

Contraception in Australia 2005-2018



Publication Information

Contraception in Australia 2005-2018 Published by Family Planning NSW 328–336 Liverpool Road, Ashfield NSW 2131 Australia Ph. (02) 8752 4300 www.fpnsw.org.au ABN: 75 000 026 335 © Family Planning NSW 2020 ISBN: 978-1-877026-54-6

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Suggested citation:

Family Planning NSW. Contraception in Australia 2005-2018. Ashfield, Sydney: FPNSW; 2020.

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Disclosure of conflict of interest

Family Planning NSW has published this monograph to provide data on contraception uptake in Australia. No external funding was received for this project.

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Key indicators

Prevalence and patterns of contraceptive use

Choices of contraceptive methods

Contraceptive use by state and territory, age group, Indigenous status, country of birth and relationship status

Pharmaceutical Benefits Scheme (PBS) claims for oral contraception, injections, implants and hormonal intrauterine device (IUD) from 2005 to 2018

Medicare Benefits Schedule (MBS) claims for etonogestrel implant insertions, intrauterine device insertions, tubal sterilisation, and vasectomy procedures from 2005 to 2018.

Primary data sources

Roy Morgan data 2008, 2010, 2012, 2014, 2016 obtained from the Roy Morgan Australian market research company

The Household, Income and Labour Dynamics in Australia (HILDA) survey 2005, 2008, 2011 & 2015 data obtained from the Melbourne Institute of Applied Economic and Social Research National Aboriginal and Torres Strait Islander Health Survey, 2012

Published survey data:

The Australian Longitudinal Study on Women's Heath

The Australian Study of Health and Relationships (ASHR) population health survey 1 and 2 The Australian Bureau of Statistics

The National Surveys of Australian Secondary Students and Sexual Health 2018

Pharmaceutical Benefits Scheme (PBS) data 2005-2018

Medicare Benefits Schedule (MBS) data 2005-2018

Purpose of this monograph

- To compare contraceptive use in Australia and other countries
- To describe the trends in contraceptive use in Australia
- To describe contraceptive use in population subgroups
- To identify areas of data development

Definitions and acronyms

Reproductive age: 15-49 years for women (1) and 15-64 for men unless specified

Contraceptive Rate: Number of women or men of reproductive age using a contraceptive method per 100 women or men of reproductive age

Age-specific Contraceptive Rate: Number of women or men in an age group using a contraceptive method per 100 women or men in that age group

External condom: Barrier contraceptive method, which is worn on an erect penis before penetration. It is also known as the male condom.

Internal condom: Barrier contraceptive method, which is inserted into the vagina before penetration. It is also known as the female condom.

COCP: Combined oral contraceptive pill

IUD: Intrauterine device including copper and hormonal IUDs

LARC: Long-acting reversible contraceptive

OCP: Oral contraceptive pill

Tubal sterilisation: refers to all procedures performed on the fallopian tubes resulting in permanent contraception (sterility). It is sometimes referred to as female sterilisation.

Vasectomy: permanent form of contraception resulting from a surgical procedure to interrupt the path of sperm through the vas deferens. It is sometimes referred to as male sterilisation.

Medicare data: Refers to both MBS and PBS data

ABS: Australian Bureau of Statistics

CALD: Culturally and linguistically diverse

MBS: Medicare Benefits Schedule

PBS: Pharmaceutical Benefits Scheme

STI: Sexually transmissible infection

WHO: World Health Organization

Data sources

No routinely collected data on contraceptive use that is both reliable and complete are available in Australia. Information presented in this chapter is collated from surveys, national reports and Medicare data.

Roy Morgan 2008, 2010, 2012, 2014, 2016 data

Roy Morgan Research is an established Australian market research company which conducts 50,000 surveys annually with a panel of over 300,000 respondents covering all states and territories. Questionnaires are administered door to door with follow-up interviews over the phone. The data collected on contraception use are limited to temporary methods of contraception as the questionnaire is designed primarily for market research rather than population health research. De-identified and weighted data were obtained for this report.

HILDA survey 2005, 2008, 2011, 2015 data

The Melbourne Institute of Applied Economic and Social Research have been conducting the HILDA survey every year since 2001. This is a household-based panel study conducted annually; the latest survey containing contraception data was conducted in 2015 and involved 7,546 households and 18, 195 individuals. In 2005, 2008, 2011 and 2015, women aged 18-44 years and men aged 18-55 years were asked questions about contraceptive use and fertility. Data collection for the HILDA study is conducted by Roy Morgan Research. The de-identified HILDA survey data were obtained from these four survey waves and analysed for this report.

National Aboriginal and Torres Strait Islander Health Survey (NATSIHS), 2012-13 data

The Australian Bureau of Statistics (ABS) conducted the National Aboriginal and Torres Strait Islander Health Survey between April 2012 and February 2013. Only limited questions were asked relating to contraception, and not all contraceptive types were included. However, this survey, which includes a nationally representative sample of 12, 900 Aboriginal and Torres Strait Islander people, provides the most reliable information about Indigenous health status.

Published surveys

The Australian Study of Health and Relationships (ASHR) population health survey 1 (2001-2002) and 2 (2012-2013) on people aged 16 to 59 years (2).

The Australian Longitudinal Study on Women's Health (ALSWH) commenced in 1996 with randomly selected cohorts of women then aged 18 to 23, 45 to 50 and 70 to 75 years. The cohorts were surveyed again in 2000, 2003 and 2006 (3). In 2012, 17, 000 women aged 18-23 were added as a new cohort in this on-going research (4).

The National Survey of Australian Secondary Students and Sexual Health (NSASS) was conducted in 2018. It involved 6,327 students enrolled in Years 10, 11, and 12 in Government, Catholic, or independent schools across all Australian states and territories (5).

The Bettering the Evaluation and Care of Health (BEACH) data 2007-2011 on women aged 12-54 years who consulted General Practitioners (GPs) for contraception (6).

The United Nations *Trends in Contraceptive Use Worldwide 2015* report. Information about contraceptive use for countries is from nationally reported data and the United Nation's own estimates. Only data for women who were married or in-union with a male partner were included (1).

Medicare data

Claims for reimbursement can be tracked through Medicare data, PBS data for contraceptive related products, and MBS data for contraceptive related medical procedures. While survey data reflect the prevalence of contraceptive use, Medicare data reflect the number of claims presented each year (7).

Limitations

The MBS data do not include procedures carried out at facilities which do not bill through Medicare such as public hospitals. There are no specific MBS items for the contraceptive injection procedure. Only the intrauterine device and implant insertion procedures have specific item numbers.

PBS subsidies are not available for all products. Several combined oral contraceptive pills, the vaginal ring and copper IUDs are not listed on the PBS. Furthermore, online PBS data only reflects the number of prescriptions filled, not the actual number of users. For example, it cannot be determined if a person who filled a script for the contraceptive pill took the pill, whether they switched to another method, or stopped using contraception.

Neither MBS nor PBS data provide information about how long a person has used a particular contraceptive method or whether more than one contraceptive method has been used at the same time.

Selection bias could be an issue in the survey data. In the ASHR surveys, telephone interviews with households were conducted (2, 8-10). Households without a landline telephone, people not living in a household but in colleges, prisons, oil rigs, camps, and hospitals might not be selected. In addition, much of the data presented here are based on studies which identified people's gender in a binary way (male/female), and so may not have accurately captured data from those who are trans or gender diverse. Finally, the NSASS survey of students in Years 10-12 did not include people who were out of school (5). These young people may have a lower age at first intercourse and may be at a greater risk of unintended pregnancy and STIs (11, 12).

Measurement bias could also be an issue. Neither the HILDA surveys nor the Roy Morgan surveys collected information on whether the IUD used was a copper or hormonal device. These surveys also did not differentiate between use of external or internal condoms. Use of condoms for contraception

and/or STI protection is rarely differentiated in surveys. Therefore, the use of condoms for contraception may be overestimated.

Comparisons between surveys, and over time, are limited by differences in the classification of contraceptive methods, the sampling frames, and populations from which the samples were drawn. The ABS surveys interviewed women up to the age of 49 years, while the ASHR team surveyed women up to the age of 59 years.

The BEACH study was limited to clients who consulted selected GPs (6). Some contraceptive products such as condoms and emergency contraceptive pills can be bought over the counter without a prescription and therefore are not captured in the BEACH data. Aside from their GP, contraceptive consultations may have been undertaken with other health care providers, such as family planning clinics, community health and women's clinics or hospital settings.

Executive Summary

Between 2005 and 2015 approximately two-thirds of Australian women at risk of pregnancy were using contraception. Despite this, there was still a 10% unmet need for family planning, which is comparable to the unmet need worldwide, and among other developed nations. Oral contraception was the most used method within Australia and its use exceeded that of other developed nations and the worldwide prevalence (29% compared to 17% and 8.8%, respectively).

Contraceptive methods in Australia

Across data sources, oral contraceptives and condoms remained the most commonly used methods of contraception, with condom use remaining relatively stable and oral contraceptive use tending to decline over the previous 8-10 years. Usage of long-acting reversible contraceptive methods (LARCs) demonstrated small but consistent increases between 2005 and 2015, from 3.0% to 5.1% for contraceptive implants and from 1.6% to 4.5% for intrauterine devices (IUDs). Rates of dual contraceptive use (i.e., a barrier method to prevent STI infection combined with another method) across the 10 year period ranged from 30% to 37% for all oral contraceptive users aged 18-29 and 5.9% to 18% of all LARC users of the same age range.

Contraceptive use by state and territory

The most common contraceptive methods across all states and territories were oral contraceptives and condoms, reflecting national trends. LARC usage was highest in the Northern Territory with 7.1% of women with a need for contraception using the contraceptive implant and 18% using IUDs.

Contraceptive use by remoteness area

In 2015, both current and ever use of contraceptives were highest in in remote Australia (82%, and 92%, respectively) and lowest in major cities (65% and 81%, respectively). Consistent with national trends, oral contraception and condoms were the most common contraceptive methods in all areas, except for remote areas where IUDs (31%) and implants (21%) were the most used methods.

Contraceptive use by age group

In 2015, current contraceptive use was highest for those aged 40-44 (72%) and lowest among those 18-24 (62%). Oral contraception and condoms were the most commonly reported methods for all age groups except those aged 45-49 who relied on partner vasectomy. Oral contraceptive use was highest for those in the 18-24 age group (41%) and declined with increasing age.

Contraceptive use by country of birth

Within Australia, those born in non-English speaking countries reported the lowest rates of current contraceptive use (60%) followed by those born in Australia (69%), and then those born in other predominantly English-speaking countries (77%). Condoms were the most used method by those born in non-English speaking countries (32%) whereas those born in Australia and other predominantly English speaking countries used oral contraceptives most (32% and 33%, respectively). LARC use was highest for those born in Australia (4.5% and 5.6% for IUDs and implants, respectively).

Contraceptive use among Aboriginal and Torres Strait Islander women

Comprehensive and up to date data on contraceptive use among Aboriginal and Torres Strait Islander women is limited. However data from the 2012-13 National Aboriginal and Torres Strait Islander Health Survey found that 49% of Aboriginal and Torres Strait Islander women were currently using contraception, which is lower than the 2015 national average of 67%. These data suggest that oral contraceptives were the most used method for all age groups between 18 and 39, and tubal sterilisation was the most common method for the two age groups between 40 and 49 years of age. Oral contraceptives were also the most prevalent methods in major cities and inner regional areas, while contraceptive implants were used most in remote and very remote areas.

