





Impact of unintended pregnancy

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Impact of unintended pregnancy

197,234 unintended pregnancies in 2020

Defined as either a pregnancy that occurs when no children/no more children are desired (**unwanted pregnancy**) or a pregnancy that occurs earlier than desired (**mistimed pregnancy**)

40%
of all pregnancies
are unintended

Women living in rural settings are
1.4 times
more likely to experience an
unintended pregnancy

6,412 Indigenous women experience
an unintended pregnancy

22,604 Rural women experience
an unintended pregnancy



15%

30,217

Miscarriages



1%

1,956

Stillbirths



31%

60,434

Abortions



53%

104,629

Live births

Direct costs
\$2.2 BLN (41%)

\$7.2 BLN

Indirect costs
\$5.0 BLN (59%)

Costs of unintended pregnancies in 2020

\$36,384

Average cost
per unintended
pregnancy



37%
Government
cost



3%
Employer
cost



56%
Women
cost



5%
Carer
cost

Executive summary

Pregnancy and childbirth are a fundamental component of a healthy society. Planned pregnancies are associated with maternal and child health due to, amongst other elements, better pre-pregnancy care (1). Conversely unintended pregnancies significantly increase the risk of health issues for the mother and the baby (2, 3).

An unintended pregnancy can be categorised as either:

- **Unwanted** – a pregnancy which occurs when no children or no more children are desired.
- **Mistimed** – a pregnancy which occurs earlier than desired.

Epidemiological data confirm unintended pregnancies are a common occurrence in Australia, impacting 40 per 1,000 women in 2020 (40% of all pregnancies) (4). Rates are disproportionately high among women living in rural areas, who are 1.4 times more likely to experience an unintended pregnancy, primarily due to geographic isolation and lack of access to contraception and abortion services (5).

Of women who experience unintended pregnancy:

- **52% raise their child**
- **31% terminate their pregnancy**
- **16% experience a miscarriage or stillbirth.**
- **1% give their child up for adoption or alternative out-of-home care options**

All these outcomes result in considerable economic impacts, both on the women experiencing unintended pregnancy and on society as a whole. In Australia, the total cost of unintended pregnancy was estimated to be \$7.2 billion in 2020. This included considerable direct and indirect costs borne by the women experiencing unintended pregnancy (56% of total cost), the Government (37% of total cost), employers (3% of total costs) and out-of-home carers (5% of total cost).

Direct costs

Directs impacts were defined in this analysis as healthcare costs incurred due to miscarriages, stillbirths, abortions, and live births up to 12 months post-pregnancy – for example MBS and PBS rebates. In Australia, the total direct costs were estimated to be \$2.2 Billion in 2020, 91% of which was paid by the Government and 9% of which was paid by women experiencing unintended pregnancy. These direct costs included:

- **Miscarriage = \$15 million**
- **Stillbirth = \$21 million**
- **Abortion = \$72 million**
- **Live birth = \$2.0 billion**





Indirect costs

Indirect impacts of unintended pregnancy were defined in this analysis as non-healthcare costs incurred due to miscarriages, stillbirths, abortions, parenting, and out-of-home care up to 12 months post-pregnancy – for example lost wages and government parenting support payments. In Australia, the total indirect costs were estimated to be \$5.0 billion in 2020, most of which was paid for by the women experiencing unintended pregnancy (76%). Costs were also borne by the government (13%), out-of-home carers (7%) and employers (4%). These costs included:

- **Miscarriage = \$6 million**
- **Abortion = \$13 million**
- **Stillbirth = \$23 million**
- **Parenting = \$4.6 billion**
- **Out-of-home care = \$404 million**

Further details on the calculation of these direct and indirect costs and their references are outlined in the supplementary appendix.

Broader impacts

Along with the direct and indirect impacts captured in this analysis, unintended pregnancy may also result in an array of downstream societal impacts. Pregnancy intent can influence parenting attitudes and behaviours, which is an important determinant for maternal and child health outcomes, including pregnancy complications and neonatal mortality (6-9). Additionally, an unintended pregnancy is a risk factor for poor mental health, marital conflict, and long-term economic hardships (2, 3). Pregnancy intent can also have long term social and emotional impacts on children, including cognitive delay, behavioural problems, and substance abuse (6).

Continuing with the pregnancy and choosing to parent is the option chosen by around half of women experiencing unplanned pregnancy. Although having a child can have an immensely positive impact on a person's life, this role comes with significant long term financial, social, and physical consequences (10). The ability for women to choose how many children they want, and when they want to have them – if at all – is a human right. It is also central to women's empowerment, reducing poverty and achieving sustainable development (11).

The results from this analysis demonstrate that unintended pregnancies are associated with extensive financial and social impacts on women, employers, out-of-home carers, and the Government. This highlights the need to address reproductive healthcare in Australia, to empower women to make the best health choices for their circumstances.



What next

Unintended pregnancies have a clear impact on women, the Australian healthcare system, and society as a whole.

As reflected in the consensus statement published by the Australian Healthcare and Hospitals Association (AHHA) (12), there are three key approaches to reduce this impact:

- **Women need to be supported to make an informed choice about contraception**
- **The health system needs to enable women to exercise their choice equitably**
- **Data and research should be freely available to inform contraceptive policy and practice**

These key recommendations are in line with the National Women's Health Strategy 2020-2030 (the strategy) which identified maternal, sexual, and reproductive health as a key priority area to drive change and improve health outcomes.

Three key actions have been identified by the strategy to improve maternal, sexual, and reproductive health for Australian women and girls:

- **Increase access to sexual and reproductive health care information, diagnosis, treatment, and services**
- **Increase health promotion activity to enhance and support preconception and perinatal health**
- **Support enhanced access to maternal and perinatal health care services**

This highlights the need for women and girls to be informed of, and have access to safe, effective, affordable, and acceptable forms of fertility regulation, health services and support.



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Glossary

ACT	Australian Capital Territory
AIHW	Australian Institute of Health and Welfare
D&C	Dilation and curettage
HPV	Human papillomavirus
IUD	Intrauterine devices
LARC	Long-acting reversible contraception
MBS	Medicare Benefits Schedule
NMDS	National minimum data set
NSW	New South Wales
NT	Northern Territory
PBS	Pharmaceutical Benefits Scheme
QLD	Queensland
SA	South Australia
SDGs	Sustainable Development Goals
TAS	Tasmania
TGA	Therapeutic Goods Administration
VIC	Victoria
WA	Western Australia
WHO	World Health Organisation

Background

Pregnancy and childbirth are fundamental components of a healthy society. Planned pregnancy can improve maternal and child health due to, amongst other elements, better pre-pregnancy care (1). Conversely unintended pregnancy is associated with increased risk of health issues for the mother and the baby (2, 3). An unintended pregnancy is either a pregnancy that occurs when no children or no more children are desired, which is defined as unwanted, or a pregnancy that occurs earlier than desired, which is defined as mistimed.



Worldwide, unintended pregnancies impact approximately 121 million women each year (4). A 2019 study reported that globally, more than 1 billion women have a need for family planning, but for 270 million of them modern methods of family planning remain an unmet need

(13). An unintended pregnancy can impact any woman anywhere, regardless of her social or economic background. However, rates are disproportionately higher among those who have experienced sexual coercion, are socioeconomically disadvantaged, are from Indigenous backgrounds and/or are living in a rural area (5, 14, 15).

Despite marked advances in the availability of contraceptive options, unintended pregnancies remain an event experienced by a significant proportion of women in Australia.

Family planning organisations have significant impacts on both maternal and infant health through their provision of clinical services and health promotion initiatives (16). In order to attain an optimum level of health during pregnancy and the best possible





maternal and neonatal health outcomes, effective interventions need to be delivered not only throughout the pregnancy, but also during the preconception period (17). Whilst unintended pregnancies do not necessarily equate to pregnancies that are unwanted, they can lead to a wide range of health risks including perinatal depression, stress, and lower levels of psychological well-being and life satisfaction (18-23). Unintended pregnancies can further lead to cycles of high fertility, as well as lower educational and employment potential and poverty – challenges which can span generations.

The negative consequences of an unintended pregnancy can be prevented by facilitating a system that allows women to make their own reproductive choices.

The Sustainable Development Goals (SDGs) (24) and the Global Strategy for Women's, Children's and Adolescent's Health (2016–30) (25) both include commitments to increase access to contraception and education. However, more work is needed to improve information sharing, public health policies, and increased access to healthcare services, in relation to unintended pregnancy.

What is unintended pregnancy?

An unintended pregnancy is either a pregnancy that occurs when no children or no more children are desired, which is defined as unwanted, or a pregnancy that occurs earlier than desired, which is defined as mistimed.

This report aims to provide a better understanding of the extent of unintended pregnancies in Australia, and their impact in terms of direct and indirect costs.

Its findings highlight the need to address reproductive healthcare in Australia, to empower women to make the right health choices for their circumstances.

Who experiences unintended pregnancies?

Unintended pregnancies are a common occurrence in Australia, impacting individuals from a range of sociodemographic backgrounds. The term 'women' is used in this report to encompass all individuals who experience unintended pregnancies, including those who identify as non-binary or transgender.



Single people



Older people



Students



Mothers



Low income



Non-binary



Partnered people



High income

Outcomes of unintended pregnancy

Unintended pregnancies can result from non-use or inadequate use of contraceptive services, contraceptive failure and, less commonly, rape.

Everyone has a right to control their reproductive health choices and different family planning organisations in Australia support women in making the right choice for them and for their pregnancy. However, for some people reproductive coercion interferes with the autonomy of a person to make decisions about their reproductive health. This can occur on an interpersonal level within intimate partnerships or within families, or it can also occur on a structural level where social, political, economic, or cultural aspects can prevent people from making decisions about their reproductive health.

Ultimately, due to a range of personal circumstances, an unintended pregnancy will result in:

- 1. Continuing with the pregnancy and raise the child**
 - 2. Continuing with the pregnancy and give the child up for adoption or alternative out-of-home care**
 - 3. Terminating the pregnancy**
- Sometimes though, as for intended pregnancies, health complications occur, and the pregnancy terminates due to a:
- 4. Miscarriage or stillbirth**



1

Parenting

Choosing whether or not to raise a child is a life-altering decision whether the pregnancy is planned or not.

Raising a child can bring significant benefits to parents and society, however a new child also brings significant consequences in terms of relationship, income, and lifestyle (26). These changes may have significant impacts on the mental wellbeing of a woman when the pregnancy was unintended (23, 27-29).

The decision to proceed with an unintended pregnancy can also be particularly challenging if the two parents do not agree on the choice to proceed, if the relationship is new or not stable, or if no formal relationship exists (30, 31). Women who decide to proceed with an unintended pregnancy are often in need of greater support from family and friends (32).

**2**

Out-of-home care

Some women decide to proceed with the pregnancy, but do not feel parenting is the best option for them and their child. In these cases, adoption or alternative out-of-home care arrangements are the preferred choice (33, 34).

Adoption is when the birth parents or parent give all of their legal parenting rights and responsibilities to the adoptive parents (34-36). This involves signing a legal agreement for someone else to become the legal guardian of a child. In Australia, parents must wait at least 30 days after the child is born before they can sign the legal agreement (34, 36). The birth parents can keep in contact with the child by agreeing on an adoption plan with the adopting parents.

An alternative option to adoption is foster care. Foster care is when the child is looked after by another family. Foster care can be temporary, if the woman wants someone to take care of her child whilst she sorts out accommodation, financial or personal problems, or long term, when the woman gives up legal guardianship and/or custody of the child, despite remaining the legal parent (34).

An out-of-home care alternative unique to Australia is represented by kinship care. Kinship care refers to the placement of children with relatives (kin), with persons without a blood relation but who have a relationship with the child or family, or with persons from the child's or family's community (kith) (37, 38). Kinship care is the fastest growing care type in Australia (37, 38). In particular, kinship care has formally been recognised as the preferred placement option for Aboriginal and Torres Strait Islander children through the Aboriginal Child Placement Principle (38).

**3**

Abortion

There are many reasons why a woman might choose to have an abortion. Deciding to have an abortion is a deeply personal choice and a very difficult decision to make. Research has shown that having an abortion does not increase a woman's risk for depression, anxiety, or post-traumatic stress disorder (39). In contrast, women who are denied an abortion experience higher levels of anxiety, lower life satisfaction and lower self-esteem (40). Access to safe and legal abortion is therefore central to attaining social equality for women. Laws restricting access to safe and legal abortion are particularly harmful to low-income women, women of colour, and

sexual and gender minorities, as well as those who live in rural or medically underserved areas (41).

Abortion is legal in most states and territories in Australia, under certain circumstances and when it is done by a registered medical professional (42). Although South Australia has passed a bill to decriminalise abortion, the last Australian jurisdiction to do so, it is yet to be enacted amid ongoing tensions over proposed rules requiring doctors to hand patients' personal and medical information to the government.

Abortions can be performed by either a medical or surgical procedure (42). Both are available in all states in Australia, but the provider and level of access varies, as well as the level of out-of-pocket expenses for the women (43). In Australia the private market is dominated by Marie Stopes – which is the largest provider of abortions (44).

