

3.1 Hysterectomy hospitalisations 15 years and over

Context

This data item examines hysterectomy rates for women without gynaecological cancer aged 15 years and over based on their place of residence. The first *Australian Atlas of Healthcare Variation* (first Atlas) examined variation in hysterectomy and endometrial ablation combined, and found that the rate was 5.2 times as high in the area with the highest rate as in the area with the lowest rate.¹ Further analysis to separately explore variation in hysterectomy and endometrial ablation was recommended.

Hysterectomy is an operation to remove the uterus (womb) through vaginal, abdominal or laparoscopic (keyhole) surgery.² The procedure sometimes includes removal of the ovaries and fallopian tubes.² The vast majority of hysterectomies are done for benign gynaecological conditions.^{3,4} Of these, heavy menstrual bleeding is the most common, followed by uterine fibroids (leiomyoma) and pelvic organ prolapse, and, less commonly, endometriosis and adenomyosis (conditions in which the cells lining the uterus grow outside the uterus, or in the uterine muscle, respectively).⁴⁻⁶

Hysterectomy rates and variation in Australia

Hysterectomy rates have fallen worldwide since the 1980s, including in Australia.^{5,7,8} For example, the rate decreased by 45% in New South Wales between 1981 and 2010–2012.⁵ The introduction of alternative treatment options for heavy menstrual bleeding, such as effective oral hormone treatments and the levonorgestrel intrauterine system (IUS), is likely to account for some of this decline.⁵

Despite the fall in rates since the 1980s peak, there is concern that hysterectomy may be overused in Australia for the treatment of noncancer conditions.^{5,8} The hysterectomy rate is higher in Australia than in most other comparable countries in the Organisation for Economic Co-operation and Development (OECD). The rate (including cancer diagnosis) in 2008 per 100,000 women (OECD standardised population) was 230 in Australia, compared with 178 and 149 in New Zealand and England, respectively.⁹ Further, the variation across Australia in the rates of hysterectomy and endometrial ablation combined for 2012–13 identified in the first Atlas suggests that non-surgical alternatives for heavy menstrual bleeding and other noncancer conditions might not be consistently used.¹

Hysterectomy hospitalisations 15 years and over

Living in a rural or regional area has been linked to higher hysterectomy rates in Western Australia⁸, New South Wales¹⁰ and nationally.^{1,9} In the first Atlas, rates of hysterectomy and endometrial ablation combined were markedly higher in inner and outer regional areas than in major cities or remote areas.¹ Socioeconomic disadvantage, having only public health cover and non-Indigenous status were associated with increased risk of having a hysterectomy for menstrual disorders in Western Australia during the period 1981–2003.⁸ No clear effect of socioeconomic disadvantage on the rate of endometrial ablation and hysterectomy was identified in the first Atlas.¹

Place of hysterectomy in the treatment of heavy menstrual bleeding

Although hysterectomy is a definitive treatment for heavy menstrual bleeding, there are a number of less invasive and effective alternatives once malignancies and large fibroids have been ruled out. A recent study in the United Kingdom found that, at five years follow-up, pharmaceutical treatment for heavy menstrual bleeding was effective in eliminating the need for surgery in up to 80% of women without serious uterine pathology.¹¹ In a 1998 Finnish study, two-thirds of women who had the levonorgestrel IUS inserted cancelled surgery for a hysterectomy, compared with 14% in a control group.¹² In all treatment decisions, patient preference, severity of bleeding, age, contraindications to pharmaceutical management and desire for future fertility are key considerations.²

Guidelines on the management of heavy menstrual bleeding recommend starting with pharmaceutical treatments (hormonal and non-hormonal), which are also the treatments of choice for women who wish to preserve fertility.^{2,13,14} Of these, the levonorgestrel IUS, a long-acting contraceptive device, is the most effective¹⁵, reducing menstrual blood loss by about 90% and improving quality of life to a similar extent to hysterectomy.^{14,16} The device can be inserted by clinicians trained in the technique, including general practitioners and registered nurses, as well as gynaecologists.^{17,18} The device, which requires refitting every five years, releases a low dose of a progesterone hormone, which acts to thin the endometrium (the inner lining of the uterus) and also provides contraception.¹⁴

Oral treatments, which can also be prescribed in primary care, include hormonal options, such as cyclic oral progestogen and the combined oral contraceptive pill. Non-hormonal alternatives include non-steroidal anti-inflammatory drugs and tranexamic acid.²