Medicare claims for contraception

In 2018, the total cost of claims for all contraception across the Pharmaceutical Benefits Scheme (PBS) and on the Medicare Benefits Schedule (MBS) was \$64.5 million. Not including consultation costs, \$9.92 was claimed per woman of reproductive age. There were approximately four times as many claims for combined oral contraceptive pills than for any other contraceptive methods (71 claims per 1000 women of reproductive age). Between 2005 and 2018, PBS claims for combined oral contraceptive age). Between 2005 and 2018, PBS claims for combined oral contraceptive pills, as well as MBS claims for tubal sterilisation procedures, decreased across all states and territories. Over the same period, PBS and MBS claims for LARC methods increased across all states and territories: claims for contraceptive implants doubled over the period; PBS claims for hormonal IUDs tripled in all states with a four-fold increase in the ACT; and claims for contraceptive injections remained steady, while claims for vasectomy were steady overall but decreased between 2005 and 2014 and then increased by a similar magnitude from 2014 to 2018.

Conclusion

According to the HILDA data, more than half of all Australian women of reproductive age were using contraception between 2005 and 2015. The most frequently used methods were oral contraception followed by condoms and then permanent methods (tubal sterilisation and vasectomy). High uptake of oral contraceptives in Australia may reflect their numerous benefits including ease of use, reversibility, and various non-contraceptive benefits such as cycle control and relief of menstrual symptoms. Decreases in PBS claims for oral contraceptives are mirrored in the usage data, but may also be due to changes in the prescribing of non-PBS listed oral contraceptives. Declines in oral contraceptive use may be explained by the emergence of new forms of contraceptives including LARCs, as well as increasing awareness and availability of other contraceptive options. LARC use has demonstrated small but consistent increases in use over the 10 year period, and these changes are supported by associated increases in MBS and PBS claims for these methods. Contraceptive use across states tends to mirror trends seen at the national level, with exceptions for states with marked differences in population density, rurality, and/or population of Aboriginal and Torres Strait Islander people such as the Northern Territory. This report also highlights a number of areas where data development is required including greater representation of Aboriginal and Torres Strait Islander people in survey samples; differentiation between contraceptive methods including between copper and hormonal IUDs; and exploration of linkages between Medicare data and other sources to provide a more comprehensive picture of contraceptive practices within the Australian healthcare system.

1 Introduction

Approximately one in 4 to 5 (20 to 25 percent) women in Australia will have a termination of pregnancy during their lifetime (13-15). Unintended pregnancies that do not result in abortion may result in poorer pregnancy outcomes than those which have been planned (16-18). Unintended pregnancies result from either not using contraception or using contraception incorrectly, and half of these unintended pregnancies are due to contraceptive failure (19, 20). The methods of contraception that are available in Australia are presented in Table 1.1 (21). Shorter-term methods, such as the oral contraceptive pill, require daily attention from users, are more difficult to adhere to, and have lower effectiveness than long-acting reversible contraceptives (LARC) and permanent methods of contraception (22, 23).

To improve contraceptive uptake and effective use in Australia, health care providers must have a thorough understanding of the prevalence and trends in contraceptive use, choices of contraceptive methods, and factors associated with their use, especially for population sub-groups.

Table 1.1 Contraceptive methods available in Australia

Contraceptive method	Frequency of Use	Products/ formulations available as of May 2020	Availability	Government subsidised
Short-term				
Fertility awareness methods (e.g. standard days, symptothermal methods)	Continuous commitment	n/a		
Withdrawal	At time of sexual intercourse	n/a		
Lactation Amenorrhoea Method	Continuous commitment	n/a		
Condom (external)	At time of sexual intercourse	Multiple	CGS	
Condom (internal)	At time of sexual intercourse	1	CGS	
Diaphragm	At time of sexual intercourse	1	OTS	
Combined hormonal contraceptive pills (oestrogen and progestogen)	Daily	17	Prescription required	PBS (not all are listed)
Progestogen-only pills (mini-pills)	Daily	2	Prescription required	PBS (not all are listed)
Combined hormonal vaginal ring	Monthly	1	Prescription required	
Long-acting reversible contraceptive	es		•	
Contraceptive injection	Every 3 months	1	Prescription required; Carried out by a trained clinician	PBS
Contraceptive implant (etonogestrel implant)	3 years	1	Prescription required; Carried out by a trained clinician	PBS & MBS
Copper-bearing IUDs	5-10 years	3	Prescription required; Carried out by a trained clinician	MBS
Hormonal IUDs	5 years	2	Prescription required; Carried out by a trained clinician	PBS & MBS
Permanent				
Tubal sterilisation (female sterilisation)	Permanent	n/a	Carried out by a trained clinician	MBS
Vasectomy (male sterilisation)	Permanent	n/a	Carried out by a trained clinician	MBS

Emergency contraception					
Emergency contraceptive pill	72 - 120 hrs after unprotected sexual intercourse	2	BTC		
Copper-bearing IUDs	Up to 120 hrs after unprotected sexual intercourse	3	Prescription required; Carried out by a trained clinician	MBS	

Sources: Family Planning New South Wales, Family Planning Victoria, True Relationships and Reproductive Health. Contraception: An Australian Clinical Practice Handbook. 4th ed. Sydney: Family Planning New South Wales; 2016. Medicare Australia: <u>http://medicarestatistics.humanservices.gov.au</u> PBS = Pharmaceutical Benefits Scheme; MBS = Medicare Benefits Schedule. Products listed on the PBS or Notes:

procedures listed on the MBS are available to the consumer at a decreased cost; CGS = Contraception for general sale, no prescription required and products may be available in

pharmacies/supermarkets; OTS = Off the shelf in pharmacies only, no prescription is required and products are available in pharmacies without consultation with the pharmacist;

BTC = Behind the counter in pharmacies only, no prescription required and products are available in pharmacies after consultation with the pharmacist.

Some formulations have multiple brands.

Information is correct to our knowledge at the time of writing.

2 Methods

2.1 Analyses of HILDA survey data 2005, 2008, 2001 & 2015

Data from women who were of reproductive age (18-44) and responded to the questions on contraception use in the 2005 (n = 2,674), 2008 (n = 2,510), 2011 (n = 2700), and 2015 (n = 3,458) surveys were analysed. They were considered to be at risk of pregnancy if they were not currently pregnant, did not report any physical difficulties that would affect their ability to become pregnant and had not had a hysterectomy.

Indicators analysed were:

- proportion of women who were using contraception at the time of the survey
- proportion of women who had ever used any contraception
- proportion of women who were using each type of contraceptive method
- proportion of women who were using more than one contraceptive method.

Information was analysed by state, age-group, remoteness structure, and country of birth. A woman was considered to be in a relationship if she reported having a partner, regardless of marital status and whether or not she lived with her partner.

Complex survey data analysis was applied based on the stratification sampling of the data. The data were weighted using the cross-sectional responding person population weight. Data were analysed in Stata MP/14.1 (Stata Corp LP).

Results from the HILDA 2015 survey are the main source of data presented in this monograph unless stated otherwise.

2.2 Literature review

Estimates of current use and ever-use of contraceptives, types of contraceptive methods, and factors associated with contraceptive use were extracted from the published literature described in the *Data sources* section.

2.3 Analyses of Medicare data

The total number of Medicare claims, cost, and contraceptive rate per 100 women or men of reproductive age were analysed for Australia, each state/territory, and age group. For each type of contraceptive method, rates were calculated using the number of claims from women aged 15-49 years or men aged 15-69 as numerators. The number of women aged 15-49 years or men 15-69 years from the <u>ABS website</u> were the denominators (24). Medicare data from 2005 to 2018 were analysed to show trends and significant changes over time.

3 Contraceptive use: International comparison

3.1 Prevalence of contraceptive use

According to the United Nations Department of Economic and Social Affairs, Population Division, 68% of partnered women in Australia used contraception in 2015 (see Figure 3.1). This rate has remained relatively stable over the last 20 years and is consistent with other developed countries (68%). There has been a rise in the prevalence of contraceptive use in the less developed (44% to 53%) and least developed countries (21% to 63%) over the same period.



Figure 3.1 Estimates of contraceptive prevalence for any method in selected regions

Source: United Nations, Department of Economic and Social Affairs, Population Division (2015). Trends in Contraceptive Use Worldwide 2015 (ST/ESA/SER.A/349).

Note: Data are for women who are married or are in-union (i.e., living with their partner but not married according to their local marriage laws or customs), aged 15 to 49. Refer to section 5.1 for classification.

3.2 Contraceptive use and unmet need for family planning

An unmet need for family planning is defined by the United Nations as being when a woman wants to stop or delay childbearing but is not using any method of contraception (1). As of 2015 in Australia, there is still a 10% unmet need for family planning, which is similar to the unmet need worldwide and among other developed countries (see Figure 3.2). A greater unmet need for family planning can be seen among the less developed (16%) and the least developed countries (22%).



Figure 3.2 Estimates of contraceptive prevalence and percentage of unmet need for selected regions in 2015

Source: United Nations, Department of Economic and Social Affair, Population Division (2015). Trends in Contraceptive Use Worldwide 2015 (ST/ESA/SER.A/349).

Note: Data are for women who are married or are in-union, aged 15 to 49. Refer to section 5.1 for classification

3.3 Choice of contraceptive methods

Worldwide, female sterilisation (tubal sterilisation) (19%) and IUDs, both hormonal and copper, (14%) are the most widely used methods of contraception. Oral contraception was the predominant method used by women in Australia at 29%, compared to 17% observed among other developed countries overall. External (male) condom use in Australia was less prevalent than in other developed countries (14% compared to 22%). The use of contraceptive injections (2.0%) and implants (2.7%) was also notably higher in Australia compared to other developed countries (injectable - 0.6% and implant – 1.0%). In comparison, the IUD was less prevalent in Australia (1.5% compared to 4.6%) compared to other developed nations.



Figure 3.3 Estimates of contraceptive prevalence by contraceptive method for selected regions in 2015

Source: United Nations, Department of Economic and Social Affair, Population Division (2015). Trends in Contraceptive Use Worldwide 2015 (ST/ESA/SER.A/349).

Note: Data are for women who are married or are in-union, aged 15 to 49. Refer to section 5.1 for classification.

3.4 Contraceptive use in Australia

3.4.1 Prevalence of contraceptive use

According to the most recent HILDA survey (2015), 83% of Australian women of reproductive age (18-44 years) have used contraception at some point in their lives (see Table 3.1 and Figure 3.4) About two-thirds of women at risk of pregnancy were reportedly using contraception when surveyed (66% to 69%; HILDA survey). These figures were fairly consistent throughout the ten-year period of HILDA surveys (2005-2015) and also align with the second ASHR survey conducted in 2012-2013. Variation exists between studies due to different age ranges of participants and exclusion criteria.

	HILDA, 2005 n = 2.674*	HILDA, 2008 n = 2.510*	HILDA, 2011 n = 2.700*	HILDA, 2015 n = 3.458*	ASHR, 2013 n = 5654 [#]
Age range	18-44	18-44	18-44	18-44	16-49
Currently use contraception	68.7%	65.5%	68.2%	67.3%	66.0%
Ever used contraception	83.6%	81.2%	84.2%	83.1%	-

Table 3.1 Current use and ever-use of contraception among Australian women of reproductive age

Sources: The Household, Income and Labour Dynamics in Australia survey (HILDA, 2005; 2008; 2011; 2015): data obtained from the Melbourne Institute of Applied Economic and Social Research; Australian Study of Health and Relationships (ASHR, 2013) (2).

Notes: Sample: *Women aged 18-44 years, not pregnant, no hysterectomy, and no physical difficulty in getting pregnant; [#]Women aged 16-49 years.



Figure 3.4 Current use and ever-use of contraception among Australian women of reproductive age

3.4.2 Choice of contraceptive methods

In the latest HILDA survey (2015), oral contraception (28%) and condoms (24%) were the most used methods of contraception amongst women at risk of pregnancy (that is, women aged 18-44 who were not pregnant, had not had a hysterectomy, and reported no physical difficulty in getting pregnant). These were followed by partner vasectomy (7.5%), contraceptive implant (5.0%) and IUDs (4.5%). The ASHR2 study (2013) indicated that LARCs were used by approximately 11% of women at risk of pregnancy. This included contraceptive implants (4.9%) and IUDs (copper or hormonal devices; 6.1%; see Figure 3.5).