A **medical abortion** represents a low-risk alternative to surgery, and it involves taking two pills, mifepristone (RU486) and misoprostol, over a two-day period. Across every state and territory, a medical abortion can be administered only up to nine weeks gestation (45). In Australia, mifepristone along with misoprostol was approved by the Therapeutic Goods Administration (TGA) for commercial import in Australia in 2012, and listed as Government subsidised medicine in 2013 (46). In Queensland (QLD), New South Wales (NSW), Victoria (VIC), Western Australia (WA), the Northern Territory (NT) and Tasmania (TAS), medical abortions can be performed at home or in a clinic but must be prescribed by a licensed doctor (47). In South Australia (SA), the law requires pills for a medical abortion to be

taken in a hospital or approved medical clinics (48), although SA parliament is currently moving to reform abortion laws into line with the rest of Australia.

In the states and territory where abortion medication can be taken outside a licensed medical facility, they have been available via telemedicine services since 2015 (44).



Surgical abortions in the first trimester commonly use vacuum curettage, in which the contents of the uterus are removed using gentle suction, after the cervix has been dilated (widened). After 14 weeks dilation and evacuation (D&E) procedures are preferred, in which the contents of the uterus are removed using instruments rather than gentle suction. Surgical abortions are available in every state and territory up to 16 to 24 weeks, depending on legislation, and can be done only in medical facilities (47). In some states, later term abortions require permission from multiple doctors or a decision-making body (47).



4

Foetal loss

While Australia is one of the safest places in the world to give birth, close to 1% of babies are stillborn or die in the first month of life (49). Miscarriage rates are less clear, due to underreporting and, at



times, lack of knowledge about the pregnancy in the first place, but most statistics indicate that up to 1 in 5 known pregnancy ends in a miscarriage (50). Pregnancy loss is defined differently around the world, but in Australia stillbirths are classified as foetal losses prior to the 20th gestational week, and a stillbirth after 20 weeks (51). A proportion of women with an unintended pregnancy will experience either a miscarriage or a stillbirth.

Some studies find that unintended pregnancies can be associated with increased rates of spontaneous foetal loss, premature delivery, low birth weight, congenital anomalies, and infant mortality (52, 53). This could be associated with late initiation of antenatal care, particularly in the earlier stages of the pregnancy, when the woman may not even be aware of being pregnant.

The experience of stillbirth is complex, and can have devastating psychological, physical, and social impacts, with ongoing effects on interpersonal relationships and subsequently born children (54). Although there is limited research on how pregnancy intent influences the experience of stillbirth, it is likely that for most women the personal, social, and emotional consequences are profound (55).

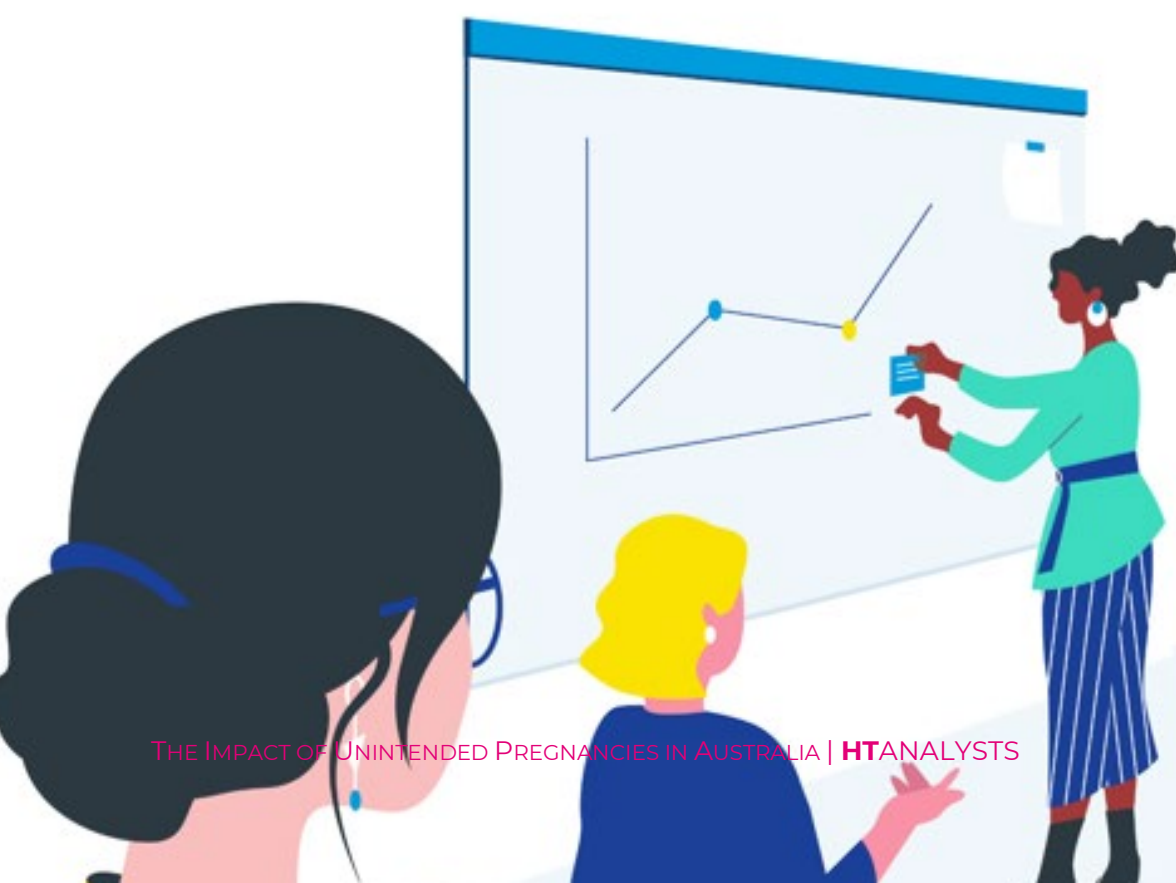
Why is it important to measure the impact of unintended pregnancy?

As outlined by the National Women's Health Strategy 2020-2030, maternal, sexual, and reproductive health is a key priority area to drive change and improve health outcomes. The Public Health Association has also been advocating for a comprehensive sexual and reproductive health strategy and further research into the barriers of effective contraceptive uptake, in particular LARC use, in the Australian context to inform programs for health professional and community education.

Planned parenthood is an important predictor of maternal and infant health and therefore reducing unintended pregnancy is a critical public health goal (56). Careful measurement is essential for understanding the true impact of unwanted and unintended pregnancies on maternal and child health outcomes, and for informing public health programs.

Reducing the number of unintended pregnancies is frequently stated as a priority policy goal for many Governments and organisations focussed on reproductive health but this is only possible if the extent of the problem is adequately mapped and understood.

Data collection helps evaluate the impact of policies, clinical interventions and strategies designed to reduce the rates and consequences of unintended pregnancy (12). Additionally, approaches to improving access can be drawn from key studies such as the contraceptive CHOICE study (2010), the ACCORD study (2016) and the pay-for-performance review (2020) (57-59). Nonetheless, it is important to ensure limited and controlled use (if any) of financial incentives, as these can easily become forms of coercion, particularly for disadvantaged women.



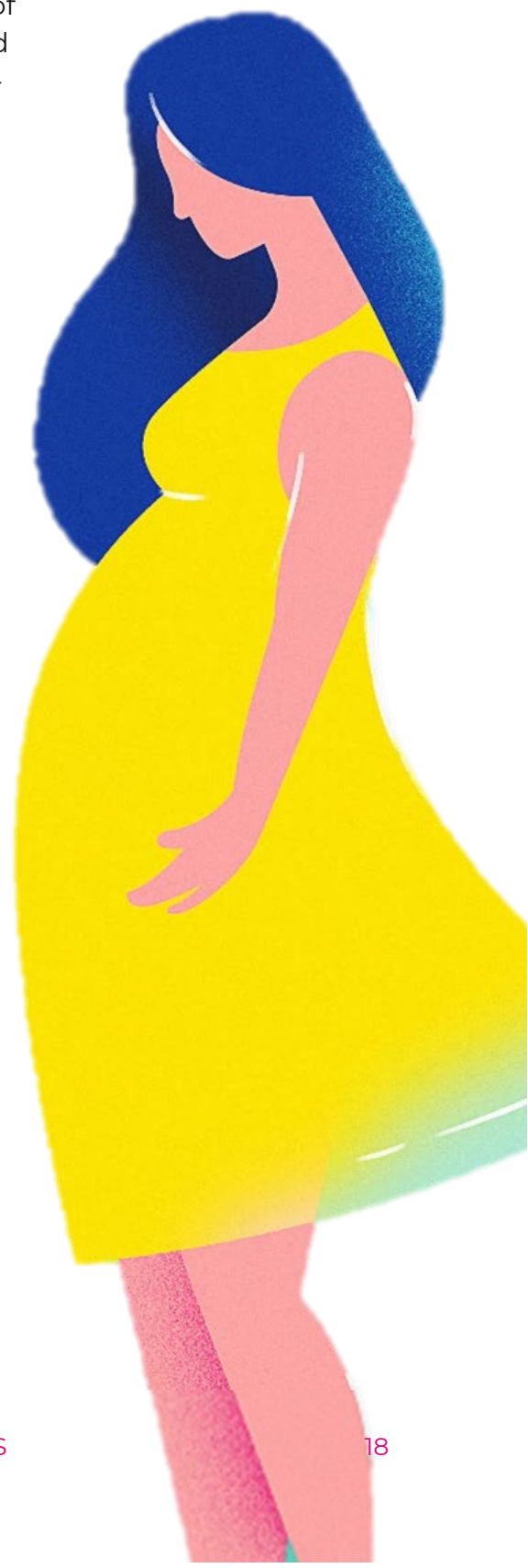
Estimating unintended pregnancies

Almost all women are at risk of experiencing an unintended pregnancy throughout their reproductive years (60). Nonetheless, epidemiological data on this important aspect of reproductive life is scarce. A thorough understanding of the health implications of unintended pregnancies is therefore constrained by our ability to accurately identify them.

The key methods to identify or estimate the incidence of unintended pregnancy in a population are varied and include retrospective measurement approaches, cross-sectional surveys of the population and epidemiological models, all of which are vulnerable to different sources of error. Particularly relevant to the topic of unintended pregnancies are the bias potentially associated with cross-sectional surveys. Despite being able to retrospectively assess past choice at a population level, these studies can underestimate unintended pregnancy due to altered rationalisation of preferences over time. Women may also be reluctant to report unintended pregnancies for social and cultural reasons. In an extensive population study conducted in Australia, 22% of contacted women declined to participate (56). No information is recorded on the reasons to decline, but it is possible this may lead to underreporting.

In addition, surveys conducted via telephone can limit the participation of women with a low socio-economic status, women whose knowledge of the English language is limited and homeless women. This could have a significant impact on the specific topic of unintended pregnancies, as these groups can be more likely to have an unintended pregnancy compared to the general population.

To develop this report, key opinion leaders and experts in the space of reproductive health and choices were involved to inform the selection of the most appropriate data sources and the chosen methodological approach.



Unintended pregnancies in Australia

40%
of all pregnancies
are unintended

6,412 Indigenous women experience an unintended pregnancy

22,604 Rural women experience an unintended pregnancy

Rural unintended pregnancies

Women living in rural settings are 1.4x more likely to experience an unintended pregnancy

Pregnancies which are unintended:

45% Urban setting **vs.** **59%** Rural setting

197,234 unintended pregnancies in 2020

Unintended pregnancies



15%
Miscarriages



1%
Stillbirths



31%
Abortions



53%
Live births

	Miscarriages	Stillbirths	Abortions	Live births
Australia	30,217	1,954	60,434	104,629
NSW	9,603	624	19,206	33,248
VIC	8,261	539	16,521	28,598
QLD	5,900	381	11,801	20,431
SA	1,905	121	3,811	6,600
WA	3,099	195	6,199	10,737
TAS	533	34	1,066	1,846
NT	341	23	681	1,179
ACT	575	37	1,149	1,990

Number of women of reproductive age in Australia

In Australia, 5.2 million women are between the age of 15 and 44 years of age (considered as the reproductive age bracket for the purposes of this report due to availability of data) (61). Of those women, more than 440 thousand live in rural areas (62). This is particularly important when assessing the extent of unintended pregnancies, as women living in rural settings are 1.4 times more likely to experience an unintended pregnancy in comparison to women in non-rural settings (5).

Number of unintended pregnancies

As previously outlined, there is limited evidence on the number of intended and unintended pregnancies in Australia, and estimates are often subject to bias.

To estimate the proportion of unintended pregnancies, two primary sources were considered (Taft (2018) and Bearak (2020)) cross referenced with the available government reporting systems relating to abortion, miscarriages, and adoption.

Validity of the chosen rate of unintended pregnancies in Australia

Each primary source was carefully assessed to judge its reliability and relevance to the Australian population.