Endometrial ablation (see page 173) is recommended as the first surgical option for heavy menstrual bleeding, unless fibroids and polyps are present.² It involves removal of the endometrium, but not the uterus itself. It is suitable only for women who no longer wish to conceive and is recommended if pharmaceutical options have failed or if symptoms are causing a severe impact on quality of life.² Use of contraception or tubal occlusion is required because pregnancy is still possible in some women.² In Australia, endometrial ablation is usually done under general anaesthetic in a day surgery by a gynaecologist. However, newer techniques can be done under local anaesthetic as an office-based procedure.^{19,20}

Regardless of the endometrial ablation technique, recovery time is shorter than for hysterectomy, and there are fewer postoperative complications.¹⁶ Although endometrial ablation is effective for most women (73–85%), some require further surgical treatment for persistent bleeding.¹⁹

Hysterectomy is recommended if other options fail or are inappropriate, or if the woman chooses it.^{2,13,14} Although hysterectomy stops menstrual bleeding in all women, it is a major surgical procedure. Hysterectomy is done by a gynaecologist or other surgeon and requires a general anaesthetic. Many women require hospitalisation for three days²¹, and four to six weeks recovery time before they can return to work.^{22,23} Short-term complications include infection, bleeding, bowel or urinary tract injury, and general surgery complications.^{4,16} Longer-term complications depend partly on the approach to surgery but include urinary incontinence, pelvic organ prolapse and, if the ovaries are removed, early menopause.^{2,24,25} Hysterectomy is also associated with the second highest rate of unplanned readmissions to the same hospital after surgery in Australia, of the procedures monitored by the Australian Institute of Health and Welfare.²⁶

About the data

Data are sourced from the National Hospital Morbidity Database, and include both public and private hospitals. Rates are based on the number of hospitalisations for hysterectomy per 100,000 women aged 15 years and over without diagnosis of a gynaecological cancer, in 2014–15. The denominator is the total female population of Australia aged 15 years and over, including women who have already had a hysterectomy.

The analysis and maps are based on the residential address of the patient and not the location of the hospital. Rates are age standardised to allow comparison between populations with different age structures. Data quality issues – for example, the recognition of Aboriginal and Torres Strait Islander status in datasets – could influence the variation seen.

What do the data show?

Magnitude of variation

In 2014–15, there were 27,586 hospitalisations for hysterectomy, representing 290 hospitalisations per 100,000 women aged 15 years and over without diagnosis of a gynaecological cancer (the Australian rate).

The number of hospitalisations for hysterectomy across 309[†] local areas (Statistical Area 3 – SA3) ranged from 115 to 763 per 100,000 women aged 15 years and over. The rate was **6.6 times as high** in the area with the highest rate compared to the area with the lowest rate. The number of hospitalisations varied across states and territories, from 224 per 100,000 women aged 15 years and over in the Australian Capital Territory to 327 in Queensland (Figures 3.3–3.6).

After the highest and lowest 10% of results were excluded and 248 SA3s remained, the number of hospitalisations per 100,000 women aged 15 years and over was 2.1 times as high in the area with the highest rate compared to the area with the lowest rate.

Rates by SA3 for two additional years, 2012–13 and 2013–14, are available online at www.safetyandquality.gov.au/atlas.

Preliminary analysis conducted by the Commission of hospitalisations over the three-year period 2012–13 to 2014–15, indicates that the rate of hysterectomy increased by 9 hospitalisations per 100,000 women aged 15 years and over. The age-standardised rates were 281, 295 and 290 hospitalisations for hysterectomy per 100,000 women aged 15 years and over for 2012–13, 2013–14 and 2014–15, respectively. The magnitude of variation increased during the three years, but this may not indicate a trend because this figure is sensitive to fluctuations in outlier SA3s. Differences between the rate of hospitalisations for hysterectomy in the areas with the lowest and highest rates were 4.7, 5.5 and 6.6 for 2012–13, 2013–14 and 2014–15, respectively.

For comparison with hospitalisations for endometrial ablation, see page 173.

[†] There are 333 SA3s. For this item, data were suppressed for 24 SA3s due to a small number of hospitalisations and/or population in an area.

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Analysis by remoteness and socioeconomic status

Rates of hysterectomy were markedly higher in inner and outer regional areas than in major cities or remote areas. Rates of hysterectomy tended to increase with socioeconomic disadvantage, although the reverse was seen in remote areas (Figure 3.7).

Analysis by Aboriginal and Torres Strait Islander status

The rate for Aboriginal and Torres Strait Islander women (262 per 100,000 women) was about 10% lower than the rate for other Australian women (291 per 100,000 women). Data for Aboriginal and Torres Strait Islander women are presented for all states and territories except the Australian Capital Territory, because of the small number of hospitalisations there (Figure 3.1).