Figure 3.5 Estimates of use by contraceptive method in Australia - ASHR 2013 & HILDA 2015

Sources: The Household, Income and Labour Dynamics in Australia Survey (HILDA, 2015): data obtained from the Melbourne Institute of Applied Economic and Social Research; Australian Study of Health and Relationships 2 (2) *Notes:* A woman may use more than one method concurrently

The HILDA survey shows that oral contraceptive pills (OCPs) and condoms remain the most commonly used method of contraception with rates of use ranging from 28-33% for OCPs, and 20-24% for condoms. There was an increase in uptake of the contraceptive implant, which rose from 3.0% in 2005 to 5.1% by 2015. Similarly, IUD usage increased from 1.6% in 2005 to 4.5% after ten years. Use of less effective methods such as withdrawal, safe period and diaphragms has remained below 4.0% for the 2005-2015 periods (Figure 3.6). Use of permanent methods has had a small but steady decrease at all time points with tubal sterilisation decreasing from 6.5% in 2005 to 3.5% in 2015. Similarly, partner vasectomy had also shown a decrease from 9.7% in 2005 to 7.5% in 2015.



Figure 3.6 Use of contraceptive methods as a proportion of women with a need for contraception (HILDA 2005-2015)

Data from Roy Morgan surveys collected between 2008 and 2016 showed that OCPs and condoms were the most frequently reported contraceptive methods. There was a decline in OCP use over this

period from 48% of women indicating a need for contraception in 2008 to 37% in 2016. Use of condoms remained relatively stable at approximately 37% between 2008 and 2012, with a slight decrease to approximately 33% in 2014 and 2016. Contraceptive implant use increased from 5.7% in 2008 to 12% in 2016. IUD usage rates have also increased (5.7% in 2008 to 12% in 2016). Similar to the HILDA data, the less effective methods of contraception such as withdrawal, abstinence/fertility awareness methods, foam, creams and diaphragms were used less frequently than all other methods except for the contraceptive injection (Figure 3.7).

When comparing data between HILDA and Roy Morgan, it is important to note that HILDA collects data on the use of permanent methods, whereas Roy Morgan only collects data on reversible methods. Due to differing study designs, those using permanent methods were likely excluded from the sample of women considered to have a need for contraception. As a result, usage estimates tend to be larger for the Roy Morgan data set, owing to the smaller denominator.



Figure 3.7 Choice of contraceptive methods, Roy Morgan research 2008-2016

Source: Roy Morgan Research, 2017

Note: Roy Morgan does not collect data on permanent methods of contraception, and those using permanent methods are unlikely to be included in the denominator of those with a need for contraception.

3.4.3 Long-acting reversible contraceptives, 10 year trend

Contraceptive implants and IUDs are collectively referred to as LARCs (long-acting reversible contraceptives). In their modern form, IUDs were first introduced in the 1970s with copper-bearing IUDs (25), and the hormonal IUD in 1976 (26). Introduction of the single-rod implant (Implanon) followed in 1998. These methods are not user-dependent, can be used long term, and fertility resumes immediately after discontinuation (27). In Australia, the uptake of LARC methods has been low in the past decade; however, current data from Roy Morgan and HILDA both show a steady increase. In the Roy Morgan data set, contraceptive implant use and IUD use have both doubled in ten years, increasing from 5.7% in 2008 to approximately 12% by 2016 (Figure 3.8). The HILDA data show a similar rate of increase for LARC methods, with implant use increasing from 3.0% in 2005 to 5.1 % in 2015, and IUD use increasing from 1.6% to 4.5%. Notably, neither survey differentiated between copper and hormonal IUDs. There is a discrepancy in the proportion of people who used each method across the data sets as Roy Morgan did not include people using permanent methods in the total sample, whereas those using permanent methods were included in HILDA. This difference between the data sets means that proportions are calculated with a comparatively smaller denominator in the Roy Morgan data than in the HILDA data resulting in larger rates of use for the Roy Morgan data.



Figure 3.8 Trends in uptake of LARC methods in HILDA (2005-2015) and Roy Morgan (2008-2016)

When total LARC uptake is analysed by state and territory, Tasmania had the highest rise in LARC uptake at 14% in 2008, increasing to 43% in 2016. South Australia had the second highest uptake at 37% by 2016. (Figure 3.9)



Figure 3.9 Total LARC uptake by state and territory 2008-2016

Note: The greater variability seen in the NT estimates may be due to the smaller number of respondents

LARC uptake by age group also increased over the ten year period. In 2016, the highest rates were found among women aged 40 to 44 (35%), with IUDs at 20% and contraceptive implants at 15%. Women aged 15 to 19 showed an increase for contraceptive implant use (from 12% to 16%), but not IUD use, and women aged 45-49 had rates of IUD usage at 20% and contraceptive implant use at 4.9% in 2016. Overall, there has been an increasing trend of uptake within these groups over the ten year period (Figure 3.10). Although the data on IUD uptake do not differentiate between the use of copper and hormonal IUDs, it is important to note that the hormonal IUD has an additional indication for the management of heavy menstrual bleeding (28, 29), thus the uptake of IUDs in recent years may be an overestimate of the uptake of LARC as a contraceptive.



Figure 3.10 Total LARC uptake by age group 2008-2016

Source: Roy Morgan Research, 2017

Source: Roy Morgan Research, 2017

LARC use increased among women who live in metropolitan areas as well as rural areas (Figure 3.11). LARC use in rural areas was consistently higher (12% in 2008 to 25% in 2016) compared to metropolitan areas (11% in 2008 to 24% in 2016).





Source: Roy Morgan Research, 2017

3.4.4 Emergency contraception

In the HILDA 2015 survey, when asked "which of the methods listed are you using that prevent pregnancy?", of all women with a need for contraception, 0.3% reported using hormonal emergency contraception. This represents a decrease from 0.5% compared to the 2011 HILDA survey.

The proportion of women who had ever used emergency contraception ranged from 27% to 34% (see Table 3.2). Richters (2) and Hobbs (30) reported that women in the 20-30 age group have the highest number of emergency contraception users. The ASHR survey in 2002 reported that 23% of women surveyed had ever used emergency contraception (10), this increased to 34% by 2013, as reported in the second ASHR survey (2). Of those women who reported using the emergency contraceptive pill, 51% had used it only once, 45% has used it two to five times, and 4% had used it six to 20 times. In Australia, there are two emergency contraceptive pill formulations available, namely, levonorgestrel and ulipristal acetate. The Copper IUD can also be used as emergency contraception (31), however these surveys refer to the emergency contraceptive pill only.

	Ever used EC (%)	Sample Size	Age range (years)	Sampling Frame
ASHR; 2013	34.2	6397	16-49	Computer-assisted telephone interviews; random sampling
Hobbs; 2011	26.8	632	16-35	Computer-assisted telephone interviews; random sampling

3.4.5 Dual protection

Dual method contraceptive use is generally defined as the use of a non-barrier method (e.g., LARC or OCP) to prevent pregnancy, with simultaneous use of condoms for STI protection (32-34). However, recent studies with young people (14-24 years) indicate that dual protection is utilised with the primary intention to increase efficacy for pregnancy prevention and less so for STI prevention (35, 36). Using the HILDA data between 2005-2015, dual protection rates were analysed among females aged 18-29, as this age group is found to be at the highest risk for both pregnancy and STIs (37). These data showed that rates of dual protection in combination with oral contraceptives ranged from 18% to 26% of all females aged 18-29, whereas dual protection in combination with LARC methods ranged from 0.5% to 2.3% (Table 3.3; Figure 3.12). Looking at dual protection within contraceptive type, dual protection rates ranged between 30% and 37% of all oral contraceptive users within this age range. This is compared with dual protection rates of 5.9% to 18% amongst all LARC users of the same age group. It is important to note, however, that the HILDA survey asks respondents which methods they are using to *prevent pregnancy*. As such, those using condoms specifically to protect against STIs only, in combination with another method, may not select condoms for this question. For this reason, dual protection rates derived from the HILDA data may be an underestimation of the true rate.

Contraceptive method	2005	2008	2011	2015
All oral contraceptive users	66.9	70.6	70.2	62.0
All LARC users	8.1	7.7	8.3	13.5
All condom users	46.0	40.5	43.5	42.5
Using both oral contraceptives and condoms	24.6	22.0	25.5	18.4
Using both LARC and condoms	1.4	0.7	0.5	2.3
	<i>n</i> = 781	n = 747	<i>n</i> = 966	<i>n</i> = 1,187

Table 3.3 Population weighted rates of dual protection among all females aged 18-29 at risk of pregnancy

Source: HILDA 2015, 2011, 2008, 2005



Figure 3.12 Population weighted rates of dual protection among all females aged 18-29 at risk of pregnancy (HILDA 2005-2015)

The Australian Women's Longitudinal Health Study (AWLHS) surveyed a cohort of women born between 1973-1978 at four time points (1996, 2000, 2003, and 2006) to determine how their contraceptive practices changed over time (38). This study showed that dual protection tended to be stable at the first three time points, ranging from 13-14%, but decreased to 8% by the time respondents reached 28-33 years of age (see Table 3.4 and Figure 3.13).

Table 3.4 Proportion of respondents reporting dual protection in the AWLHS

	Survey 1 (1996) Age 18-23	Survey 2 (2000) Age 22-27	Survey 3 (2003) Age 25-30	Survey 4 (2006) Age 28-33
Oral contraceptive only	38.5	43.8	33.9	26.5
Condom only	17.6	14.6	15.5	16.2
Oral contraceptive and condom	12.6	13.2	13.8	8.0



Note: Proportions are calculated using the total number of women reporting contraceptive use at all four surveys (n = 6708).



3.4.6 Not using contraception

In the ASHR 2013 survey (Table 3.5) with women aged 16-49 (2), the most common reason for not using contraception was current or intended pregnancy (42%), followed by having had a hysterectomy (13%) and infertility or partner infertility (12%). Richters (2016) further explored the reasons of the 25% (n = 268) who answered "other reasons' for not using contraception. Of these women, 51% answered "don't worry/don't care", 23% had no specific reason, and 11% claimed they left it (the possibility of getting pregnant) to chance (2).

In the National Survey of Australian Secondary Students and Sexual Health (NSASS) in 2018 (5), 7.6% of respondents reported not using any contraception at the last instance of vaginal sex. For this question, approximately half (47%) of all respondents indicated that they did not use a condom at last vaginal intercourse. However, this question asked specifically about methods used to prevent pregnancy. As such, those using condoms for STI prevention may not be included. For condom use more generally, when asked if a condom was used at last vaginal/anal sex, 42% responded that no condom was used, and an additional 1.3% stated that they were unsure. Among the respondents reporting that a condom was not used, the most common reason for not using condoms was due to knowing a partner's sexual history (38%), trusting their partner (37%), and "it just happened" (34%). Other reasons stated were that they (29%) or their partner (30%) do not like them, and both partners had been tested for HIV/STIs (18%). An 'other' option was also offered, which was selected by 36% of respondents; however, the details of open text responses were not reported (see Table 3.6).

Table 3.5 Reasons given by women for not using contraception

Reason	%
Want a baby	28.5
Currently pregnant	13.7
Have had a hysterectomy	12.9
Infertile	8.6
Not having intercourse	5.2
Past menopause	3.2
Partner is infertile	3.0
Others	24.9

Source: ASHR, 2013 (2)

Table 3.6 Reasons given by students for not using a condom at last sexual intercourse

Reason	%		
I don't like them	28.5		
My partner does not like them	29.7		
I trust my partner	36.9		
It just happened	33.5		
We both have been tested for HIV/STIs	18.3		
Too embarrassed	2.6		
l know my partner's sexual history	37.7		
It is not my responsibility	0.9		
Other	36.4		

Source: NSASS, 2018 (5) Note: Multiple responses were allowed; (*n* = 1,196).