Taft (2018)

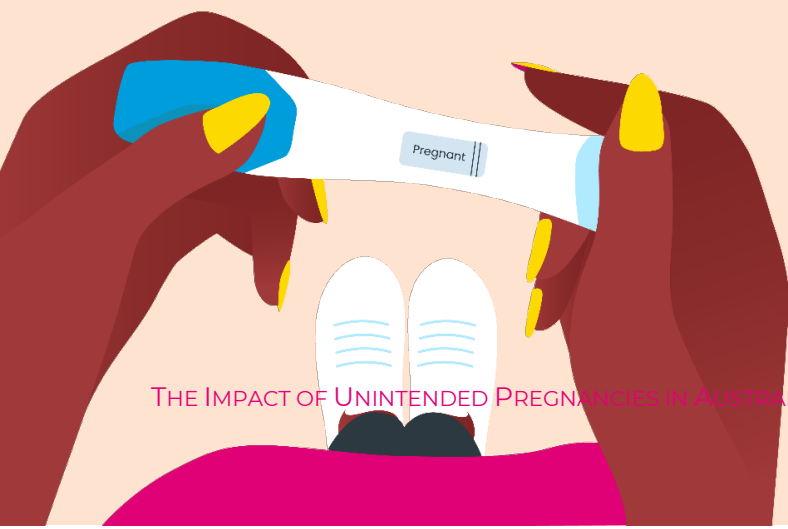
Taft (2018) is retrospective telephone survey conducted in Australia from December 2014 to May 2015 (56). In this study, women aged 18-45 years were asked whether they had had an unintended pregnancy during the past ten years, whether any unintended pregnancy was unwanted and the outcomes of all pregnancies. This study estimated that 26% of all pregnancies in Australia are unintended.

The validity of measuring pregnancy intent through retrospective surveys has been questioned by social scientists who concluded that mothers (or parents) engage in ex post rationalisation (63). Consequently, after a child is born mothers may report pregnancies that were unintended at the time of conception as intended (63). Therefore, retrospective surveys, such as Taft (2018) may underestimate the rate of unintended pregnancies in Australia (56).

This was confirmed by downstream calculations which led to significantly lower than available state-based abortion estimates from the WA and SA government (64, 65), acknowledging the potential generalisability concerns due to different population composition across states. Additionally, this source was significantly lower than the rate of unintended pregnancy reported in several other studies which reported a range from 40% to 51% (4, 5, 66, 67).

Bearak (2020)

Bearak (2020) is a study reporting on the results of a model that simultaneously estimated incidence of unintended pregnancies and abortions within a Bayesian framework (4). This study leveraged a new global database



incorporating data from 166 countries developed as part of a World Health Organisation (WHO) country consultation process and reported data broken down by country, pregnancy outcomes, and other epidemiological metrics. This study estimated that 46% of all pregnancies in Australia and New Zealand are unintended.

The rate reported by Bearak (2020) resulted in downstream abortion estimates aligned with available abortion reports from the WA and SA government (64, 65). However, as previously mentioned, the large rural, Aboriginal and Torres Strait Islander population in these states may result in a higher rate of unintended pregnancy compared to the broader Australian population. Consequently, Bearak (2020) may overestimate the rate of unintended pregnancies in Australia.

A board of Australian key opinion leaders confirmed that the rate of unintended pregnancy likely lies between the rates presented by Bearak (2020) and Taft (2018). Consequently, the lower bound estimate presented in Bearak (2020) was selected as rate which best reflects the rate of unintended pregnancies in Australia (40% of all pregnancies).

This rate was applied to the total number of pregnancies in Australia in 2020 (4). The pregnancy rate by age group was obtained through the WA Department of Health (2019) data (64), which reported detailed pregnancy rates by age group (Table 1). Based on these estimates, the total number of unintended pregnancies in Australia in 2020 was:

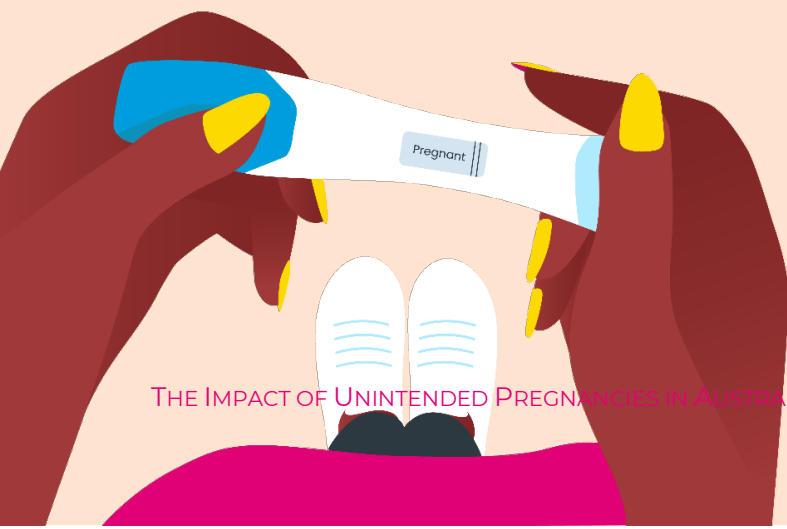
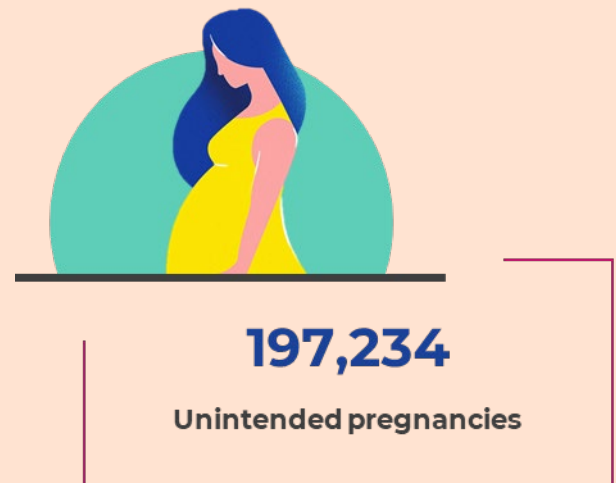


Table 1 Calculating the number of unintended pregnancies in Australia (2020)

Age	15-19	20-24	25-29	30-34	35-39	40-44	Total
Women of reproductive age ^a	728,456	850,721	949,146	959,375	896,946	802,591	5,187,235
Pregnancy rate ^b	0.021	0.096	0.134	0.161	0.105	0.026	--
No. of pregnancies ^c	15,295	81,554	126,819	154,799	94,052	20,562	493,081
Unintended pregnancy rate ^d	0.40	0.40	0.40	0.40	0.40	0.40	--
No. of unintended pregnancies ^e	6,118	32,621	50,729	61,920	37,621	8,225	197,234

a ABS 2020. Number of women of reproductive age in 2020.

b WA 2019. Proportion of women of reproductive age (15-44) in WA who were pregnant in 2019.

c Calculated. Women of reproductive age x pregnancy rate.

d Bearak 2020. Proportion of pregnancies which are unintended in Australia and New Zealand during 2015-19.

e Calculated. Number of pregnancies x unintended pregnancy rate.

Taft (2018) was not used to estimate the rate of unintended pregnancy in Australia due to concerns surrounding selection and reporting bias (63). However, this comprehensive cross-sectional survey study was included to categorise pregnancies as either:

Unwanted (26%)

Mistimed (68%)

Unsure (6%)

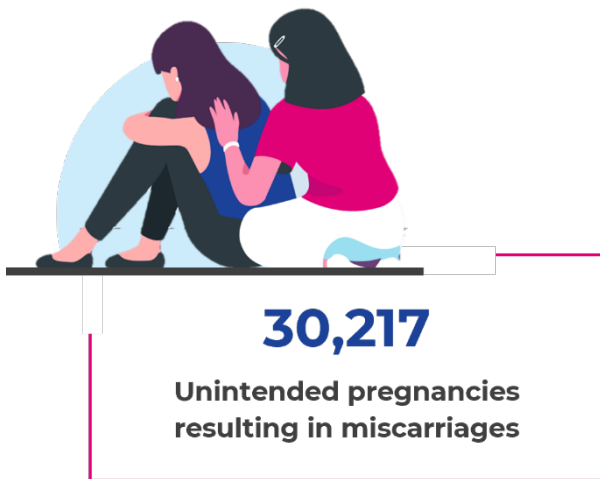
These metrics were important for the analysis, as some of the outcomes of unintended pregnancies are associated with the type of unintended pregnancy. Women are more likely to continue with the pregnancy if it was mistimed, compared to women who experience an unwanted pregnancy. Taft (2018) was also used to calculate unintended pregnancies outcomes.

Foetal losses

Miscarriages

Around 10 to 15% of all pregnancies end in early spontaneous first trimester miscarriage (68). This proportion can be different for unintended pregnancies, primarily due to late initiation of prenatal care and, in some cases, refusal to follow adequate nutritional and substance use behaviours. In addition, a higher proportion of unintended pregnancies will end in an early termination compared with planned pregnancies. This may lower the proportion of unintended pregnancies ending in miscarriage when compared to the general population, as most miscarriages occur during the first trimester (69).

Taft (2018) was used to estimate the number of unwanted (10%), mistimed (18%) and unsure unintended pregnancies (9%) ending in miscarriage (56). According to modelled calculations, there were:



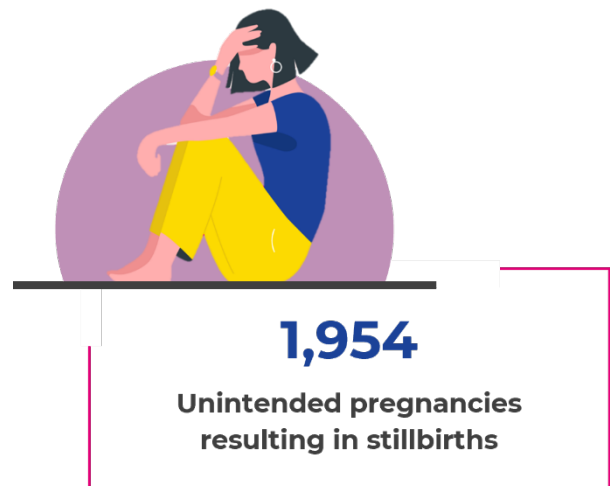
Few studies report estimations of unintended pregnancy ending in miscarriage, but the Taft (2018) rates are consistent with the 15% unintended pregnancy miscarriage rate published by Mairé Stopes International (56, 67).

The comparatively higher miscarriage rate for mistimed pregnancies was considered plausible as women experiencing a mistimed pregnancy are less likely to terminate their pregnancy and more likely to be older, increasing the inherent risk for miscarriage (50).

Stillbirths

Stillbirths are not just a low-income country problem. Rates in high-income countries have decreased by only 1% per year for the past 15 years. In these countries, stillbirths exceed deaths from sudden infant death syndrome by a factor of ten (70).

Age-specific unintended pregnancy stillbirth rates were calculated with data provided by the WA Department of Health induced abortion report (64). Based on this data, there were:

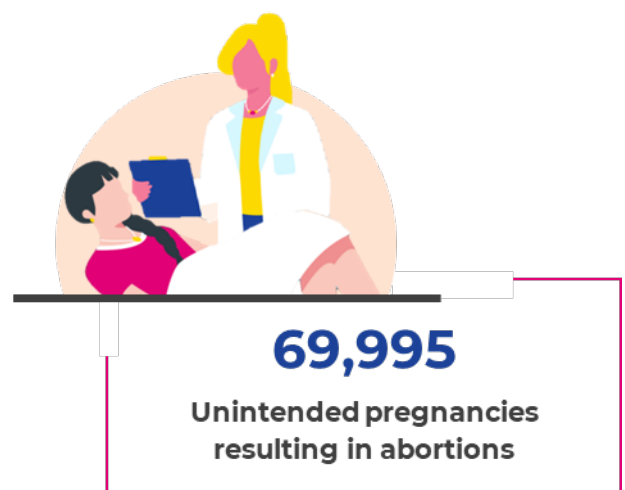


Abortions

A proportion of women experiencing an unintended pregnancy decide that they are unable or unwilling to bring the pregnancy to term.

Abortion rates are inconsistently captured across Australia, both due to abortion laws and varying practices across states and territories.

Taft (2018) was used to estimate the number of unwanted (83%), mistimed (9%) and unsure unintended pregnancies (50%) ending in abortions. According to modelled calculations, there were:





Validity of abortion estimates

Given the reporting bias potentially associated with cross-sectional surveys and some concerns of potential over-reporting raised by key opinion leaders and experts, a cross-validation of this estimate was conducted.

Publicly available healthcare services utilisation data on medical (PBS services) and surgical abortions (Medicare claims) in Australia were analysed to estimate the total number of abortions – 89,412¹. This is consistent with studies which report the number of induced abortions to be between 83,000 and 88,000 (71, 72). However, as most states do not routinely report abortion data, and published national data is often incomplete, previous estimates have been accused of inflating the rate of abortion for political reasons (72).

The number of abortions reported in the model are considerably lower than previous estimates, addressing concerns of overestimation in previous studies.

¹ Calculated through
http://medicarestatistics.humanservices.gov.au/statistics/mbs_item.jsp and

http://medicarestatistics.humanservices.gov.au/statistics/pbs_item.jsp

Live births

The number of unintended pregnancies progressing to live births was calculated as the remaining number of unintended pregnancies, residual of all miscarriages, stillbirths, and abortions. According to modelled calculations, there were:



104,629

**Unintended pregnancies
resulting in live births**

A proportion of women decide to parent their child, whereas some others do not feel parenting is the best option for them and their child and prefer adoption or alternative out-of-home care arrangements.

