.au/sites/default/files/documents/advancedmatage.pdf

Shah PS; Knowledge Synthesis Group on Determinants of LBW/PT births 2010. Parity and low birth weight and preterm birth: a systematic review and meta-analyses. Acta Obstetricia et Gynecologica Scandinavica. 89(7): p862-875. https://doi.org/10.3109/00016349.2010.486827

Sutcliffe A, Barnes J, Belsky J, Gardiner J & Melhuish E 2012. The health and development of children born to older mothers in the United Kingdom: observational study using longitudinal cohort data. BMJ 345:e5116. doi:10.1136/bmj.e5116

Tearne JE, Robinson M, Jacoby P, Li J, Newnham J & Mclean N 2014. Does late childbearing increase the risk for behavioural problems in children? A longitudinal cohort study. Paediatric and Perinatal Epidemiology 29(1):41-49. https://doi.org/10.1111/ppe.12165

WHO (World Health Organization) 2016. WHO recommendations on antenatal care for a positive pregnancy experience. WHO. Viewed 20 November 2020 https://www.who.int/publications/i/item/9789241549912

Wilson AN & Homer CSE 2020. Third- and fourth-degree tears: A review of the current evidence for prevention and management. Australian and New Zealand Journal of Obstetrics and Gynaecology 60(2):1p175-182. https://doi.org/10.1111/ajo.13127

Suggested citation

Australian Institute of Health and Welfare 2021: Older Mothers in Australia 2019. Cat. no. PER 117. Canberra: AIHW.

ISBN 978-1-76054-877-3 (Online)
ISBN 978-1-76054-878-0 (Print)

AIHW

Stronger evidence,
better decisions,
improved health and welfare