3.5 Contraceptive use by state and territory

Among women requiring contraception, the prevalence of current contraception use ranged from 63% in New South Wales (NSW) to 91% in the Australian Capital Territory (ACT). The percentage of women who have ever used contraception ranged from 78% in NSW to 96% in the ACT (Figure 3.14).



Figure 3.14 Prevalence of contraceptive use among women by state and territory, HILDA 2015

The most common contraceptive methods used across all states were oral contraceptives and condoms (see Figure 3.15). Use of oral contraception ranged from 11% in the Northern Territory (NT) to 34% in Tasmania. Condom use ranged from 18% in NT to 45% in the ACT. Tubal sterilisation was highest in Tasmania at 8.5% while partner sterilisation (vasectomy) was highest in the ACT (16%). Hormonal implant usage ranged from 1.4% (ACT) to 7.1% (NT) and IUD usage from 3.3% (NSW) to 18% (NT).



Figure 3.15 Contraceptive use by method, by state and territory, HILDA 2015

Contraception in Australia 2005-2018

3.6 Contraceptive use by remoteness area

The Australian Bureau of Statistics (ABS) employs a remoteness structure (referred to as ARIA categories) that divides Australia by major cities, inner regional, outer regional, remote Australia and very remote Australia (39). There are no data available on very remote areas regarding contraceptive use reported in the HILDA data.

	Current use	Ever used
Major Cities	65.4%	81.1%
Inner Regional	74.0%	90.7%
Outer Regional	73.9%	88.2%
Remote Australia	81.9%	92.4%

Table 3.7 Women's current use and ever use of contraception by remoteness area, HILDA 2015

A higher proportion of women from remote areas reported currently using contraception compared to women from major cities (82% vs. 65%). The proportion of women who had ever used contraception was also higher among women from remote areas (92%) than women from major cities (81%) (Table 3.7).

Oral contraception and condoms were the most common contraceptive methods used by women across all areas except for remote areas where the most used methods were IUDs (31%) and implants (21%). LARC use was markedly higher in remote areas, compared to all other areas with IUD and contraceptive implant usage ranging from 4.1% to 5.5% and 4.4% to 8.6%, respectively. Condom use was lower in outer regional areas (19%) compared to major cities (26%). Permanent methods were highest in outer regional areas, with tubal sterilisation at 9.7% and partner vasectomy at 12% (Table 3.8 and Figure 3.16).

	Pill	Condom	Diaphragm	Implant	IUD	Safe Period Method	Withdrawal	Injectable	Tubal Sterilisation	Partner Vasectomy
Major Cities	27.9	25.7	0.6	4.4	4.1	1.5	3.2	0.7	2.5	6.5
Inner Regional	31.5	20.2	0.2	5.9	4.2	1.0	3.2	2.2	5.9	11.6
Outer Regional	22.9	18.6	0.4	8.6	5.5	1.0	2.2	2.3	9.7	12.3
Remote	16.4	19.4	0.0	20.6	31.3	0.0	8.6	2.7	5.2	1.5





Figure 3.16 Proportion of users by contraceptive method and remoteness area, HILDA 2015

3.7 Contraceptive use by age group

Current contraceptive use in women was highest amongst those aged 40-44 years (72%) and lowest among the 18-24 year age group (62%) (Figure 3.17).



Figure 3.17 Women's current use, and ever use of contraception by age group, HILDA 2015

Oral contraception and condoms were the most commonly reported methods used by women in all age groups except those aged 45-49 years, who relied on partner vasectomy (Figure 3.18). The proportion of women reporting oral contraception use peaked at the 18-24 year age group (41%), and then gradually declined with increasing age. Condoms were widely used among women aged 25–29 years (29%) and 30-34 years (31%). Implants were most popular among women aged 18-24 (8.8%) while IUD usage was highest among women aged 40-44 (8.4%). However, women within this age range may have opted to use the hormonal IUD for heavy menstrual bleeding rather than contraceptive reasons (28, 29) as the occurrence of heavy menstrual bleeding can increase in perimenopause. Permanent forms of contraception (tubal sterilisation and vasectomy) were mostly used by women aged 40-49 (11% and 24%, respectively).



Figure 3.18 Choice of contraceptive method by age group, HILDA 2015

3.8 Contraceptive use by country of birth

Women born in non-English speaking countries reported lower rates of current contraceptive use (60%) compared to women born in Australia (69%). Current contraceptive use was most common among women who were born in other predominantly English speaking countries (United Kingdom, New Zealand, Canada, USA, Ireland, and South Africa) at approximately 77%. Women born in non-English speaking countries reported the condom as the most used method of contraception (32%). In contrast, those born in Australia and mainly English speaking countries reported OCPs as their most used method (32% and 33%, respectively). LARCs had highest usage rates among women born in Australia (4.5% and 5.6% for IUDs and implants, respectively; total use of 10%), closely followed by women born in non-English speaking countries (5.1% and 4.0% for IUDs and implants, respectively; total use of 9.1%). Those born in mainly English speaking countries reported the lowest rates of LARC use (2.9% and 3.6% for IUDs and implants, respectively; total use of 6.5%), see Figure 3.19.


Figure 3.19 Choice of contraceptive method by country of birth, HILDA 2015

3.9 Contraceptive use among Aboriginal and Torres Strait Islander women

The National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) conducted by the ABS, found that 49% of Aboriginal and Torres Strait Islander women were using contraception in 2012-2013 (40). This statistic is lower than the Australian national average of 67% who were using contraception as reported in the HILDA 2015 survey.

It is important to note that the NATSIHS was also conducted in 2019; however, there were no contraception questions included in the survey. The 2012-2013 NATSIHS, as reported above, is also limited in terms of the contraception data collected. Respondents were only asked whether they had ever used oral contraceptives or not (never used). The data from this question (See Figure 3.20) showed that lifetime use of OCP use was highest in Tasmania (88%), followed by the ACT (83%); see Figure 3.20. OCP use increased for every subsequent age group, with 49% having ever used OCPs in the 18-24 year age group, through to 66% in the 45-49 year age group (Figure 3.21). Across areas of remoteness, 71% of Aboriginal women living in major cities and inner regional Australia had ever used OCPs. Those living in remote and very remote Australia had the lowest rates of lifetime use of OCPs, at 41% and 15% respectively (Figure 3.22).



Figure 3.20 Proportion of Aboriginal and Torres Strait Islander women who have ever used, and never used, oral contraceptives (NATSIHS, 2012-13)



Source: ABS, 2017

Figure 3.21 Proportion of Aboriginal and Torres Strait Islander women who have ever used, and never used, oral contraceptives by age group (NATSIHS, 2012-13)

Source: ABS, 2017



Figure 3.22 Proportion of Aboriginal and Torres Strait Islander women who have ever used, and never used, oral contraceptives by ARIA classification (NATSIHS, 2012-13)

Source: ABS, 2017

In the 2012-13 NATSIHS, participants were asked what form(s) of contraception they are currently using; however, the range of contraceptive response options was limited. Data were provided for four contraceptive types – OCP, condoms, implants and tubal sterilisation. Data on other contraceptive methods were not collected, except for an open-response 'other' category, which was not provided in expanded form in the current data set. Across Australia, OCPs were the most prevalent method (16%), followed by the implant (12%). By state, current OCP use was highest in the ACT (34%) and Tasmania (22%). Current contraceptive implant usage was highest in the Northern Territory (18%) and Western Australia (16%), see Figure 3.23. Oral contraceptives were the most used method of contraception amongst the four youngest age groups: 18-24, 25-29, 30-34, and 35-39, while tubal sterilisation was the most common method among older women (40-44 and 45-49), see Figure 3.24. Comparing contraceptive methods by ARIA classification, OCPs were most prevalent in the major cities and inner regional Australia, while use of the implant was highest in remote and very remote areas (see Figure 3.25).



Figure 3.23 Proportion of Aboriginal and Torres Strait Islander women using contraception by method, and state and territory (NATSIHS, 2012-13)

Source: ABS, 2017



Figure 3.24 Proportion of Aboriginal and Torres Strait Islander women using contraception by method, and age group (NATSIHS, 2012-13)

Source: ABS, 2017



Figure 3.25 Proportion of Aboriginal and Torres Strait Islander women using contraception by method, and ARIA classification (NATSIHS, 2012-13)

Source: ABS, 2017

3.10 Medicare data

The Australian government subsidises some contraceptive related products under the Pharmaceutical Benefits Scheme (PBS). Methods subsidised under this scheme include the contraceptive implant, the hormonal IUD, the progestogen-only pill, and some combined oral contraceptive pills (see Table 1.1 for a summary). Contraceptive related medical procedures, such as IUD insertion, are included in the Medicare Benefits Schedule (MBS). Contraception consultation costs are also subsidised on the MBS; however, these are coded as a general medical consultation. Hence, contraception consultation costs cannot be determined by the Medicare data. For this reason all data described in this section excludes any related consultation costs.

3.10.1 Total claims

In 2018, the total cost of benefit claims for all forms of contraception was \$64.5 million (PBS and MBS). Excluding male sterilisation, on average, women of reproductive age claimed approximately \$9.92 per woman for contraception (excluding consultation costs). There are approximately four times as many claims for combined oral contraceptive pills (COCPs)¹ than for any other contraceptive method (see Figure 3.26). The claim rate for other types of contraception ranged from 0.3 to 23 claims per 1,000 women of reproductive age. Although COCPs were the most utilised PBS benefit, the hormonal IUD had the highest cost of claims at \$25.8 million, followed closely by the implant at \$17.7 million. In addition, MBS claims for implant insertion procedures resulted in a total cost of \$4.2 million, and IUD insertion claims on the MBS totalled \$3.5 million. MBS claims for permanent methods included \$5.3 million for vasectomy, and \$310,000 for tubal sterilisation procedures.

¹ Combined oral contraceptive pills are those formulations containing both oestrogen and progestogen, as opposed to progestogen-only pills (POPs/mini-pill); see Table 1.1 for all contraceptive methods available in Australia.



Figure 3.26 Number and claim rate for contraception subsidised by the PBS and MBS, 2018

Source: Medicare Australia:

http://medicarestatistics.humanservices.gov.au/statistics/mbs_item.jsp [cited 12 December, 2019] http://medicarestatistics.humanservices.gov.au/statistics/pbs_item.jsp [cited 12 December, 2019]

3.10.2 Oral contraception

3.10.2.1 PBS claims for Combined Oral Contraceptive Pills

PBS claim rates for COCPs have declined in recent years. In 2005, the total national claim rate was 15 per 100 women aged 15-49; however, by 2018 this had fallen to 7.1 per 100 women. As shown in Figure 3.27, the decline in COCP claims can also be seen across all Australian states and territories. From 2005 to 2018, there has been a national average decline of 7.3 claims per 100 women. Tasmania had the highest PBS claim rate for COCPs at all time points ranging from 26 claims per 100 women down to 16.



Figure 3.27 PBS claim rates for COCPs in Australia, women aged 15-49 years, from 2005 to 2018, by state and territory

Source: Medicare Australia: http://medicarestatistics.humanservices.gov.au/statistics/pbs_item.jsp [cited 12 December, 2019] Note: PBS items [2005-2018]:

1392G (Logynon ED, Trifeme 28, Triphasil 28, Triquilar ED),

1456P (Microgynon 50 ED),

2774B (Brevinor, Norimin 28 day),

2775C (Norimin-1 28 day, Brevinor-1),

3179H (Norinyl-1/28),

1394J (Eleanor 150/30 ED, Evelyn 150/30 ED, Femme-Tab ED 30/150, Lenest 30 ED, Micronelle 30 ED, Monofeme 28, Levlen ED, Nordette 28);

PBS item [2013-2018]:

2416E (Femme Tab ED 20/100)

3.10.2.2 PBS claims for Progestogen Only Pills

Unlike COCPs, all progestogen-only pills (POPs) are subsidised by the PBS. The POP had a decrease in claim rate from 2005 to 2018. In 2005, the total claim rate was 0.9 per 100 women aged 15-49. By 2018 this decreased to 0.6 claims per 100 women. This decline was consistent across all states and territories, with an average decrease of 0.2 claims per 100 women, as seen in Figure 3.28. Tasmania has the highest rates of POP use when compared to the other states (1.3 claims per 100 women).