Voluntary placement of children for adoption is relatively rare in Australia. Reports show that about 2% of unintended pregnancies result in out-of-home care arrangements (67, 73). Based on these estimates, there were:



2,093

**Unintended pregnancies
resulting in out-of-home care**



102,536

**Unintended pregnancies
resulting in parenting**

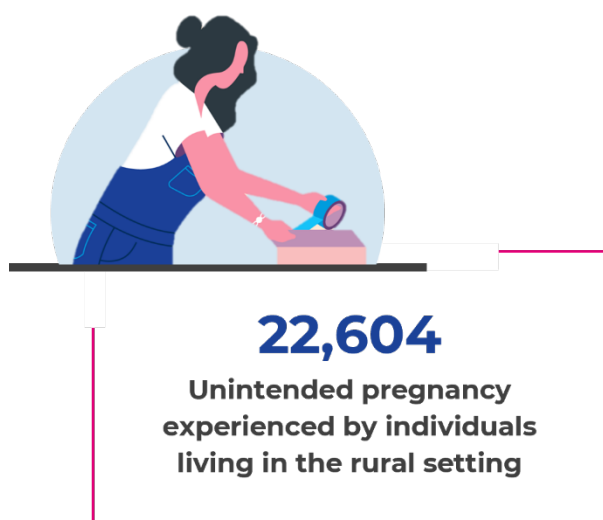
Validity of out-of-home care estimates

The Australian Institute of Health and Welfare (AIHW) child protection system reports 2,276 children under the age of 1 being placed in out-of-home care in 2019-2020 (74). This does not include informal out-of-home arrangements, such as kinship care, which would likely be reported as 'adoptions' or 'non-parenting' in cross-sectional surveys (75). Therefore, the out-of-home care estimates were deemed reliable.

Additional analyses

Rural setting

Among women, unintended pregnancies have been found to be significantly associated with living in a rural location (5). Specifically, women living in rural settings are 1.4 times more likely to experience an unintended pregnancy compared to women in non-rural settings. Rural and non-rural settings were classified according to Australian Statistical Geography Standard, which measures remoteness on the basis of relative access to services (62). According to modelled calculations, in 2020 there were:



These results are consistent with the higher fertility rates for women living in remote locations, estimated to be 21 babies per 1,000 live births, compared to 3 babies per 1,000 live births in major cities (75). This could stem from reduced access to high quality, evidenced-based reproductive and sexual health services, including health promotion and education, that support women's health and wellbeing (76).

Indigenous Australian women

While many Aboriginal and Torres Strait Islander women experience healthy pregnancies, there are significant disadvantages in health outcomes and higher rates of teenage pregnancy contributing to worse overall perinatal outcomes (77, 78). There is a disproportionate burden of adverse perinatal outcomes for Aboriginal and Torres Strait Islander mothers and their babies compared to non-Indigenous mothers and babies, including increased maternal mortality (13.8 vs 6.6 deaths per 1,00,000 women who gave birth in 2008–2012) (79), preterm birth (140 vs 80 per 1,000 births), low birth weight (118 vs 62 per 1,000 births) and perinatal deaths (14 vs 9 per 1,000 births) (80). Aboriginal and Torres Strait Islander women are also less likely to attend an antenatal visit in the first trimester compared to non-Indigenous women (53 vs 60%) or to attend five or more antenatal visits (86% vs 95%) (80). Therefore, it is important to highlight the number of unintended pregnancies experienced by Aboriginal and Torres Strait Islander women.

Due to the lack of more accurate data, the same approach used to estimate the number of unintended pregnancies in the general population was used to estimate the number of unintended pregnancies in Indigenous Australian women. Bearak (2020) (4) was used to apply the estimated proportion of unintended pregnancy to the number of Indigenous pregnancies, calculated using the number of Indigenous women (81) and the pregnancy rate by age group, obtained through the WA Department of Health data (64)



Based on these estimates, there were:



This value is likely an underestimation. Although there is inadequate data on the extent of unintended pregnancies in Indigenous Australians, there is data which demonstrates that pregnancy rates in Indigenous teenagers (aged 15-19 years) are significantly higher (46 babies per 1,000 women) than non-Indigenous teenagers (7 babies per 1,000 women), as reported by the AIHW (75, 82).

Not only are Aboriginal and Torres Strait Islander women more likely to become pregnant, but research demonstrates that the rate of contraception related consultations is lower for Aboriginal and Torres Strait Islander women, secondary to reduced access to health services, education, employment and social support (82).

Although this report does not explore the socio-economic drivers behind Indigenous Australian unintended pregnancies in detail, it is clear that there is an opportunity for further research in this area.



Data sources and limitations

There are several key considerations when interpreting the results of this report.

Firstly, the model uses 2019 fertility statistics applied to the 2020 Australian population to avoid the results being skewed by the COVID-19 pandemic which has significantly impacted pregnancy and fertility intentions (83).

The incidence of unintended pregnancy was estimated in this model using the lower bound of the uncertainty interval presented in Bearak (2020).

Adapting the seminal theoretical framework known as the proximate determinants of fertility, Bearak (2020) estimated unintended pregnancy as a function of the number of women with an unmet need for contraception and women using a contraceptive method who experience method or user failure, separated by marital status, and the risk of pregnancy in each of these population groups. The numbers of women in each of these subgroups were estimated by the United Nations, Department of Economic and Social Affairs, Population Division (2019). Bearak 2020 estimated group-specific pregnancy rates and proportions of pregnancies ending in abortion, concurrently, for each of these population groups, using a Bayesian hierarchical time series, which allowed all available data on births, abortions, and the proportions of pregnancies/births unintended from 166 countries to inform the estimates, accounting for differences between data sources along with random and systematic error.

Australia-specific data used in the Bearak (2020) model were the Household, Income and Labour Dynamics Surveys of (2005, 2008), Taft (2018), Chan & Sage (2005), and official statistics. Model assumptions and treatment of data are detailed in the Bearak (2020) technical paper (84).

Point estimates with 80% uncertainty intervals were presented in Bearak (2020). Given concerns of overestimation, as discussed earlier in the report, the Bearak (2020) lower bound point estimate (40%) was selected for this model.

When applying this rate of unintended pregnancies (40%) to this model, a number of key assumptions were made, including;

- The rate of unintended pregnancies estimated by Bearak (2020) represents women from Australia and New Zealand during 2015-2019 which was assumed to reflect the rate for Australia women in 2020 (in the absence of the COVID-19 pandemic).
- Bearak (2020) defined women of reproductive age as being between the ages of 15–49 years to be consistent with the UN. This is assumed to reflect the age bracket for women of reproductive age used in this report (15-44, in line with AIHW reporting).
- Bearak (2020) did not stratify unintended pregnancy estimates based on age and therefore the same rate was applied to all pregnancies in Australia women of reproductive age in 2020.

- The Australian-specific data used by Bearak 2020 (Income and Labour Dynamics Surveys of (2005, 2008), Taft (2018), Chan & Sage (2005)) has a range of publication dates, some of which may be outdated.

Unintended pregnancies are an under-recognised problem in Australia with limited national data, particularly for Aboriginal, Torres Strait Islander and remote populations. All available data in Australia was evaluated for this report, however the lack of contemporary statistics limits an accurate rate estimation.

As reported in the literature, unintended pregnancy rates in Australia may range from 26% to 51% (4, 5, 66, 67).

Although the rate reported by Bearak (2020) resulted in downstream estimates aligned with available abortion reports from the WA and SA government, the large rural, Aboriginal and Torres Strait Islander population in these states may result in a higher rate of unintended pregnancy compared to the broader Australian population. Consequently, Bearak (2020) may overestimate the rate and consequences of unintended pregnancies in Australia (64, 65).

To address this uncertainty, the lower bound estimate presented in Bearak (2020) was selected as the rate which best reflects unintended pregnancies in Australia (40%).

Although unintended pregnancy can have long lasting financial impacts, direct and indirect costs were only captured in this model if they occurred within 12 months post-pregnancy. This shorter time horizon reduces uncertainty and potential overestimation associated with these costs.

Impact of unintended pregnancy

An unintended pregnancy has significant economic impacts both on women and the broader society. In Australia, the total cost of unintended pregnancies was estimated to be \$7.2 billion in 2020. This included considerable direct and indirect costs borne by the woman experiencing unintended pregnancy (56% of total cost), the Government (37% of total cost), employers (3% of total costs) and out of home carers (5% of total cost).

Direct costs
\$2.2 BLN (41%)

\$7.2 BLN

Indirect costs
\$5.0 BLN (59%)

Costs of unintended pregnancies in 2020



37%
Government



56%
Women



3%
Employer



5%
Carer



Miscarriages

\$15,432,003
\$6,479,102



Stillbirths

\$20,705,072
\$23,056,695



Abortions

\$71,956,291
\$12,958,204



Live births

\$2,044,805,714
\$4,980,755,381

Direct costs

This analysis estimates the direct costs of unintended pregnancy based on the cost of abortion, live birth, miscarriage, and stillbirth. Directs costs were defined as healthcare costs incurred up to 12 months post-pregnancy, including:

- **Government:** subsidies provided by the PBS, MBS, and hospital funding arrangements
- **Women:** out-of-pocket healthcare expenses

Indirect costs

This analysis estimates the indirect costs of abortion, parenting, out-of-home care, miscarriage, and stillbirth. Indirect costs were defined as non-healthcare costs incurred up to 12 months post-pregnancy, including:

- **Government:** subsidies for childcare, adoption, income support and parental leave
- **Women:** out-of-pocket non-health care expenses such as travel, accommodation, childcare costs, and lost wages
- **Employers:** absenteeism costs
- **Out of home carers:** adoption fees and childcare costs

Impacts go beyond direct and indirect costs, with long lasting effects on the wellbeing of women and infants



Direct costs

The direct costs of unintended pregnancies were defined as healthcare costs incurred due to miscarriage, stillbirths, abortions, and live births up to 12 months post-pregnancy.

In Australia, the total direct costs were estimated to be \$2.2 billion in 2020, 91% of which was paid by the Government and 9% of which was paid by women experiencing unintended pregnancy. These costs included:

- **Miscarriage = \$15 million**
- **Stillbirth = \$21 million**
- **Abortion = \$72 million**
- **Live birth = \$2.0 billion**

Further details on the calculation of these direct costs and their references are outlined in the supplementary appendix.

Miscarriage

The cost of a miscarriage varies depending on if the patient receives expectant surgical or medical management.

Expectant management is recommended as the first-line management strategy for miscarriage, however, this approach fails in around 42% of patients (85). Following unsuccessful expectant management, approximately 57% of patients choose surgical management and 43% choose medical management (85) (Table 2).

Table 2 Proportion of miscarriages by method

Input	Value
Successful expectant management	58%
Medical management following expectant management	18%
Surgical management following expectant management	24%

The weighted average cost of a miscarriage (all gestation stages) was estimated by multiplying the average cost per medically and surgically managed miscarriage by the proportion of women receiving each method.

As expectant management involves limited active treatment, it was assumed that this approach would have a negligible financial impact.

Cost to Government

As with the cost of abortions, the cost of miscarriage has been calculated separately for states where care is provided publicly (SA and NT) and privately (all other states).

The Government cost of surgical and medical management of miscarriages are largely covered by the same funding mechanisms as abortions.

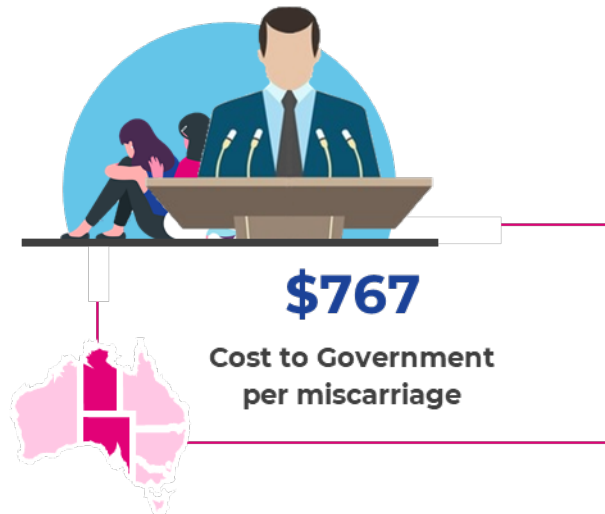
Average cost in states where miscarriages are managed publicly

The weighted average cost of a miscarriage in SA and NT was estimated to be \$923 for medical management and \$2,525 for surgical management.

The costs associated with surgical management included the cost of the procedure, consultations, and additional testing.

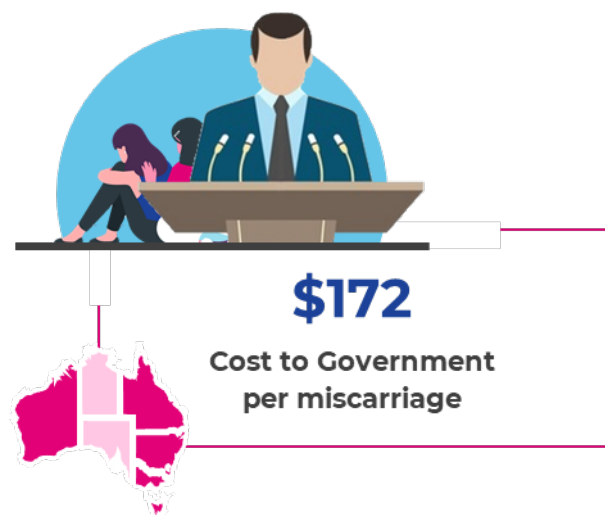
The costs associated with medical management included the cost of the

medication, consultations, additional testing, and, in the event of an incomplete medically managed miscarriage, the cost of an additional dose or conversion to surgery.



Average cost in states where miscarriages are managed privately

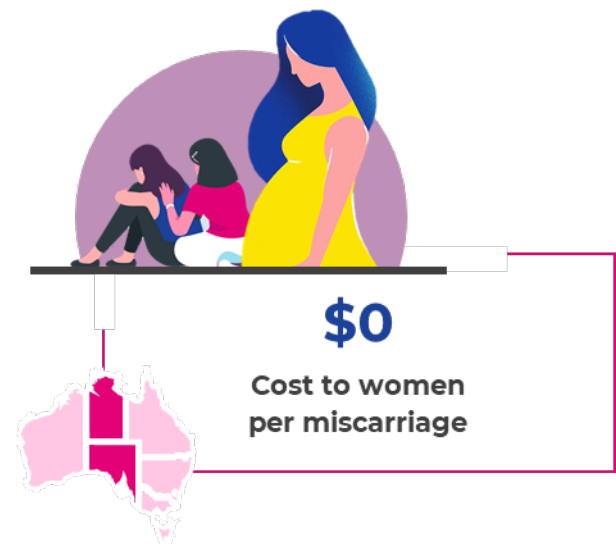
The weighted average cost of miscarriage in NSW, QLD, ACT, TAS and WA was estimated to be \$542 for medical management and for \$320 surgical management.



Cost to women

As with the Government cost of miscarriage, the cost to patients has been calculated separately for states where care is provided publicly (SA and NT) and privately (all other states).

In SA and the NT miscarriages are largely managed publicly with negligible out-of-pocket costs.



In all other states patients are mostly treated privately, with out-of-pocket assumed to reflect the out-of-pocket cost of an abortion (86).

The weighted average out-of-pocket costs of a medical miscarriage was estimated to be \$812, which included the cost of conversion to surgical procedures in the event of an incomplete medical miscarriage and the costs of an additional dose. The weighted average out-of-pocket of a surgical miscarriage was estimated to be \$730.

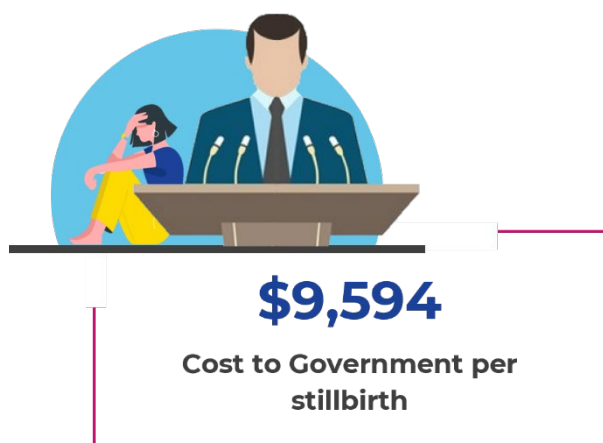


Stillbirths

The direct cost of stillbirths presented in this analysis were largely based on a whole population linked dataset of women who gave birth in the Australian state of QLD (July 2012 - June 2015) (87). Although data was not nationally collected, key opinion leaders verified that the costs associated with stillbirth are similar for all Australian states.

Cost to Government

Mean costs to federal and state Governments (covered under MBS, PBS, public hospital) associated with mother's health service use for stillbirths was considered from the time of confinement through to 12 months postpartum (87).



Cost to women

Cost to women experiencing unintended pregnancy included the average out-of-pocket expenditure, majority of which was made up of MBS service use (87)².



Abortion

The cost of an abortion varies according to state, location, method of termination and gestation. In SA and NT, the provision of medical and surgical abortions is largely public, whilst in all other states abortions are almost always provided by private abortion clinics (47).

In the Australian private market, Marie Stopes is the largest provider of abortions (44).

Method of abortion

Data regarding the method of abortion in Australia is collected by SA and WA abortion notification systems (64, 65). In both these states, the provision and level of access of abortions differs. The average of the two has been used in this analysis to represent the proportion of all abortions in Australia which are medically induced (36%). The remaining proportion was assumed to be surgically induced (64%).

² Cost inflated from 2017-2020 (annual rate of 1.5%). Although inflation is typically higher in the healthcare industry, to avoid overestimation for included non-

healthcare related costs, a general RBA inflation rate has been used.

Table 3 Proportion of abortions by method

Input	Value
Proportion of women receiving surgical abortions	64%
Proportion of women receiving medical abortions	36%

Cost to Government

The weighted average cost of an abortion (all gestation stages) was estimated by multiplying the average cost per medical and surgical abortion by the proportion of women receiving each method.

This cost has been calculated separately for states where abortions are publicly provided (SA and NT) and states where abortions are privately provided (all other states).

Average cost in states where abortions are provided publicly

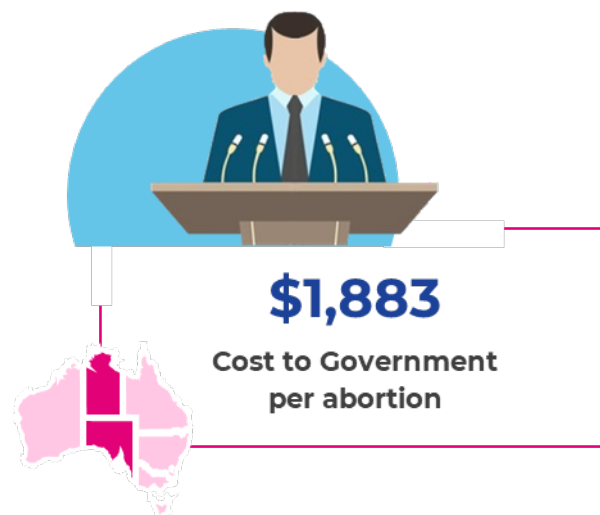
The weighted average cost of an abortion in SA and the NT was estimated to be \$651 for medical abortions and \$2,584 for surgical abortions.

The costs associated with surgical abortions included the cost of the procedure, consultations, and additional testing.

In states where abortions are provided publicly, the cost of surgical procedures are covered by federal and state Governments under public hospital funding agreements. Consultations and additional tests are primarily covered by the federal Government through the MBS.

The costs associated with medical abortions included the cost of the medication, consultations, additional testing, and, in the event of an incomplete medical abortion, conversions to surgical procedures.

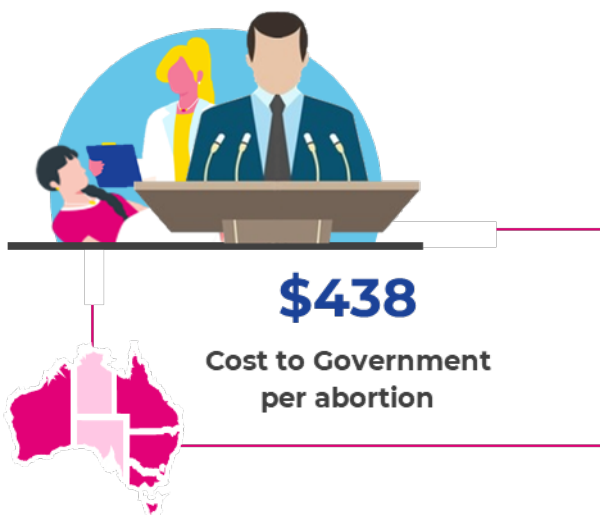
Medication is subsidised federally through the PBS, whilst consultations and additional testing are covered by the MBS. In states where abortions are provided publicly, conversions to surgical procedures are covered by public hospital funding agreements.



Average cost in states where abortions are provided privately

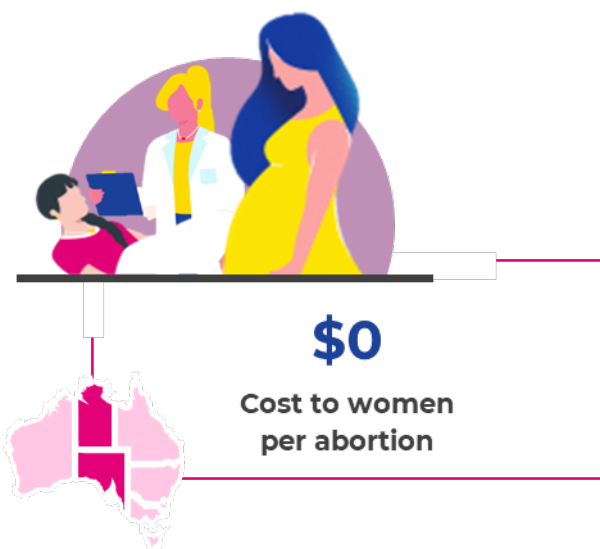
The weighted average cost of an abortion in NSW, QLD, ACT, TAS, and WA was estimated to be \$543 for medical abortions and \$379 for surgical abortions.

Unlike patients treated in the public system, privately provided surgical abortion procedures are largely covered by the MBS. The remaining costs (medication, consultations, additional testing) are largely the same for public and private patients.



Cost to women

In SA and the NT abortions are primarily provided publicly with negligible out-of-pocket costs.



In all other states patients are mostly treated in private clinics run by Marie Stopes International.

Out-of-pocket costs for these were estimated based on a cross-sectional survey of 2,326 women attending Marie Stopes International clinics (86).

The weighted average out-of-pocket costs of a medical abortion was estimated to be \$639, which included the cost of conversions to surgical procedures in the event of an incomplete medical abortion. The

weighted average out-of-pocket of a surgical abortion was estimated to be \$730. However, this cost may be significantly higher for the 5% of women undertaking an abortion who are not covered by Medicare (86).



Live birth

Considerable healthcare resources are consumed by maternity services, the cost of which is primarily borne by the Government and mothers.

The direct cost of maternity and early childhood health presented in this analysis was largely based on the whole population linked dataset of women who gave birth in QLD (July 2012 - June 2015) (88). Although data was not nationally collected, key opinion leaders verified that the costs associated with childbirth are similar for all Australian states.

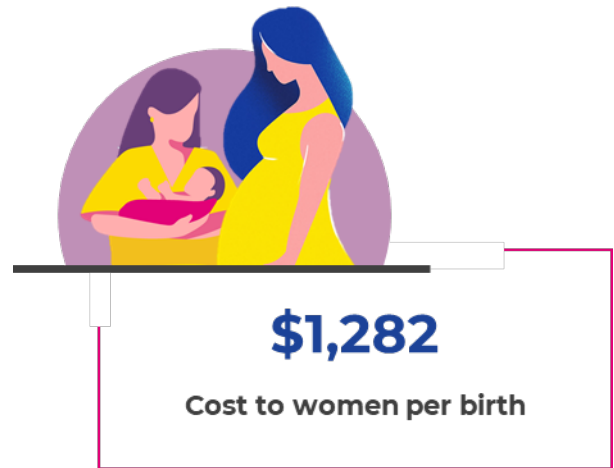
Cost to Government

In the Australian healthcare system, births conducted in public hospitals are funded by public hospital funding agreements and births conducted outside of public hospitals are funded through the MBS. Prescription pharmaceuticals relating to maternity

and early childhood healthcare are funded by the PBS.

The cost of giving birth varies depending on if the woman was a private patient treated in a private hospital (\$10,051), a public patient in a public hospital (\$21,723) or a private patient in a public hospital (\$20,898).

The average Government cost per birth was calculated by weighting each cost by the proportion of women in each category.



Cost to women

As with the cost to the Government, woman out-of-pocket costs relating to childbirth varied depending on if the woman was a private patient treated in a private hospital (\$3,132), a public patient in a public hospital (\$479) or a private patient in a public hospital (\$1,087). The average out-of-pocket cost per birth was calculated by weighting each cost by the proportion of women in each category.

Indirect costs

The indirect costs of unintended pregnancies were defined as non-healthcare costs incurred due to miscarriages, stillbirths, abortions, parenting, and out-of-home care arrangements, up to 12 months post-pregnancy.

In Australia, the total indirect costs were estimated to be \$5 billion in 2020, most of which was paid for by the women experiencing an unintended pregnancy (76%). Costs were also borne by the Government (13%), out-of-home carers (7%) and employers (4%). These costs included:

- **Miscarriage = \$6 million**
- **Abortion = \$13 million**
- **Stillbirth = \$23 million**
- **Parenting = \$4.6 billion**
- **Out-of-home care = \$404 million**

Further details on the calculation of these indirect costs and their references are outlined in the supplementary appendix.

Miscarriage

Cost to the women

Indirect costs of miscarriages to the women included the cost of travel, general practitioner referrals, medical tests, childcare, and lost wages. These costs were assumed to reflect the indirect costs of an abortion (86) (see next).



Cost to employer

The indirect costs of miscarriage to employers included the cost of time off work. Time off work for a medical or surgical miscarriage was assumed to be the same as a medical or surgical abortion (89) (see next).

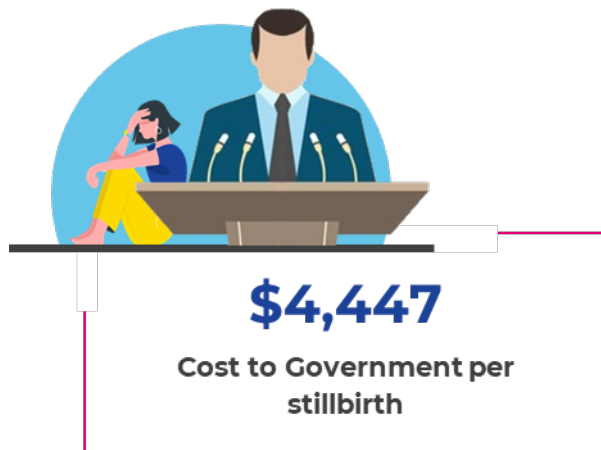


Stillbirths

Cost to Government

A stillbirth baby payment is paid where a woman, or their partner, would have been the primary carer of a stillborn child (\$806) (90, 91). Additionally, unemployment benefits are available for women who did not return to work in the year following a miscarriage or stillbirth (\$3,641) (90). The proportion eligible for both of these payments (22%) were

estimated based on the economic impact of stillbirth survey conducted by PWC on behalf of the Stillbirth foundation Australia (92).