Figure 3.28 PBS claims for POPs in Australia, women aged 15-49 years, from 2005 to 2018, by state and territory

Source: Medicare Australia: http://medicarestatistics.humanservices.gov.au/statistics/pbs_item.jsp [cited 12 December, 2019] Note: PBS Item: 1967M (Noriday), 2913H (Microlut)

3.10.3 Contraceptive injection

The PBS claim rate for the contraceptive injection remained steady when compared to other contraceptive types (see Figure 3.29). The total claim rate in 2005 was 2.6 per 100 women aged 15-49 compared to 2.0 per 100 women in 2018. Use of the contraceptive injection in 2018 was highest in Tasmania (4.7 claims per 100 women) and lowest in the Northern Territory and ACT (0.7 and 0.8 claims per 100 women, respectively). A minimal decrease could be observed amongst all states and territories with a range of 0.1 to 0.9 claims per 100 women.



Figure 3.29 PBS claims for the contraceptive injection in Australia, women aged 15-49 years, from 2005 to 2018, by state and territory

Source: Medicare Australia: <u>http://medicarestatistics.humanservices.gov.au/statistics/pbs_item.jsp</u> [cited 12 December, 2019] Note: PBS Item: 3118D (Depo-Ralovera, Depo-Provera)

3.10.4 Contraceptive implant

The etonogestrel implant had 62,730 PBS claims and 72,996 MBS claims in 2005. This almost doubled by 2018 to 117,688 PBS claims and 137,309 MBS claims. PBS and MBS claim rates both increased across all states. For PBS claim rates, Tasmania had the highest claim rate at all time points and the largest increase (by 1.2 claims per 100 women aged 15-49); see Figure 3.30. For MBS claims, the Northern Territory had the highest claim rate at all time points and the largest increase (1.6 claims per 100 women aged 15-49); see Figure 3.31.



Figure 3.30 PBS claims for the contraceptive implant in Australia, women aged 15-49 years, from 2005 to 2018, by state and territory

Source: Medicare Australia: <u>http://medicarestatistics.humanservices.gov.au/statistics/pbs_item.jsp</u> PBS Item: 8487Q (Implanon NXT)



Figure 3.31 MBS claims for the contraceptive implant in Australia, women aged 15-49 years, from 2005 to 2018, by state and territory

Source: Medicare Australia: <u>http://medicarestatistics.humanservices.gov.au/statistics/mbs_item.jsp</u>[cited 12 December, 2019] *Note:* MBS Item: 14206 (Hormone or living tissue implantation)

3.10.5 Intrauterine contraception

There has been a relatively large increase in MBS and PBS claim rates for intrauterine contraception between 2005 and 2018. The national PBS claim rate for the hormonal IUD increased from 0.8 claims per 100 women in 2005 to 2.3 in 2018 (see Figure 3.32). Similarly, the MBS claim rate for IUD insertion was 0.4 claims per 100 women in 2005 and tripled to 1.2 in 2018 (see Figure 3.33). The MBS code is the same for insertion of both hormonal and copper IUDs, and although the copper IUD is not PBS-listed, the insertion procedure may have still been claimed. Lower MBS claims compared to PBS claims may be due to insertions that are conducted in public hospitals or other settings that do not bill Medicare, such as some family planning clinics or outreach clinics.

From 2005 to 2018, PBS claim rates for the hormonal IUD approximately tripled across all states except for the ACT, which had a four-fold increase (see Figure 3.32). A similar trend was seen for the MBS claim rate for insertions, with the claim rate for all states at least doubling or tripling. The most substantial increase was seen in South Australia with a four-fold increase in insertion claims (see Figure 3.33).



Figure 3.32 PBS claims for intrauterine contraception in Australia, women aged 15-49 years from 2005 to 2018, by state and territory

Source: Medicare Australia: <u>http://medicarestatistics.humanservices.gov.au/statistics/pbs_item.jsp</u> *Note:* PBS Item: 8633J (Mirena)



Figure 3.33 MBS claims for intrauterine contraception insertion in Australia, women aged 15-49 years from 2005 to 2018, by state and territory

Source: Medicare Australia: <u>http://medicarestatistics.humanservices.gov.au/statistics/mbs_item.jsp</u> [cited 12 December 2019] Note: MBS Item: 35503 (IUD insertion)

3.10.6 Tubal sterilisation

Tubal sterilisation refers to all procedures performed on the fallopian tubes resulting in permanent contraception. The MBS data presented here are combined for both tubal ligation procedures (item number 35688) and tubal occlusion (item number 35691). The MBS claim rate for this method of contraception has remained very low, with an average decline of 0.06 claims per 100 women across all states between 2005 and 2018 (see Figure 3.34). Due to the low numbers generated per state, Medicare combines some states by default when reporting these data. The tubal occlusion method (Essure) has not been available in Australia since 2018.



Figure 3.34 MBS claims for female sterilisation in Australia, women aged 15-49 years from 2005 to 2018, by state and territory

Source: Medicare Australia: <u>http://medicarestatistics.humanservices.gov.au/statistics/mbs_item.jsp [</u>cited 12 December, 2019] Note: MBS Item: 35688 (tubal ligation), 35691 (tubal occlusion)

3.10.7 Vasectomy

Vasectomy is considered a permanent form of contraception resulting from a surgical procedure to interrupt the path of sperm in the vas deferens. There were 26,903 claims for vasectomy in 2018. National claim rates have remained low between 2005 and 2018, with small decreases between endpoints ranging from 0.01 to 0.04 claims per 100 men. Exceptions to this pattern are the claim rates of Tasmania, which were 0.38 in both 2005 and 2018, and Queensland, where there was a slight increase of 0.01 claims per 100 men (see Figure 3.35). Although the comparisons at each endpoint indicate very little change in claim rates, the trend lines show a generally falling trend for vasectomies in each state up to approximately 2014 and a rising trend from 2014 to 2018. In 2018, Queensland and the ACT had the highest claim rates compared to all other states (0.47 and 0.44, respectively) while the Northern Territory followed by NSW had the lowest claim rates (0.22 and 0.24, respectively).



Figure 3.35 MBS claims for vasectomy in Australia, men aged 15-64 years, from 2005 to 2018, by state and territory

Source: Medicare Australia: <u>http://medicarestatistics.humanservices.gov.au/statistics/mbs_item.jsp</u>[cited 12 December, 2019] Note: MBS Item: 37623 (vasectomy)

4 Discussion

4.1 Contraceptive use in Australia

According to the HILDA data, more than half of all Australian women of reproductive age were using contraception between 2005 and 2015. Oral contraception was most frequently used, followed by condoms, then permanent methods of contraception (tubal sterilisation and vasectomy). Internationally, the World Health Organization (WHO) reports that female sterilisation and the IUD are the most commonly used methods. Australia has an IUD uptake of 4.5% (HILDA, 2015) compared to other developed countries (4.6%) (1).

The high uptake of oral contraceptives in Australia may be due to their ease of use, reversibility and various non-contraceptive benefits such as cycle control and relief of menstrual symptoms (41). However, the decline of PBS claim rates (15 to 7 claims per 100 women) from 2005 to 2018 indicates that COCP use is generally decreasing among Australian women. Importantly, PBS claims do not include all COCPs on the market, as some may only be obtained through private prescriptions as they are not eligible for subsidies through the PBS. Despite this, the HILDA and Roy Morgan data show a similar decline of OCP use over ten years. This decline may be explained by the emergence of new forms of contraception such as LARCs, and that there is increasing awareness and availability of other contraceptive options (42, 43).

The two surveys that ask about the use of contraception at the individual level (HILDA & Roy Morgan) both report an increase in LARCs. For example, in the HILDA survey, the percentage of those reporting use of an IUD or implant rose from 1.6% and 3%, respectively, in 2005 to 4.5% and 5.1% in 2015. Although there is a high awareness among Australians about the availability of LARCs, the majority did not view this method as reliable (44), which may explain the relatively lower uptake, particularly of IUDs, in Australia compared to other developed nations (1). LARCs were more likely to be perceived as reliable by those who were younger (26-40 years), lived in an area of socio-economic advantage and did not regard religion as an important factor in fertility choices (44); these factors may also play a role in the pattern of LARC uptake demonstrated in these data. Several barriers still exist to the wider use of LARCs such as lack of information, access, and lack of confidence among healthcare professionals in providing LARC insertions (45). Pregnancy intentions have also been reported as playing an important role in contraceptive choice, with women aged 25-34 with a desire to have children preferring not to use LARCs (2). In order to address these barriers, several health care agencies in Australia have issued position statements endorsing the wider use of LARCs (46, 47).

Data on the use of emergency contraception is relatively limited compared to that available for other contraceptive methods. However, although most women are aware of emergency contraception, many are not aware that it is available over the counter, or that the efficacy may extend beyond 24 hours after unprotected intercourse (48, 49). Furthermore, some pharmacists may not be fully aware of the emergency contraceptive pill or are not willing to dispense it (50). A survey conducted with young people (aged 15-29) showed that 16% had accessed emergency contraception (37). Emergency contraception was dispensed more among those who were born in Australia, married, lived in a metropolitan area, had no health insurance and had higher education (30). For those who sought a general practice consultation for emergency contraception, the rate was highest among women who were new patients to the practice, from a non-English speaking background, non-Indigenous, or from the Northern Territory, Tasmania or the ACT (6). The copper IUD is another form of emergency contraception which is 99% effective and can be used within five days of unprotected intercourse (31). There is very little data regarding the use of the copper IUD for emergency contraception. However, a survey of Australian women and trans men reported that only 12.7% recognised the copper IUD as a form of emergency contraception, and only 2% had ever used it for this reason (51). These findings indicate a low awareness of this method of emergency contraception and a need for increased education and promotion strategies.

4.2 Contraceptive use by age group

Contraceptive use tends to vary by life stage and fertility intentions, and prior research shows that young women tend to use short-term methods including OCPs and condoms (38). Younger women prior to the age of 30 are also more likely to use dual methods of protection (13-14%), but use of dual methods decreased to 8% by the time respondents reached 28-33 years of age. This change of behaviour has been attributed to women in this age group being less likely to be at risk for STIs, perhaps as a result of more stable relationships, leading to less use of barrier methods (38). The average maternal age in Australia is 30 years (52), as such, the decline in contraceptive use among women aged 30-35 may be a reflection of this group's pregnancy intention (2). As the demographic ages (40 and above), pregnancy intentions may change, making LARCs and permanent methods more suitable for their contraceptive needs (38). The hormonal IUD can also be used for heavy menstrual bleeding (28, 29), particularly to help control heavy bleeding that can occur in the perimenopause, which may explain its increased use in the older age group.

4.3 Contraceptive use among Aboriginal and Torres Strait Islander people

Contraceptive use among Aboriginal women was lower than the general female population (49% compared to 67% in the 2015 HILDA survey). Access has been identified as a factor contributing to low contraceptive use among Aboriginal women (53), as well as cost (54), and misconceptions and reservations regarding contraceptive use (55). Despite this, reported LARC rates are notably higher among rural and remote areas where there are a higher number of Aboriginal communities. This correlates with studies indicating that the contraceptive implant was a preferred method of contraception among Aboriginal women (53). As access to health services and health professionals is often more difficult in rural areas, the higher uptake of LARCs among rural clients may be due to the reduction in the number of visits to the GP or pharmacist which are required for ongoing OCP use (56).