Cost to women

The cost of stillbirth included the loss of income for women who did not return to work in the year following birth (90). Lost annual income was based on the average yearly earning in Australia (\$69,768 per year) (93, 94). This was applied to the 10% of women who did not return to work following a stillbirth (92).



Cost to employer

Paid leave is taken by employed women for an average of 3 days after

experiencing a stillbirth (90). The average cost of 3 days of paid work was applied to employed women (58% of all women) with leave entitlements (78% of employed women) (95, 96). Cost of days off work were based on the average Australian wages (\$274 per day) (93, 94).



Abortions

Cost to women

Indirect costs of abortions included the cost of travel, general practitioner referrals, medical tests, childcare, and lost wages. These costs were estimated based on a cross-sectional survey of 2,326 women attending Marie Stopes International clinics (\$162³) (86). This price was weighted by the number of women incurring out-of-pocket costs (41%) (86).

³ Cost inflated from 2015-2020 (annual rate of 1.5%). Although inflation is typically higher in the healthcare industry, to avoid overestimation for

included non-healthcare related costs, a general RBA inflation rate has been used.



Cost to employer

Employers are impacted by abortion due to their employees taking time off work. Women take an average of one day of leave for a medical abortion and two days for a surgical abortion (89). The weighted average cost of days off work for each abortion method were applied to employed women (58% of all women) with leave entitlements (78% of employed women) (95, 96). Cost of days off work were based on the average Australian wages (\$274 per day) (93, 94).



Parenting

Cost to Government

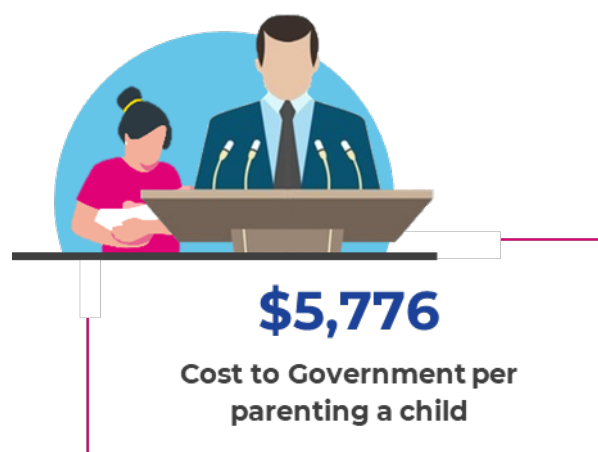
The indirect Government cost of parenting included the cost of paid

parental leave, parenting payments (income support) and family tax benefits.

Parental leave payments can be given for up to 18 weeks after giving birth (97). Based on the Parental Leave in Australia Survey, women take an average of 5 weeks of parental leave (98). This was only applied to employed women (58% of all women) taking leave after giving birth (93% of employed women) (96, 99). Based on these calculations, the Government cost of paid parental leave was estimated to be \$2,096 per mother.

Parenting payments are income support for women caring for a child, applied in this analysis to all women who were unemployed after giving birth (97). To account for women who may already be receiving this payment, this cost was only applied to first time mothers (100). Based on these calculations, the Government cost of parenting payments was estimated to be \$3,411 per mother.

The family tax benefit (part b) is a Government payment that helps parents raise children aged 0-5 (101). As with the parenting payment, this cost was only incurred by first time mothers (100). Average family tax benefit (part b) for single and partnered parents were weighted to estimate the average government cost per mother (\$269)(101).



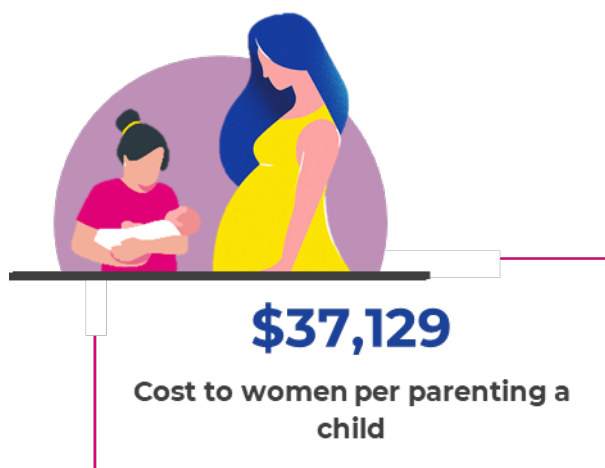
Cost to women

The sum of food for the child, home improvements, baby clothes, baby care products, baby transport, mothers' clothes, hospital bag items, unpaid maternity leave and income loss were used to calculate the average cost per parenting a child.

Basic expenses relating to raising a child in the first year (food for the child, home improvements, baby clothes, baby care products, baby transport, mothers' clothes and hospital bag items) were estimated to be \$5,522 based on retail prices in online stores in Australia, as of May 2020 (102).

Unpaid maternity leave is taken by women for an average length of 30 weeks after giving birth. (98). Based on the average wages in Australia (\$1,368 per week), the proportion of women taking leave after giving birth (93%) and the number of employed women (58%), this cost was estimated to be \$22,251 (93, 94, 98, 99).

Additionally, 13% of women leave their job permanently after giving birth (99). Based on the average yearly earning in Australia (\$69,768 per year), this corresponded to \$9,355 of lost income per women after giving birth (93, 94).



Cost to employers

Paid leave is taken by employed women (58%) with leave entitlements (78%) for an average of 3 weeks after giving birth (98). This cost was applied to the proportion of women taking leave after giving birth (93%) (99). This cost was based on the average wages in Australia (\$1,368 per week)(93, 94).



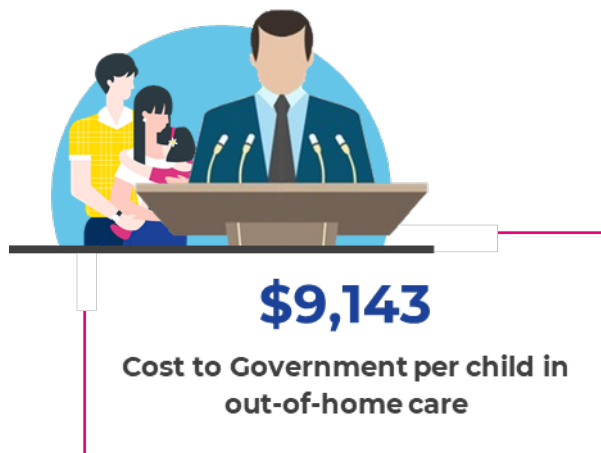
Out-of-home care

Cost to Government

Adopting families or alternative out-of-home carers are eligible for the family tax benefits (101). To account for adopting families who may already be receiving this payment, this cost was only applied to families with no other children (103). Average family tax benefit (part b) for single and partnered parents were weighted to estimate the average government cost per out-of-home carer (\$447) (101).

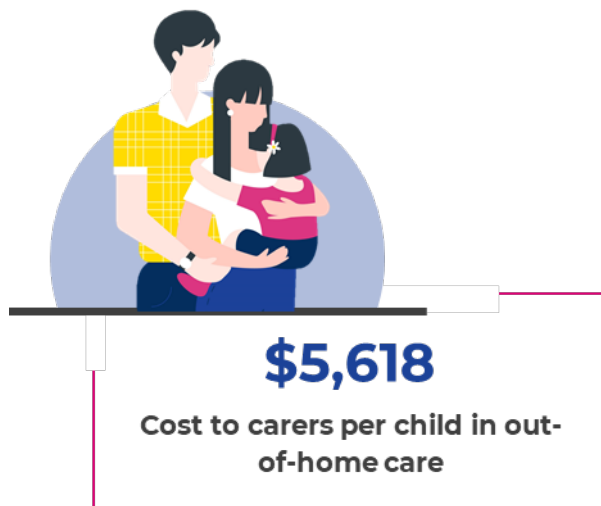
Employed out-of-home-carers (63% of the population) are eligible for paid parental leave for a maximum of 18 weeks (96, 97). Given that maternity leave options are limited for adopting families, it was assumed that the maximum weeks of paid parental leave were taken. This subsidy was estimated

to cost \$8,696 per child raised in out-of-home care.



Cost to out-of-home carers

The indirect cost of raising a child included the cost of food for the child, home improvements, baby clothes, baby care products and baby transport items (102).



Broader impacts

An unintended pregnancy can have profound societal impacts, beyond the direct and indirect costs captured in this report. This includes physical, emotional, and social impacts on women and their children.

Health impact on the mother and child

Pregnancy intent can influence parenting attitudes and behaviours, which are important determinates for maternal and child health outcomes (6).

Women experiencing unintended pregnancy have higher rates of risk-taking behaviour during their pregnancy including smoking, poor nutrition, drinking alcohol, taking illicit drugs, and lifting heavy objects (104-107). Additionally, these women are more likely to miss antenatal care, limit breastfeeding, and choose to not vaccinate their child (6, 106, 108).

This can result in an array of adverse health outcomes for both the mother and child, including a lower birth weight and higher rates of complications and neonatal mortality (7-9).

Social and emotional impact on the mother and child

An unintended pregnancy is a risk factor for poor maternal mental health including depression, stress, and life satisfaction (2, 3).

Additionally, women experiencing an unintended pregnancy are more commonly faced with poor quality relationships with their partners and children, marital conflict, and lower levels of social support, compared to those with intended pregnancies (100, 106, 109). These factors have each been shown to be significantly associated with risk of depressive symptoms (6, 110).

Furthermore, lack of support from family and friends has been shown to act as a link between stressful life events and postpartum depression (63, 100).

Pregnancy intent can also have long term social and emotional impacts on children, including cognitive delay, behavioural problems, and substance abuse (6).

The Turnaway study

The Turnaway Study is a pivotal prospective longitudinal study conducted in the US examining the effects of unintended pregnancy on women's lives. The main finding is that receiving an abortion does not harm the health and wellbeing of women, whilst carrying an unintended pregnancy to term can have lasting financial, health and family outcomes (111).



Where next?

Unintended pregnancies have a clear impact on women, the Australian healthcare system, and society as a whole.

As reflected in the consensus statement published by the Australian Healthcare and Hospitals Association (AHHA) (12), there are three key approaches to reduce this impact:

Women need to be supported to make an informed choice about contraception

The majority of women who experienced an unintended pregnancy were not using contraception at the time they fell pregnant (56). Of those who experience contraceptive failure, the majority were using the oral contraceptive pill (112).

International evidence demonstrates that effective contraception, such as long-acting reversible contraception (LARC), reduces the rates of unintended pregnancy (113, 114). However, low awareness and misinformation is a major barrier and the uptake of LARC remains low in Australia compared to similar countries (12).

To address this barrier, contraception priorities, preferences, and needs have to be promoted in Government decision-making.

Key recommendations for action include⁴:

- **Promote developmentally appropriate reproductive and sexual health education in schools**
- **Education about contraception to be provided in conjunction with National HPV Vaccination**
- **Facilitate contraception public health campaigns targeted at vulnerable populations**
- **The Australian Commission of Safety and Quality in Health Care Question to be adapted for contraceptive care**
- **National contraception management guidelines to be developed and be accessible**
- **Information on guidelines to be translated for specific health professionals and services through education, messaging and referenced in Health pathways.**

⁴ This reflects the views expressed by participants in a workshop facilitated by the AHHA on 19 May 2017



The health system needs to enable women to exercise their choice equitably

There is currently inequitable access to effective contraception in Australia for women living in rural and remote areas due both to limited access to services, such as available doctors, and concern regarding attitudes of pharmacists (115).

A general practitioner consultation is the ideal opportunity to discuss contraceptive options, but this may not be possible in a busy clinical setting, particularly in rural areas. In addition, Medicare does not provide any financial incentive for long discussions around contraception. As a result, people may settle for less effective methods rather than travel long distances and investigate their options more thoroughly (115).

While prevention is desirable, it is unrealistic to expect that no sexually active woman will ever experience an unintended pregnancy. Improving access to abortion care would improve health outcomes and support women's choice to decide whether or when to have children. However, there is currently a large gap in access to low or no cost services for financially disadvantaged women and poor availability in rural and remote areas (116).

Additionally, although it is nationally recognised that planned parenthood plays an important role in allowing women and their partners to better prepare themselves physically, emotionally, and financially for

pregnancy, some women live hundreds of kilometres away from the nearest family planning facility (115).

Key recommendations for action include⁵:

- **More family planning and abortion services to be made available in rural settings**
- **MBS items for the insertions and removal of LARCs and contraception consultations to adequately reflect the cost of providing the service**
- **Models of care to be funded to allow implant and IUD insertion and removal by trained nurses, midwives, and nurse practitioners**
- **Contraceptive management to be included in guidelines for standard postnatal care for vulnerable populations**
- **Training and education programs for medical practitioners, nurses and midwives to include implant and IUD insertion**

⁵ This reflects the views expressed by participants in a workshop facilitated by the AHHA on 19 May 2017

Data and research need to be freely available to inform contraceptive policy and practice

Without standardised national data collection on unintended pregnancy and abortion, the impact of policies, clinical interventions and strategies designed to reduce the related adverse events is difficult to measure (12). Currently there are no reliable routinely collected data on contraceptive use in Australia, nor on the outcomes of unintended pregnancies (e.g. abortion rates). Additionally, there has been very limited research conducted on unintended pregnancy in Indigenous women or in the rural and remote setting (68).

Key recommendations for action include⁶:

- **Data to inform contraceptive policy to be included in a future primary healthcare national minimum data set (NMDS)**
- **Notification of abortions to be introduced consistently nationwide, informed by existing policy and practice**
- **Rural and Indigenous population assessments on the impact of unintended pregnancy to be undertaken**

⁶ This reflects the views expressed by participants in a workshop facilitated by the AHHA on 19 May 2017

The National Women's Health Strategy

The key recommendations published by the Australian Healthcare and Hospitals Association (AHHA) (12) are in line with the National Women's Health Strategy 2020-2030 (the Strategy) which outlines Australia's national approach to improving health outcomes for all women and girls in Australia. Building on the overarching National Women's Health Policy 2010, the Strategy takes account of the changes in the policy environment, considers the latest evidence and identifying the current gaps and emerging issues in women's health. It aims to inform targeted and coordinated action at the national and state jurisdictional levels to address the priority health needs of women and girls in Australia.

The Strategy identified maternal, sexual, and reproductive health as a key priority area to drive change and improve health outcomes. Factors contributing to maternal, sexual, and reproductive health include the role of women in society and the control women have over their own bodies, reproductive choices and lifestyle.

Three key actions have been identified by the strategy to improve maternal, sexual, and reproductive health for Australian women and girls:

- **Increase access to sexual and reproductive health care information, diagnosis, treatment, and services**
- **Increase health promotion activity to enhance and support preconception and perinatal health**
- **Support enhanced access to maternal and perinatal health care services**

The health impacts of violence against women is another key priority area highlighted in the Strategy. Women who experience multiple forms of inequality and discrimination experience higher rates of violence and reproductive coercion. To address this, the Strategy emphasises the need to reduce the rates of reproductive coercion.

The statements made in the Strategy highlights:

- **The need for women to be empowered with all their contraceptive options**
- **The need for further research into this area, including a specific sexual and reproductive health strategy from government.**



References

1. Barrett G, Shawe J, Howden B, Patel D, Ojukwu O, Pandya P, et al. Why do women invest in pre-pregnancy health and care? A qualitative investigation with women attending maternity services. *BMC Pregnancy and Childbirth*. 2015;15(1):236.
2. Abajobir AA, Maravilla JC, Alati R, Najman JM. A systematic review and meta-analysis of the association between unintended pregnancy and perinatal depression. *J Affect Disord*. 2016;192:56-63.
3. Robertson E, Grace S, Wallington T, Stewart DE. Antenatal risk factors for postpartum depression: a synthesis of recent literature. *Gen Hosp Psychiatry*. 2004;26(4):289-95.
4. Bearak J, Popinchalk A, Ganatra B, Moller AB, Tunçalp Ö, Beavin C, et al. Unintended pregnancy and abortion by income, region, and the legal status of abortion: estimates from a comprehensive model for 1990-2019. *Lancet Glob Health*. 2020;8(9):e1152-e61.
5. Rowe H, Holton S, Kirkman M, Bayly C, Jordan L, McNamee K, et al. Prevalence and distribution of unintended pregnancy: the Understanding Fertility Management in Australia National Survey. *Australian and New Zealand Journal of Public Health*. 2016;40(2):104-9.
6. Bahk J, Yun S-C, Kim Y-m, Khang Y-H. Impact of unintended pregnancy on maternal mental health: a causal analysis using follow up data of the Panel Study on Korean Children (PSKC). *BMC Pregnancy and Childbirth*. 2015;15(1):85.
7. Bustan MN, Coker AL. Maternal attitude toward pregnancy and the risk of neonatal death. *Am J Public Health*. 1994;84(3):411-4.
8. Frenzen PD, Hogan DP. The impact of class, education, and health care on infant mortality in a developing society: the case of rural Thailand. *Demography*. 1982;19(3):391-408.
9. Chalasani S, Casterline JB, Koenig MA, editors. *Consequences of Unwanted Childbearing: A Study of Child Outcomes in Bangladesh* 2007.
10. Luci A, Thevenon O, Math A, Marie-Thérèse L. The costs of raising children and the effectiveness of supporting parenthood policies in European countries: A Literature Review. 2008. [cited 24 Nov 2021]. Available from: <https://ideas.repec.org/p/hal/wpaper/halshs-00660624.html>.
11. International Federation of gynecology and Obstetrics. Contraception and its benefits. 2021. [cited 24 Nov 2021]. Available from: <https://www.figo.org/contraception-and-its-benefits>.
12. Australian Healthcare and Hospitals Association. Consensus statement. 2017. [cited Available from: https://www.shinesa.org.au/media/2018/03/Consensus_statement_Reducing-Unintended-Pregnancy.pdf.
13. Kantorová V, Wheldon MC, Ueffing P, Dasgupta ANZ. Estimating progress towards meeting women's contraceptive needs in 185 countries: A Bayesian hierarchical modelling study. *PLOS Medicine*. 2020;17(2):e1003026.
14. Griffiths E, Atkinson D, Friello D, Marley JV. Pregnancy intentions in a group of remote-dwelling Australian Aboriginal women: a qualitative exploration of formation, expression and implications for clinical practice. *BMC Public Health*. 2019;19(1):568.
15. Ajayi AI, Ezegbe HC. Association between sexual violence and unintended pregnancy among adolescent girls and young women in South Africa. *BMC Public Health*. 2020;20(1):1370.


16. Mallard SR, Houghton LA. Socio-demographic characteristics associated with unplanned pregnancy in New Zealand: implications for access to preconception healthcare. *Australian and New Zealand Journal of Obstetrics and Gynaecology*. 2013;n/a-n/a.
17. Lassi ZS, Mansoor T, Salam RA, Das JK, Bhutta ZA. Essential pre-pregnancy and pregnancy interventions for improved maternal, newborn and child health. *Reproductive Health*. 2014;11(1):S2.
18. McCrory C, McNally S. The effect of pregnancy intention on maternal prenatal behaviours and parent and child health: results of an Irish cohort study. *Paediatr Perinat Epidemiol*. 2013;27(2):208-15.
19. Maxson P, Miranda ML. Pregnancy intention, demographic differences, and psychosocial health. *J Womens Health (Larchmt)*. 2011;20(8):1215-23.
20. Hardee K, Eggleston E, Wong EL, Irwanto, Hull TH. Unintended pregnancy and women's psychological well-being in Indonesia. *J Biosoc Sci*. 2004;36(5):617-26.
21. Orr ST, Miller CA. Unintended pregnancy and the psychosocial well-being of pregnant women. *Womens Health Issues*. 1997;7(1):38-46.
22. Bunevicius R, Kusminskas L, Bunevicius A, Nadisauskiene RJ, Jureniene K, Pop VJ. Psychosocial risk factors for depression during pregnancy. *Acta Obstet Gynecol Scand*. 2009;88(5):599-605.
23. Yanikkerem E, Ay S, Piro N. Planned and unplanned pregnancy: effects on health practice and depression during pregnancy. *J Obstet Gynaecol Res*. 2013;39(1):180-7.
24. United Nations. Transforming our world: the 2030 agenda for sustainable development. New York, NY: United Nations; 2015.
25. Every Woman Every Child. Global Strategy for Women's, Children's and Adolescent's Health (2016-2030) - 2020 Progress Report on the EWEC Global Strategy. <https://www.everywomaneverychild.org/>; 2020.
26. Brandrup JD, Mance PL. How do pregnancy and newborns affect the household budget. *Family matters*. 2011;88.
27. Karaçam Z, Onel K, Gerçek E. Effects of unplanned pregnancy on maternal health in Turkey. *Midwifery*. 2011;27(2):288-93.
28. Lau Y, Keung DW. Correlates of depressive symptomatology during the second trimester of pregnancy among Hong Kong Chinese. *Soc Sci Med*. 2007;64(9):1802-11.
29. Nakku JE, Nakasi G, Mirembe F. Postpartum major depression at six weeks in primary health care: prevalence and associated factors. *Afr Health Sci*. 2006;6(4):207-14.
30. Bahk J, Yun SC, Kim YM, Khang YH. Impact of unintended pregnancy on maternal mental health: a causal analysis using follow up data of the Panel Study on Korean Children (PSKC). *BMC Pregnancy Childbirth*. 2015;15:85.
31. Elsenbruch S, Benson S, Rütke M, Rose M, Dudenhausen J, Pincus-Knackstedt MK, et al. Social support during pregnancy: effects on maternal depressive symptoms, smoking and pregnancy outcome. *Hum Reprod*. 2007;22(3):869-77.
32. Shahry P, Kalhori SR, Esfandiyari A, Zamani-Alavijeh F. A Comparative Study of Perceived Social Support and Self-Efficacy among Women with Wanted and Unwanted Pregnancy. *Int J Community Based Nurs Midwifery*. 2016;4(2):176-85.
33. Children by choice. Making a decision. 2021. [cited 24 Nov 2021]. Available from: <https://www.childrenbychoice.org.au/foryou/decisionmaking>.
34. Pregnancy Choices Helpline. Adoption or foster care. 2021. [cited 25 Nov 2021]. Available from: <https://www.pregnancychoices.org.au/adoption-or-foster-care/>.
35. NSW Government. What happens when an adoption order is made. 2020. [cited 25 Nov 2021]. Available from: <https://www.facs.nsw.gov.au/families/adoption/birth-parents/orders>.
36. Health Direct. Giving a baby up for adoption. 2021. [cited 25 Nov 2021]. Available from: <https://www.pregnancybirthbaby.org.au/giving-up-a-baby-for-adoption>.

37. Boetto H. Kinship care. A review of issues. *Family Matters*. 2010;85:60-7.
38. Bromfield L, Osborn A. Australian Institute of Family Studies. 2007. [cited 25 Nov 2021]. Available from: <https://aifs.gov.au/cfca/publications/kinship-care>.
39. Steinberg JR, Laursen TM, Adler NE, Gasse C, Agerbo E, Munk-Olsen T. Examining the Association of Antidepressant Prescriptions With First Abortion and First Childbirth. *JAMA Psychiatry*. 2018;75(8):828-34.
40. Biggs MA, Upadhyay UD, McCulloch CE, Foster DG. Women's Mental Health and Well-being 5 Years After Receiving or Being Denied an Abortion: A Prospective, Longitudinal Cohort Study. *JAMA Psychiatry*. 2017;74(2):169-78.
41. American Psychological Association. Abortion and Mental Health. 2008. [cited 25 Nov 2021]. Available from: <https://www.apa.org/pi/women/programs/abortion>.
42. Family Planning NSW. Law On Abortion In NSW. [cited 25 Nov 2021]. Available from: <https://www.fpnsw.org.au/factsheets/individuals/abortion/law-abortion-nsw>.
43. Health Direct. Abortion. 2021. [cited 22 October 2021]. Available from: <https://www.healthdirect.gov.au/abortion>.
44. Livsey. How much do abortions cost across Australia? 2017. [cited 20 October 2021]. Available from: <https://www.theguardian.com/news/datablog/2017/aug/22/how-much-do-abortions-cost-across-australia-explainer>.
45. Mazza D, Burton G, Wilson S, Boulton E, Fairweather J, Black K. Medical abortion. *Australian Journal for General Practitioners*. 2020;49:324-30.
46. Dawson AJ, Nicolls R, Bateson D, Doab A, Estoesta J, Brassil A, et al. Medical termination of pregnancy in general practice in Australia: a descriptive-interpretive qualitative study. *Reproductive Health*. 2017;14(1):39.
47. Children by choice. Australian Abortion Law and Practice. 2021. [cited 21 October 2021]. Available from: <https://www.childrenbychoice.org.au/factsandfigures/australianabortionlawandpractice>.
48. Deb S, Subasinghe A, Mazza D. Providing medical abortion in general practice: General practitioner insights and tips for future providers. *Australian Journal for General Practitioners*. 2020;49:331-7.
49. Australian Institute of Health and Welfare. Perinatal deaths in Australia 2013–2014. Canberra: AIHW; 2018.
50. Health Direct. Miscarriage. 2019. [cited 25 Nov 2021]. Available from: <https://www.pregnancybirthbaby.org.au/miscarriage>.
51. The Royal Australian and New Zealand College of Obstetricians and Gynaecologists. Pregnancy loss 2019 [cited 18 October 2021]. Available from: https://ranzcog.edu.au/RANZCOG_SITE/media/RANZCOG-MEDIA/Women%27s%20Health/Patient%20information/Pregnancy-Loss_2.pdf?ext=.pdf.
52. Mohllajee AP, Curtis KM, Morrow B, Marchbanks PA. Pregnancy intention and its relationship to birth and maternal outcomes. *Obstet Gynecol*. 2007;109(3):678-86.
53. Orr ST, Miller CA, James SA, Babones S. Unintended pregnancy and preterm birth. *Paediatric and Perinatal Epidemiology*. 2000;14(4):309-13.
54. Burden C, Bradley S, Storey C, Ellis A, Heazell AEP, Downe S, et al. From grief, guilt pain and stigma to hope and pride – a systematic review and meta-analysis of mixed-method research of the psychosocial impact of stillbirth. *BMC Pregnancy and Childbirth*. 2016;16(1):9.
55. Campbell HE, Kurinczuk JJ, Heazell A, Leal J, Rivero-Arias O. Healthcare and wider societal implications of stillbirth: a population-based cost-of-illness study. *BJOG*. 2018;125(2):108-17.