4.4 Contraceptive use by country of birth

Contraceptive use was lower among women born from non-English speaking countries (60%) compared to those born in Australia (69%). These results are similar to findings from other studies (57-61) indicating that migrants and refugees may be less aware of sexual and reproductive health services and contraceptive options in Australia. People from culturally and linguistically diverse backgrounds (CALD) may also be at risk for poor health outcomes, including in relation to their sexual and reproductive health (61). This may be due to several factors such as language and cultural barriers, access to health services, and lower health literacy (59). Furthermore, CALD women may have inadequate information or familiarity with modern contraceptive methods compared to Australian-born women (58). It has also been reported that social and cultural norms make it difficult for CALD women to openly discuss sex and sexuality, which may discourage them from accessing sexual health services (60).

4.5 Medicare data

Medicare data only reflects products or procedures listed on the PBS or MBS, and provide data in the form of number of claims per year. As such, it is not possible to compare the 7.1 claims per 100 women of reproductive age who received PBS benefits for combined oral contraceptive pills and the estimated 28-37% of women of reproductive age using oral contraception in surveys. Nonetheless, the number of claims for oral contraception was still higher than the number of claims for any of the other listed contraceptive products or procedures. This is somewhat expected, as a single person using OCPs for one year would make 3-4 claims whereas continued use of a contraceptive implant, for example, would result in one claim every three years. Further, the claim rates presented are not

able to capture those who use formulations or brands which are not PBS listed. A recent survey found that 30.9% of those using combined oral contraceptives were using formulations that were not listed on the PBS (62). Hence, OCP users are still under-represented in the PBS data. Nevertheless, the data show that the number of claims for PBS benefits for oral contraception decreased by 7.9% between 2005 and 2018. This decrease may be due to a switch from PBS subsidised oral contraceptives to non-PBS listed pills or other methods such as the vaginal ring, a shift to LARC, or stopping contraception altogether. Further research is required to determine the reason for this decrease in PBS claims for oral contraceptives. In particular, data regarding the use of non-PBS listed oral contraceptives is required, as it plays an important role for advocacy and assists in addressing issues of contraceptive equity.

The number of claims for PBS and MBS benefits for the contraceptive implant, Implanon NXT, increased steadily over the period from 2005 to 2018. This may indicate a shift of preference of Australian women for LARCs, which is also reflected in the Medicare claims data for IUD insertion. PBS claim rates for Implanon increased between 30% (Northern Territory) and 77% (NSW) between 2005 and 2018.

The total expenditure on PBS and MBS benefits for contraception in 2018 was around \$64.5 million. Approximately 79% of the expenditure was for implants (\$22M), and IUDs (\$29M) from both MBS (insertion costs) and PBS claims (hormonal IUD and Implanon only). The consultation costs associated with LARC are not included in these data; neither are costs for insertions conducted in hospitals. Despite the higher upfront cost of LARC, the high effectiveness and longer contraceptive effect (3-5 years for hormonal LARC, and up to 10 years for the copper IUD) makes LARC more cost-effective than other methods. If a person switches from the oral contraceptive pill to a LARC method, they will accrue an annual cost saving of \$114 - \$157, inclusive of the possibility for early discontinuation (63). If LARC uptake in Australia increased to that in comparable countries, net savings to the Australian society are estimated at \$75.2 million over five years (63). The economic benefits of LARCs are also supported by other studies from the United Kingdom (64) and the United States (22, 65).

Claims for contraceptive methods differed between states and territories. The Northern Territory has the lowest claim rate for most of the products and procedures, except MBS and PBS claims for contraceptive implants. The Northern Territory has a population density of only 0.2 people per square km and most live in remote or very remote areas (66). The Northern Territory also has the largest proportion of Aboriginal and Torres Strait Islander people at 30% compared to the 4% average among other states (66). The results observed in the PBS and MBS data may reflect the lower use of any contraceptive method among Aboriginal and Torres Strait Islander people but a greater utilisation of LARC methods, particularly contraceptive implants, among those using contraception (53).

4.6 Data development

4.6.1 Survey data

As there is no recognised national Australian data collection on contraception, future surveys should ideally collate comprehensive (e.g. by State or territory and national) contraception data on a routine or longitudinal (e.g., annual or every three years) basis. Additionally, future surveys should adopt a uniform classification system of various contraceptive methods (e.g. shorter-term vs. LARCs). There should also be a standard definition of current sexual activity, for example, 'sexual activity in the last 12 months', to determine whether a person is at risk of pregnancy. In addition, surveys should include a comprehensive range of options for sex and gender to accurately capture contraceptive use by trans and gender diverse people. Lastly, the female reproductive age range should be the same across surveys; ideally, the 15 to 49 age range may be adopted to align with the global data (1). These factors will allow more direct and valid comparisons between surveys.

Information on contraceptive use among Aboriginal and Torres Strait Islander people in Australia is even more limited compared to the general Australian population. The National Aboriginal and Torres Strait Islander Health Survey referred to in this report was carried out in 2012-2013, however, there were only a limited number of questions on contraceptive use. The most recent iteration of this survey carried out in 2018-2019 contained no questions on contraceptive use. Although some Aboriginal and Torres Strait Islander people are included in other surveys with the general population, the numbers are too small to allow meaningful statistical analysis. Whenever possible, surveys of the general population should consider over-sampling Aboriginal and Torres Strait Islander participants in order to provide reliable estimates of these populations. Accurate statistics on contraceptive use across all populations would assist in informing service planning and delivery, including training in LARC provision for clinicians.

4.6.2 Medicare data

The possibility of linking Medicare data with other data sources that contain demographic characteristics should be explored. This would allow comparisons to be made between population subgroups. Ideally, contraceptive products and procedures that were sourced through public hospitals or other publicly-funded services (e.g., youth clinics, sexual health clinics) should be linked to the overall Medicare data. This linkage would provide a more comprehensive picture of the Australian contraceptive practices within its healthcare system.

5 Appendices

5.1 Appendix 1 – Country classification

Source: United Nations, Department of Economic and Social Affair, Population Division (2015). *Trends in Contraceptive Use Worldwide 2015* (ST/ESA/SER.A/349).

The developed regions comprise all regions of Europe plus Northern America, Australia/New Zealand and Japan.

The developing regions comprise all regions of Africa, Asia (excluding Japan) and Latin America and the Caribbean, as well as Melanesia, Micronesia and Polynesia.

The group of least developed countries comprises 48 countries as of January 2014. Afghanistan, Angola, Bangladesh, Benin, Bhutan, Burkina Faso, Burundi, Cambodia, Central African Republic, Chad, Comoros, Dem. Republic of the Congo, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gambia, Guinea, Guinea-Bissau, Haiti, Kiribati, Lao People's Dem. Republic, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Myanmar, Nepal, Niger, Rwanda, Sao Tome and Principe, Senegal, Sierra Leone, Solomon Islands, Somalia, South Sudan, Sudan, Timor-Leste, Togo, Tuvalu, Uganda, United Republic of Tanzania, Vanuatu, Yemen, Zambia.

5.2 Appendix 2 – Data for presented figures

Table 5.1 Estimates of contraceptive prevalence, any method, among married or in-union women aged 15 to 49 (percentage), 1994 & 2015, selected regions

	Prevalence Rate (1994)	Contraceptive prevalence (2015)
Australia	68.7	68.4
World	58.7	63.6
More Developed	68.1	67.3
Less developed	44.3	53.1
Least developed	20.8	63.5

Source: United Nations, Department of Economic and Social Affair, Population Division (2015). Trends in Contraceptive Use Worldwide 2015 (ST/ESA/SER.A/349).

Table 7.0 Internetional		£		
Table 5.2 International	comparison of	of unmet	contraceptive	neeas, 2015

	Prevalence (any method)	Unmet need
Australia	68.4	10.4
World	63.6	11.9
More Developed	70.9	10.75
Less developed	53.125	16.75
Least developed	39.5	22.1

Source: United Nations, Department of Economic and Social Affair, Population Division (2015). Trends in Contraceptive Use Worldwide 2015 (ST/ESA/SER.A/349).

	Female sterilisation	Male sterilisation	Pill	Injectable	Implant	IUD	Male condom	Vaginal Barrier methods	Other modern methods	Rhythm	Withdrawal	Other traditional methods
Australia	6.3	8.9	28.8	2	2.7	1.5	14	0.8	0.3	1.2	1.7	0
World	19.2	2.4	8.8	4.6	0.7	13.7	7.7	0.1	0.2	2.6	3.1	0.5
More Developed	8.1	6.175	17.1	0.625	0.95	4.625	22.2	0.5	0.775	1.5	4.55	0.175
Less Developed	15.525	1.35	8.95	7.9	0.9	6.975	5.275	0.075	0.1	2.875	2.15	1.075
Least Developed	2.8	0.04	12.3	12.9	2	1	2.2	0	0.1	2.7	1.4	1.7

 Table 5.3 International comparison of contraceptive method usage rates, 2015

Source: United Nations, Department of Economic and Social Affair, Population Division (2015). Trends in Contraceptive Use Worldwide 2015 (ST/ESA/SER.A/349).

	15-19	20-24	25-29	30-34	35-39	40-44	45-49	Total
2005	677,087	598,108	672,584	757,813	739,938	770,778	734,043	4,950,351
2006	684,792	707,278	685,585	741,778	760,314	764,365	748,821	5,092,933
2007	700,340	732,043	715,768	737,491	788,364	765,044	768,532	5,207,582
2008	713,049	744,619	741,449	732,115	801,017	759,968	780,905	5,273,122
2009	727,168	782,583	791,698	751,566	814,971	769,345	793,905	5,431,236
2010	730,396	799,927	820,295	765,947	813,524	780,524	793,910	5,504,523
2011	726,523	804,741	833,045	782,266	799,551	802,395	789,087	5,537,608
2012	711,514	795,267	832,921	789,819	780,149	823,065	775,193	5,507,928
2013	712,649	803,894	854,838	824,438	777,917	838,880	770,492	5,583,108
2014	716,889	806,820	867,987	852,293	782,010	840,861	777,841	5,644,701
2015	718,671	807,634	873,715	874,000	790,262	835,414	789,310	5,689,006
2016	724,013	816,289	886,691	894,130	808,184	818,017	813,906	5,761,230
2017	724,218	842,755	921,491	924,243	830,943	805,939	840,186	5,889,775
2018	725,774	849,259	936,502	941,031	864,643	800,496	851,586	5,969,291

Table 5.4 Female population of reproductive age (15-49), 2005 to 2018, by age group

Source: Australian Demographic Statistics, Australian Bureau of Statistics. June 2005 - June 2018: https://www.abs.gov.au/AUSSTATS/abs@.nsf/second+level+view?ReadForm&prodno=3101.0&viewtitle=Australian%20Demographic%20Statistics~Jun%202018~Previous~20/12/2018&&tabname =Past%20Future%20Issues&prodno=3101.0&issue=Jun%202018&num=&view=& [cited 13 December 2019].

	NSW	VIC	QLD	SA	WA	TAS	ACT	NT	Total
2005	1,668,962	1,165,694	988,538	365,859	505,421	114,074	87,803	54,000	4,950,351
2006	1,675,329	1,276,301	1,006,482	366,592	511,918	114,019	88,046	54,246	5,092,933
2007	1,699,072	1,306,542	1,039,713	376,234	521,296	114,643	92,205	57,877	5,207,582
2008	1,712,448	1,324,364	1,059,704	378,160	532,274	114,679	92,496	58,997	5,273,122
2009	1,758,355	1,365,121	1,098,320	383,159	555,346	114,877	94,345	61,129	5,430,652
2010	1,777,184	1,387,396	1,116,328	385,868	565,066	114,857	95,427	61,819	5,503,945
2011	1,780,972	1,400,212	1,124,193	385,647	573,792	114,065	96,546	61,606	5,537,033
2012	1,746,382	1,392,221	1,113,007	382,125	599,907	112,272	99,846	61,626	5,507,386
2013	1,761,668	1,411,998	1,130,579	382,881	620,594	110,902	101,504	62,437	5,582,563
2014	1,781,024	1,433,368	1,139,610	383,781	631,915	110,195	101,009	63,264	5,644,166
2015	1,800,055	1,454,114	1,146,108	384,599	630,067	109,570	101,443	62,512	5,688,468
2016	1,825,743	1,484,746	1,159,016	384,344	632,616	109,432	102,271	62,528	5,760,696
2017	1,868,629	1,552,841	1,176,891	386,574	621,242	110,426	107,132	65,162	5,888,897
2018	1,892,679	1,586,876	1,193,917	388,231	620,468	111,247	110,360	64,635	5,968,413

Table 5.5 Female population of reproductive age (15-49), 2005 to 2018, by state and territory

Source: Australian Demographic Statistics, Australian Bureau of Statistics. June 2005 - June 2018: https://www.abs.gov.au/AUSSTATS/abs@.nsf/second+level+view?ReadForm&prodno=3101.0&viewtitle=Australian%20Demographic%20Statistics~Jun%202018~Previous~20/12/2018&&tabname =Past%20Future%20Issues&prodno=3101.0&issue=Jun%202018&num=&view=& [cited 13 December 2019].

	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	Total
2005	711,262	733,199	688,607	750,774	731,678	765,567	725,072	662,879	624,993	476,889	382,427	7,253,347
2006	720,491	746,088	706,314	738,918	754,177	759,679	741,193	671,491	642,234	498,115	393,033	7,371,733
2007	739,842	759,299	730,017	734,004	779,420	756,909	755,264	690,531	634,147	533,356	399,003	7,511,792
2008	753,065	771,929	759,327	732,525	791,930	753,090	767,253	698,762	638,731	564,229	412,024	7,642,865
2009	772,228	833,469	816,533	752,562	803,546	759,627	778,982	712,542	647,631	584,423	430,352	7,891,895
2010	770,614	849,732	844,968	768,096	802,527	772,142	781,143	726,885	655,993	604,200	450,385	8,026,685
2011	765,850	853,731	858,021	785,511	791,154	791,451	776,772	739,503	667,593	618,688	472,298	8,120,572
2012	748,674	827,157	854,925	795,158	774,443	806,875	763,031	755,992	672,254	612,489	509,422	8,120,420
2013	753,371	837,788	874,068	832,696	773,433	825,078	758,273	766,689	688,398	614,554	537,251	8,261,599
2014	758,254	845,407	883,361	859,800	778,307	826,914	763,678	771,725	703,484	623,689	555 <i>,</i> 407	8,370,026
2015	757,172	851,818	885,390	876,875	785,670	819,943	774,379	769,307	714,584	632,862	570,582	8,438,582
2016	760,342	861,901	893,509	890,601	803,547	802,938	795,203	761,304	726,526	645,017	583,916	8,524,804
2017	759,892	876,414	924,491	909,473	827,284	798,823	806,733	756,419	739,161	650,170	588,288	8,637,148
2018	765,092	890,778	941,167	921,438	857,764	793,368	818,607	749,281	749,919	661,454	590,074	8,738,942

Table 5.6 Male population of reproductive age (15-69), 2005 to 2018, by age group

Source: Australian Demographic Statistics, Australian Bureau of Statistics. June 2005 - June 2018: https://www.abs.gov.au/AUSSTATS/abs@.nsf/second+level+view?ReadForm&prodno=3101.0&viewtitle=Australian%20Demographic%20Statistics~Jun%202018~Previous~20/12/2018&&tabname =Past%20Future%20Issues&prodno=3101.0&issue=Jun%202018&num=&view=& [cited 13 December 2019].

	NSW	VIC	QLD	SA	WA	TAS	ACT	NT	Total
2005	2,407,387	1,780,701	1,419,897	546,575	731,368	168,678	119,885	77,859	7,174,491
2006	2,432,715	3,374,107	1,456,962	551,854	748,054	170,196	121,656	80,186	8,855,544
2007	2,440,604	1,858,155	1,497,715	561,023	772,992	171,482	126,638	82,176	7,428,609
2008	2,471,596	1,889,413	1,533,521	567,281	795,261	173,156	116,141	84,479	7,546,369
2009	2,543,228	1,957,433	1,590,277	576,058	830,819	174,718	131,587	86,752	7,804,120
2010	2,580,378	1,993,976	1,619,886	583,782	849,434	176,219	133,863	88,119	7,937,538
2011	2,601,011	2,018,591	1,641,773	588,408	868,694	176,976	136,058	88,015	8,031,511
2012	2,583,894	2,009,523	1,627,699	587,967	898,139	179,950	139,575	91,933	8,026,747
2013	2,616,590	2,045,435	1,657,960	591,952	932,056	179,636	142,165	94,059	8,165,794
2014	2,650,814	2,078,063	1,672,507	595,637	952,693	179,418	141,827	97,303	8,270,959
2015	2,677,044	2,105,853	1,684,433	598,308	952,352	179,461	142,584	96,772	8,340,035
2016	2,708,023	2,142,776	1,698,358	599,046	955,588	179,582	143,371	96,274	8,426,744
2017	2,748,139	2,228,281	1,713,677	598,857	926,567	177,821	147,945	94,016	8,541,287
2018	2,785,025	2,273,916	1,732,370	599,581	920,756	180,003	150,312	95,135	8,641,963

Table 5.7 Male population of reproductive age (15-69), 2005 to 2018, by state and territory

Source: Australian Demographic Statistics, Australian Bureau of Statistics. June 2005 - June 2018: <u>https://www.abs.gov.au/AUSSTATS/abs@.nsf/second+level+view?ReadForm&prodno=3101.0&viewtitle=Australian%20Demographic%20Statistics~Jun%202018~Previous~20/12/2018&&tabname =Past%20Future%20Issues&prodno=3101.0&issue=Jun%202018&num=&view=& [cited 13 December 2019].</u>

Table 5.8 Number of claims	, claim rate, and total claims	benefit for MBS and PBS b	y method in 2018
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	Claims	Claim rate	Total Claims Benefit
Oral Contraception	422,064	70.705885	\$ 4,920,445.00
POP	36,968	6.1930303	\$ 496,782.00
Injection	, 117,137	19.623268	\$ 2,311,991.00
Implant PBS	117,688	19.715574	\$ 17,736,539.00
Implant MBS	137,309	23.002564	\$ 4,189,389.00
IUD PBS	134,579	22.545224	\$ 25,799,954.00
IUD MBS	72,688	12.176991	\$ 3,454,661.00
Female sterilisation	1,736	0.2908218	\$ 310,387.00
Male sterilisation	26,903	4.5069004	\$ 5,323,035.00
	-		
Total claims			\$ 64,543,183.00

Source: Medicare Australia: <u>http://medicarestatistics.humanservices.gov.au/statistics/mbs_item.jsp</u> [cited 12 December 2019] Note: Claim rate for all contraceptive methods is calculated using the total population of women aged 15-49 as the denominator for all methods except male sterilisation, which uses the total population of men aged 15-69 as the denominator.

	NSW	VIC	QLD	SA	WA	TAS	ACT	NT	Total
2005	12.52	16.35	16.32	18.21	14.10	26.05	8.74	5.03	14.93
2006	11.41	13.91	14.24	16.30	11.93	23.80	7.83	4.32	13.14
2007	10.32	12.77	12.67	14.87	9.77	21.39	6.69	3.62	11.78
2008	9.25	11.44	10.73	12.93	8.11	20.11	5.82	2.87	10.35
2009	9.30	11.81	10.68	14.25	7.70	19.82	5.61	2.95	10.48
2010	9.03	11.37	10.74	13.32	7.88	19.51	5.43	2.78	10.23
2011	8.54	10.69	10.11	12.60	7.23	19.26	5.30	2.43	9.65
2012	9.21	11.63	10.67	13.26	7.18	19.82	5.31	2.52	10.25
2013	7.62	9.00	10.39	12.93	5.09	19.04	4.19	2.59	8.72
2014	9.51	12.28	9.99	12.31	7.43	19.18	5.82	2.50	10.31
2015	9.13	11.57	10.83	13.47	6.70	20.83	6.00	2.75	10.22
2016	7.64	9.60	9.90	12.04	6.28	18.74	5.11	2.60	8.85
2017	6.85	8.19	8.82	10.91	6.29	17.05	4.43	2.32	7.90
2018	6.16	7.14	7.88	9.83	5.95	15.63	3.81	2.21	7.07
Change 2005-2018	- 6.37	- 9.21	- 8.43	- 8.37	- 8.15	- 10.41	- 4.93	- 2.82	- 7.85

Table 5.9 Rate of PBS prescription claims for combined oral contraceptive pills, by state and territory, 2005-2018

Source: Medicare Australia: http://medicarestatistics.humanservices.gov.au/statistics/pbs_item.jsp [cited 12 December 2019]

Note: PBS items [2005-2018] 1392G (Logynon ED, Trifeme 28, Triphasil 28, Triquilar ED), 1456P (Microgynon 50 ED), 2774B (Brevinor, Norimin 28 day), 2775C (Norimin-1 28 day, Brevinor-1), 3179H (Norinyl-1/28), 1394J (Eleanor 150/30 ED, Evelyn 150/30 ED, Femme-Tab ED 30/150, Lenest 30 ED, Micronelle 30 ED, Monofeme 28, Levlen ED, Nordette 28); [2013-2018] 2416E (Femme Tab ED 20/100).

	NSW	VIC	QLD	SA	WA	TAS	ACT	NT	Total
2005	0.74	0.92	0.96	0.99	1.03	1.36	0.51	0.36	0.88
2006	0.68	0.82	0.87	0.89	0.88	1.34	0.43	0.38	0.80
2007	0.65	0.79	0.80	0.85	0.77	1.13	0.39	0.31	0.74
2008	0.59	0.70	0.69	0.72	0.62	1.18	0.37	0.26	0.65
2009	0.58	0.72	0.70	0.81	0.62	1.13	0.36	0.25	0.67
2010	0.56	0.69	0.72	0.74	0.63	1.06	0.35	0.19	0.65
2011	0.51	0.64	0.65	0.68	0.57	1.03	0.31	0.19	0.60
2012	0.55	0.67	0.70	0.73	0.58	1.16	0.34	0.20	0.63
2013	0.47	0.53	0.73	0.71	0.42	1.23	0.32	0.20	0.56
2014	0.61	0.75	0.72	0.71	0.62	1.26	0.40	0.22	0.68
2015	0.61	0.73	0.80	0.81	0.62	1.42	0.48	0.25	0.70
2016	0.54	0.63	0.80	0.75	0.62	1.20	0.41	0.27	0.65
2017	0.53	0.57	0.76	0.75	0.65	1.29	0.41	0.22	0.62
2018	0.53	0.55	0.77	0.76	0.67	1.28	0.39	0.24	0.62
Change 2005-2018	- 0.21	- 0.38	- 0.19	- 0.23	- 0.36	- 0.08	- 0.13	- 0.13	- 0.26

Table 5.10 Rate of PBS prescription claims for progesterone only pills, by state and territory, 2005-2018

Source: Medicare Australia: <u>http://medicarestatistics.humanservices.gov.au/statistics/pbs_item.jsp</u> [cited 12 December 2019] Note: PBS Item: 1967M (Noriday), 2913H (Microlut)

	NSW	VIC	QLD	SA	WA	TAS	ACT	NT	Total
2005	2.27	2.36	3.39	2.88	2.22	4.93	1.46	1.14	2.59
2006	2.12	2.02	3.13	2.75	2.00	4.69	1.24	1.12	2.36
2007	1.94	1.86	2.95	2.61	1.82	4.63	1.07	0.96	2.19
2008	1.77	1.72	2.67	2.42	1.64	4.40	0.90	0.82	2.00
2009	1.83	1.78	2.78	2.72	1.56	4.45	0.93	0.73	2.07
2010	1.75	1.71	2.80	2.60	1.67	4.40	0.93	0.65	2.03
2011	1.74	1.65	2.74	2.56	1.64	4.53	0.90	0.53	2.00
2012	1.96	1.86	3.01	2.87	1.72	4.82	0.96	0.66	2.21
2013	1.69	1.47	3.05	2.97	1.30	4.76	0.75	0.83	1.99
2014	2.14	2.07	3.03	2.86	1.89	4.88	0.99	0.83	2.34
2015	2.09	1.99	3.42	3.30	1.75	5.51	1.03	0.98	2.41
2016	1.87	1.71	3.22	3.07	1.73	5.10	0.93	0.90	2.20
2017	1.77	1.56	3.03	2.97	1.76	4.67	0.81	0.73	2.07
2018	1.66	1.46	2.93	2.80	1.66	4.66	0.78	0.71	1.96
Change 2005-2018	- 0.61	- 0.89	- 0.46	- 0.08	- 0.56	- 0.27	- 0.68	- 0.43	- 0.62