56. Taft A, Shankar M, Black K, Maza D, Hussainy S, Lucke J. Unintended and unwanted pregnancy in Australia: a cross-sectional, national random telephone survey of prevalence and outcomes. *MJA*. 2018;209(9):407-8.
 57. Secura GM, Allsworth JE, Madden T, Mullersman JL, Peipert JF. The Contraceptive CHOICE Project: reducing barriers to long-acting reversible contraception. *American Journal of Obstetrics and Gynecology*. 2010;203(2):115.e1-e7.
 58. Mazza D, Black K, Taft A, Lucke J, McGeechan K, Haas M, et al. Increasing the uptake of long-acting reversible contraception in general practice: the Australian Contraceptive ChOice pRoject (ACCORD) cluster randomised controlled trial protocol. *BMJ Open*. 2016;6(10):e012491.
 59. Anselmi L, Borghi J, Brown GW, Fichera E, Hanson K, Kadungure A, et al. Pay for Performance: A Reflection on How a Global Perspective Could Enhance Policy and Research. *Int J Health Policy Manag*. 2020;9(9):365-9.
 60. Forrest JD. Epidemiology of unintended pregnancy and contraceptive use. *American Journal of Obstetrics & Gynecology*. 1994;170(5):1485-9.
 61. Australian Bureau of Statistics. Births, Australia 2019 [cited 27 August 2021]. Available from: <https://www.abs.gov.au/statistics/people/population/births-australia/latest-release>.
 62. Australian Bureau of Statistics. Remoteness structure 2016 [cited 25 October 2021]. Available from: <https://www.abs.gov.au/websitedbs/d3310114.nsf/home/remoteness+structure>.
 63. Joyce T, Kaestner R, Korenman S. On the validity of retrospective assessments of pregnancy intention. *Demography*. 2002;39(1):199-213.
 64. Garrao M, Hutchinson, M. Joyce, A. Induced Abortion in Western Australia 2016-2018. Sixth Report of the Western Australian Abortion Notification System, Department of Health, Western Australia; 2019.
 65. South Australian Abortion Reporting Committee. Annual Report for the Year 2018. In: Government of South Australia, editor. 2021.
 66. Taft A, Shankar M, Black K, Mazza D, Hussainy S, Lucke J. Unintended and unwanted pregnancy in Australia: a cross-sectional, national random telephone survey of prevalence and outcomes. *MJA*. 2018;209(9):407-8.
 67. Marie Stopes International. Women, contraception and unplanned pregnancy 2008.
 68. Oliver A, Overton C. Diagnosis and management of miscarriage. *Practitioner*. 2014;258(1771):25-8, 3.
 69. Dugas C, Slane VH. Miscarriage. StatPearls. Treasure Island (FL): StatPearls Publishing
- Copyright © 2021, StatPearls Publishing LLC.; 2021.
70. Lawn JE, Blencowe H, Pattinson R, Cousens S, Kumar R, Ibiebele I, et al. Stillbirths: Where? When? Why? How to make the data count? *Lancet*. 2011;377(9775):1448-63.
 71. Wright S, Bateson D, McGeechan K. Induced abortion in Australia: 2000-2020. Family Planning NSW: Ashfield, Australia 2021.
 72. Keogh LA, Gurrin LC, Moore P. Estimating the abortion rate in Australia from National Hospital Morbidity and Pharmaceutical Benefits Scheme data. *Med J Aust*. 2021;215(8):375-6.
 73. Michelson J. What women want when faced with an unplanned pregnancy. *Sexual Health*. 2007;4(4):297-.
 74. Australian Institute of Health and Welfare. Child Welfare series. Canberra: AIHW; 2020.

75. Australian Institute of Health and Welfare. Australia's children 2020 [cited 21 October 2021]. Available from: <https://www.aihw.gov.au/reports/children-youth/australias-children/contents/health/teenage-mothers>.
76. Family Planning NSW. Inquiry into health outcomes and access to health and hospital services in rural, regional and remote New South Wales. 2020.
77. Australian Department of Health. Pregnancy care for Aboriginal and Torres Strait Islander women. 2019. [cited 25 Nov 2021]. Available from: <https://www.health.gov.au/resources/pregnancy-care-guidelines/part-a-optimising-pregnancy-care/pregnancy-care-for-aboriginal-and-torres-strait-islander-women>.
78. Australian Institute of Health and Welfare. Teenage mothers in Australia 2015 2018. [cited 24 May 2022]. Available from: [https://www.aihw.gov.au/getmedia/6976ff0b-4649-4e3f-918f-849fc29d538f/aihw-per-93.pdf.aspx?inline=true#:~:text=One%20in%204%20\(24%25\),term%20birth%20and%20low%20birthweight.&text=Notes%3A%20SES%20refers%20to%20socioeconomic%20status](https://www.aihw.gov.au/getmedia/6976ff0b-4649-4e3f-918f-849fc29d538f/aihw-per-93.pdf.aspx?inline=true#:~:text=One%20in%204%20(24%25),term%20birth%20and%20low%20birthweight.&text=Notes%3A%20SES%20refers%20to%20socioeconomic%20status).
79. Humphrey M, Bonello M, Chughtai A, Macaldowie A, Harris K, Chambers G. Maternal deaths in Australia 2008–2012. Canberra: AIHW; 2015.
80. Australian Institute of Health and Welfare. Australia's mothers and babies 2014—in brief. Canberra: AIHW; 2016.
81. Australian Institute of Health and Welfare. Aboriginal and Torres Strait Islander Health Performance Framework 2017 report. Canberra: AIHW; 2017.
82. Larkins S, Page P. Access to contraception for remote Aboriginal and Torres Strait Islander women: necessary but not sufficient. The Medical journal of Australia. 2016;205:18-9.
83. Australian Institute of Family Studies. Impacts of COVID-19 on pregnancy and fertility intentions. 2021. [cited 6 Jan 2022]. Available from: <https://aifs.gov.au/publications/impacts-covid-19-pregnancy-and-fertility-intentions>.
84. Bearak J, Popinchalk A, Ganatra B, Moller A-B, Tunçalp Ö, Beavin C, et al. Global estimation of unintended pregnancy and abortion using a Bayesian hierarchical random walk model 2020.
85. Rafi J, Khalil H. Expectant management of miscarriage in view of NICE Guideline 154. J Pregnancy. 2014;2014:824527-.
86. Shankar M, Black KI, Goldstone P, Hussainy S, Mazza D, Petersen K, et al. Access, equity and costs of induced abortion services in Australia: a cross-sectional study. Aust N Z J Public Health. 2017;41(3):309-14.
87. Callander E, Thomas J, Fox H, Ellwood D, Flenady V. What are the costs of stillbirth? Capturing the direct health care and macroeconomic costs in Australia. Birth. 2019;47.
88. Callander E, Shand A, Ellwood D, Fox H, Nassar N. Financing Maternity and Early Childhood Healthcare in The Australian Healthcare System: Costs to Funders in Private and Public Hospitals Over the First 1000 Days. International Journal of Health Policy and Management. 2021;10(9):554-63.
89. Rørbye C, Nørgaard M, Nilas L. Medical versus surgical abortion efficacy, complications and leave of absence compared in a partly randomized study. Contraception. 2004;70(5):393-9.
90. PwC. The economic impacts of stillbirth in Australia. 2016.
91. Services Australia. Stillborn Baby Payment. 2021. [cited 16 October 2021]. Available from: <https://www.servicesaustralia.gov.au/individuals/services/centrelink/stillborn-baby-payment/how-much-you-can-get>.

92. Stillbirth Foundation. The economic impacts of stillbirth in Australia. 2016 [cited 16 October 2021]. Available from: <https://stillbirthfoundation.org.au/wp-content/uploads/2020/08/Economic-Impacts-of-Stillbirth-2016-PwC.pdf>.
93. Australian Bureau of Statistics. Employee earnings. 2020. [cited 18 Nov 2021]. Available from: <https://www.abs.gov.au/statistics/labour/earnings-and-work-hours/employee-earnings/aug-2020#methodology>.
94. Fair Work Ombudsman. Maximum weekly hours. 2017. [cited 18 Nov 2021]. Available from: <https://www.fairwork.gov.au/tools-and-resources/fact-sheets/minimum-workplace-entitlements/maximum-weekly-hours>.
95. Australian Bureau of Statistics. Labour Force, Australia. 2021. [cited 18 Nov 2021]. Available from: <https://www.abs.gov.au/statistics/labour/employment-and-unemployment/labour-force-australia/aug-2021>.
96. Australian Bureau of Statistics. Characteristics of Employment, Australia. 2020. [cited 18 Nov 2021]. Available from: <https://www.abs.gov.au/statistics/labour/earnings-and-work-hours/characteristics-employment-australia/latest-release>.
97. Services Australia. Parenting Payment. 2021. [cited 12 October 2021]. Available from: <https://www.servicesaustralia.gov.au/individuals/services/centrelink/parenting-payment>.
98. Baxter. Timing of mothers' return to work after childbearing 2008. [cited 15 October 2021]. Available from: <https://aifs.gov.au/publications/timing-mothers-return-work-after-childbearing#:~:text=Overall%20maternal%20return%2Dto%2Dwork%20patterns&text=At%20three%20months%20old%2C%2011,months%2C%2054%25%20had%20returned>.
99. Australian Bureau of Statistics. Pregnancy and employment transitions. 2018. [cited 27 October 2021]. Available from: <https://www.abs.gov.au/ausstats/abs@.nsf/mf/4913.0>.
100. Barton K, Redshaw M, Quigley MA, Carson C. Unplanned pregnancy and subsequent psychological distress in partnered women: a cross-sectional study of the role of relationship quality and wider social support. BMC Pregnancy and Childbirth. 2017;17(1):44.
101. Services Australia. Family tax benefit. 2021. [cited 27 October 2021]. Available from: <https://www.servicesaustralia.gov.au/individuals/services/centrelink/family-tax-benefit/how-much-you-can-get/ftb-part-b-payment-rates>.
102. Picodi. Birth of a child: what are the expenses during pregnancy and baby's first year? 2020. [cited 27 October 2021]. Available from: <https://www.picodi.com/au/bargain-hunting/birth-of-a-child-what-are-the-expenses-during-pregnancy-and-baby-s-first-year>.
103. Australian Institute of Health and Welfare. Adoptions. 2021. [cited 13 October 2021]. Available from: <https://www.aihw.gov.au/reports/australias-welfare/adoptions>.
104. Korenman S, Kaestner R, Joyce T. Consequences for Infants of Parental Disagreement in Pregnancy Intention. Perspectives on Sexual and Reproductive Health. 2002;34(4):198-205.
105. Kost K, Landry DJ, Darroch JE. Predicting maternal behaviors during pregnancy: does intention status matter? Fam Plann Perspect. 1998;30(2):79-88.
106. Gipson JD, Koenig MA, Hindin MJ. The effects of unintended pregnancy on infant, child, and parental health: a review of the literature. Stud Fam Plann. 2008;39(1):18-38.
107. Eggleston E. Unintended pregnancy and women's use of prenatal care in Ecuador. Soc Sci Med. 2000;51(7):1011-8.
108. Hromi-Fiedler AJ, Pérez-Escamilla R. Unintended pregnancies are associated with less likelihood of prolonged breast-feeding: an analysis of 18 Demographic and Health Surveys. Public Health Nutr. 2006;9(3):306-12.

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109. Barber JS, Axinn WG, Thornton A. Unwanted childbearing, health, and mother-child relationships. *Journal of Health and Social Behavior*. 1999;40(3):231-57.
110. Elsenbruch S, Benson S, Rucke M, Rose M, Dudenhausen J, Pincus-Knackstedt MK, et al. Social support during pregnancy: effects on maternal depressive symptoms, smoking and pregnancy outcome. *Human Reproduction*. 2007;22(3):869-77.
111. Miller S, Wherry LR, Foster DG. What Happens after an Abortion Denial? A Review of Results from the Turnaway Study. *AEA Papers and Proceedings*. 2020;110:226-30.
112. Coombe J, Harris M, Wigginton B, Lucke J, Loxton D. Contraceptive use at the time of unintended pregnancy: Findings from the Contraceptive Use, Pregnancy Intention and Decisions study. *Australian Family Physician*. 2016;45:842-8.
113. Secura G. Long-acting reversible contraception: a practical solution to reduce unintended pregnancy. *Minerva Ginecol*. 2013;65(3):271-7.
114. Mazza D, Bateson D, Frearson M, Goldstone P, Kovacs G, Baber R. Current barriers and potential strategies to increase the use of long-acting reversible contraception (LARC) to reduce the rate of unintended pregnancies in Australia: An expert roundtable discussion. *Australian and New Zealand Journal of Obstetrics and Gynaecology*. 2017;57(2):206-12.
115. Lucke J, Herbert D, Loxton D, Weisberg E. Unintended pregnancies - Reducing rates by improving access to contraception. *Aust Fam Physician*. 2011;40(11):849.
116. Family Planning NSW. Sexual and Reproductive Health and Rights and the Sustainable Development Goals: Priorities for Australia and the Pacific 2020. 2020. [cited 29 October 2021]. Available from: https://www.fpnsw.org.au/sites/default/files/assets/SDGreport_2020_v2.pdf.