Table 5.11 Rate of PBS prescription claims for contraceptive injections, by state and territory, 2005-2018

Source: Medicare Australia: http://medicarestatistics.humanservices.gov.au/statistics/pbs_item.jsp [cited 12 December 2019]

Note: PBS Item: 3118D (Depo-Ralovera, Depo-Provera)

	NSW	VIC	QLD	SA	WA	TAS	ACT	NT	Total
2005	0.88	1.27	1.45	1.82	1.41	2.39	1.52	1.76	1.27
2006	0.84	1.14	1.31	1.61	1.35	1.95	1.48	1.73	1.16
2007	0.84	1.09	1.31	1.52	1.41	1.99	1.36	1.61	1.15
2008	0.97	1.22	1.55	1.68	1.58	2.37	1.50	1.91	1.31
2009	0.98	1.29	1.53	1.80	1.56	2.22	1.64	2.01	1.34
2010	1.03	1.32	1.63	1.72	1.63	2.44	1.61	1.93	1.38
2011	1.10	1.39	1.73	1.92	1.76	2.64	1.74	2.02	1.48
2012	1.34	1.70	2.01	2.12	1.96	2.86	1.98	2.18	1.74
2013	1.20	1.42	2.10	2.13	1.52	2.88	1.61	2.23	1.59
2014	1.70	2.12	2.29	2.29	2.44	3.40	2.35	2.64	2.11
2015	1.78	2.18	2.64	2.65	2.32	3.85	2.46	2.95	2.24
2016	1.57	1.97	2.50	2.48	2.26	3.67	2.29	2.75	2.06
2017	1.59	1.89	2.43	2.53	2.29	3.58	2.23	2.61	2.03
2018	1.56	1.86	2.31	2.49	2.18	3.61	2.19	2.28	1.97
Change 2005-2018	+ 0.68	+ 0.58	+ 0.86	+ 0.67	+ 0.77	+ 1.22	+ 0.67	+ 0.52	+ 0.70

Table 5.12 Rate of PBS prescription claims for contraceptive implants, by state and territory, 2005-2018

Source: Medicare Australia: <u>http://medicarestatistics.humanservices.gov.au/statistics/pbs_item.jsp</u> [cited 12 December 2019] Note: PBS Item: 8487Q (Implanon NXT)

	NSW	VIC	QLD	SA	WA	TAS	ACT	NT	Total
2005	1.21	1.45	1.50	2.27	1.50	2.30	1.34	2.63	1.47
2006	1.18	1.30	1.43	2.21	1.44	2.11	1.37	3.29	1.41
2007	1.16	1.25	1.44	2.16	1.46	2.19	1.24	2.89	1.39
2008	1.32	1.43	1.72	2.48	1.58	2.53	1.34	3.33	1.59
2009	1.32	1.44	1.69	2.37	1.58	2.44	1.58	3.45	1.58
2010	1.33	1.46	1.78	2.40	1.62	2.56	1.58	3.53	1.61
2011	1.43	1.59	1.90	2.57	1.73	2.75	1.78	3.78	1.73
2012	1.49	1.72	2.05	2.70	1.74	2.75	2.08	4.28	1.84
2013	1.59	1.82	2.20	2.81	1.84	2.82	2.18	3.98	1.95
2014	1.82	1.97	2.44	3.03	2.06	3.25	2.53	4.85	2.16
2015	1.85	2.07	2.57	3.14	2.18	3.45	2.53	4.81	2.25
2016	1.84	2.09	2.61	3.20	2.25	3.53	3.05	4.37	2.27
2017	1.86	2.03	2.62	3.24	2.34	3.58	2.79	4.57	2.28
2018	1.90	2.02	2.64	3.30	2.39	3.81	2.86	4.25	2.30
Change 2005-2018	+ 0.69	+ 0.57	+ 1.13	+ 1.03	+ 0.89	+ 1.51	+ 1.52	+ 1.62	+ 0.83

Table 5.13 Rate of MBS claims for contraceptive implant insertion, by state and territory, 2005-2018

Source: Medicare Australia: <u>http://medicarestatistics.humanservices.gov.au/statistics/mbs_item.jsp</u> [cited 12 December 2019] Note: MBS item: 14206

	NSW	VIC	QLD	SA	WA	TAS	ACT	NT	Total
2005	0.73	0.71	0.91	1.03	0.71	1.01	0.60	0.61	0.79
2006	0.83	0.77	1.03	1.19	0.89	1.10	0.74	0.62	0.89
2007	0.92	0.90	1.19	1.45	1.09	1.20	0.87	0.68	1.03
2008	1.05	1.05	1.32	1.64	1.24	1.53	1.00	0.81	1.17
2009	1.17	1.25	1.51	1.98	1.33	1.67	1.19	1.05	1.34
2010	1.25	1.28	1.60	2.15	1.46	1.65	1.37	1.01	1.42
2011	1.32	1.32	1.71	2.19	1.64	2.09	1.43	1.00	1.51
2012	1.65	1.61	2.05	2.53	1.94	2.55	1.87	1.01	1.83
2013	1.47	1.42	2.20	2.67	1.56	2.67	1.68	1.20	1.72
2014	2.01	2.05	2.40	2.67	2.40	2.89	2.35	1.49	2.21
2015	2.01	2.15	2.74	3.18	2.20	3.01	2.42	1.93	2.32
2016	1.77	1.93	2.57	2.78	2.02	2.79	2.36	1.49	2.09
2017	1.88	2.00	2.75	2.95	2.24	3.06	2.61	1.66	2.23
2018	1.93	2.03	2.67	3.05	2.32	3.31	2.63	1.63	2.25
Change 2005-2018	+ 1.20	+ 1.32	+ 1.76	+ 2.02	+ 1.61	+ 2.30	+ 2.03	+ 1.02	+ 1.47

Table 5.14 Rate of PBS prescription claims for hormonal IUD, by state and territory, 2005-2018

Source: Medicare Australia: <u>http://medicarestatistics.humanservices.gov.au/statistics/pbs_item.jsp</u> [cited 12 December 2019] Note: PBS Item: 8633J (Mirena)

	NSW	VIC	QLD	SA	WA	TAS	ACT	NT	Total
2005	0.48	0.33	0.46	0.41	0.39	0.73	0.39	0.45	0.43
2006	0.53	0.35	0.51	0.46	0.45	0.79	0.49	0.44	0.47
2007	0.58	0.39	0.55	0.56	0.50	0.82	0.55	0.49	0.52
2008	0.64	0.45	0.62	0.69	0.61	1.01	0.66	0.64	0.60
2009	0.66	0.53	0.72	0.69	0.69	1.01	0.74	0.68	0.65
2010	0.71	0.53	0.76	0.81	0.74	0.91	0.77	0.65	0.69
2011	0.76	0.58	0.86	0.88	0.87	1.06	0.88	0.67	0.76
2012	0.88	0.66	1.03	0.99	0.90	1.24	0.99	0.66	0.87
2013	0.98	0.71	1.14	1.07	1.04	1.28	1.09	0.73	0.96
2014	1.07	0.77	1.22	1.35	1.19	1.38	1.26	0.76	1.06
2015	1.07	0.81	1.23	1.48	1.19	1.42	1.31	0.85	1.09
2016	1.05	0.83	1.18	1.41	1.17	1.40	1.34	0.74	1.06
2017	1.13	0.91	1.33	1.49	1.30	1.63	1.48	0.90	1.17
2018	1.16	0.96	1.40	1.62	1.34	1.79	1.42	1.05	1.22
Change 2005-2018	+ 0.68	+ 0.63	+ 0.94	+ 1.20	+ 0.95	+ 1.05	+ 1.03	+ 0.60	+ 0.79

Table 5.15 Rate of MBS claims for IUD insertion (both copper and hormonal), by state and territory, 2005-2018

Source: Medicare Australia: <u>http://medicarestatistics.humanservices.gov.au/statistics/mbs_item.jsp</u> [cited 12 December 2019] Note: MBS item: 35503

	NSW/ACT	VIC/TAS	QLD	SA/NT	WA	Total
2005	0.08	0.09	0.08	0.08	0.09	0.08
2006	0.08	0.07	0.08	0.07	0.07	0.07
2007	0.07	0.07	0.07	0.07	0.07	0.07
2008	0.07	0.07	0.07	0.07	0.05	0.07
2009	0.06	0.07	0.06	0.06	0.06	0.06
2010	0.06	0.06	0.06	0.06	0.05	0.06
2011	0.06	0.05	0.05	0.06	0.05	0.05
2012	0.06	0.05	0.05	0.05	0.05	0.05
2013	0.05	0.05	0.05	0.05	0.05	0.05
2014	0.05	0.04	0.05	0.05	0.05	0.05
2015	0.05	0.04	0.04	0.05	0.04	0.04
2016	0.04	0.03	0.03	0.03	0.04	0.04
2017	0.04	0.03	0.03	0.04	0.03	0.03
2018	0.04	0.02	0.03	0.03	0.02	0.03
Change 2005-2018	- 0.05	- 0.06	- 0.05	- 0.05	- 0.07	- 0.05

Table 5.16 Rate of MBS claims for tubal sterilisation procedures (tubal ligation and tubal occlusion), by state and territory, 2005-2018

Source: Medicare Australia: <u>http://medicarestatistics.humanservices.gov.au/statistics/mbs_item.jsp</u> [cited 12 December 2019]. *Note:* MBS Item: 35688 (tubal ligation), 35691 (tubal occlusion)

	NSW	VIC	QLD	SA	WA	TAS	ACT	NT	Total
2005	0.28	0.31	0.46	0.31	0.33	0.38	0.47	0.25	0.34
2006	0.27	0.16	0.46	0.30	0.32	0.39	0.45	0.21	0.27
2007	0.26	0.29	0.42	0.27	0.31	0.36	0.43	0.24	0.31
2008	0.25	0.29	0.42	0.28	0.29	0.37	0.47	0.21	0.31
2009	0.25	0.28	0.41	0.27	0.30	0.37	0.42	0.21	0.30
2010	0.24	0.28	0.40	0.26	0.30	0.34	0.38	0.22	0.30
2011	0.21	0.26	0.36	0.25	0.28	0.34	0.38	0.19	0.27
2012	0.21	0.26	0.36	0.24	0.27	0.32	0.34	0.20	0.27
2013	0.22	0.26	0.36	0.25	0.27	0.28	0.34	0.17	0.27
2014	0.20	0.25	0.35	0.23	0.27	0.29	0.32	0.18	0.26
2015	0.20	0.25	0.38	0.23	0.26	0.30	0.37	0.19	0.27
2016	0.21	0.26	0.41	0.25	0.27	0.32	0.36	0.14	0.28
2017	0.22	0.25	0.42	0.25	0.28	0.33	0.39	0.24	0.29
2018	0.24	0.27	0.47	0.28	0.32	0.38	0.44	0.22	0.31
Change 2005 - 2018	- 0.04	- 0.04	+ 0.01	- 0.04	- 0.01	0.00	- 0.03	- 0.03	- 0.03

 Table 5.17 Rate of MBS claims for vasectomy by state and territory, 2005-2018

Source: Medicare Australia: <u>http://medicarestatistics.humanservices.gov.au/statistics/mbs_item.jsp</u> [cited 12 December 2019]. *Note:* MBS Item: 37623

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