Figure 3.1: Number of hospitalisations for hysterectomy per 100,000 women aged 15 years and over, age standardised, by state and territory and Indigenous status, 2014–15



The data for Figure 3.1 are available at www.safetyandquality.gov.au/atlas.

Notes:

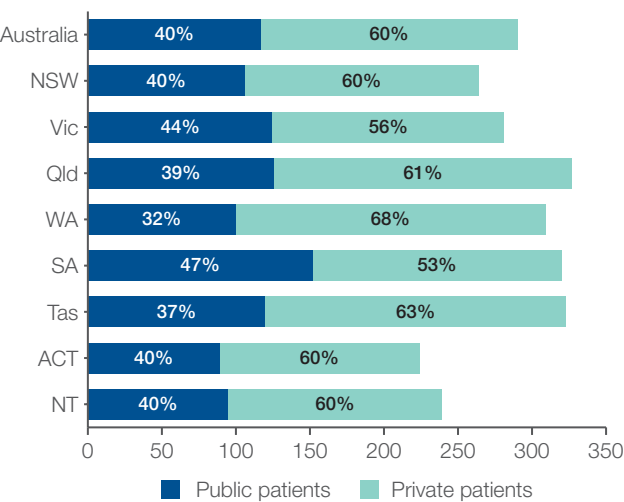
Rates are age standardised to the Australian female population in 2001.
Rates are based on the number of hospitalisations in public and private hospitals (numerator) and women in the geographic area (denominator).
Analysis is based on the patient's area of usual residence, not the place of hospitalisation.
Data for ACT (Aboriginal and Torres Strait Islander Australians) have been suppressed.
Data by Indigenous status should be interpreted with caution as hospitalisations for Aboriginal and Torres Strait Islander patients are under-enumerated and there is variation in the under-enumeration among states and territories.
For further detail about the methods used, please refer to the Technical Supplement.

Sources: AIHW analysis of National Hospital Morbidity Database 2014–15 and ABS Estimated Resident Population 30 June 2014.

Analysis by patient funding status

Overall, 60% of hospitalisations for hysterectomy were for privately funded patients. This proportion varied from 53% in South Australia to 68% in Western Australia (Figure 3.2).

Figure 3.2: Number of hospitalisations for hysterectomy per 100,000 women aged 15 years and over, age standardised, by state and territory and patient funding status, 2014–15



The data for Figure 3.2 are available at www.safetyandquality.gov.au/atlas.

Interpretation

Potential reasons for the variation include differences in:

- Patient education and awareness of treatment options
- Patient preferences and values (for example, 'fix the problem for good', a value that may be stronger in regional than in metropolitan areas)
- Patient social factors (for example, travel distance, adherence to treatment)
- Patient perception of how heavy menstrual bleeding affects their quality of life
- Patient ability to pay out-of-pocket expenses for other treatments (for example, gap payments for fitting of a levonorgestrel IUS or for endometrial ablation)
- General practitioner training in, and capacity to undertake, levonorgestrel IUS insertion
- Access of general practitioners to training in levonorgestrel IUS insertion – rural and regional general practitioners might have less access to such training
- Patient numbers required to maintain skills and techniques in providing hysterectomy alternatives (such as the levonorgestrel IUS or endometrial ablation)
- Clinician preferences
- Criteria used by general practitioners for referral to specialists
- Specialist training in endometrial ablation techniques
- Thresholds applied by clinicians to use hysterectomy – the threshold might be lower for women with private health coverage
- Clinician awareness of guideline-recommended management of heavy menstrual bleeding
- Access to services that can provide the levonorgestrel IUS or endometrial ablation
- Access to primary care services, and to specialists for Aboriginal and Torres Strait Islander women and women living in remote areas
- Private health insurance coverage
- Socioeconomic disadvantage, which might be greater in remote areas.

Variation between areas in rates of surgery may also be influenced by the number of clinicians providing services to people living in the area. The practices of specific clinicians are likely to have a greater impact on rates in smaller local areas with fewer clinicians, such as rural and regional locations. Specific clinicians may influence rates across several local areas, especially those with small populations. The effects of practice styles of individual clinicians will be diluted in areas with larger numbers of practising clinicians.

As well, variations between areas may not directly reflect the practices of the clinicians who are based in these areas. The analysis is based on where people live rather than where they obtain their health care. Patients may travel outside their local area to receive care.

Notes:

Rates are age standardised to the Australian female population in 2001.

Rates are based on the number of hospitalisations in public and private hospitals (numerator) and women in the geographic area (denominator).

Analysis is based on the patient's area of usual residence, not the place of hospitalisation.

Hospitalisations for public patients do not incur a charge to the patient or to a third-party payer – for example, a private health insurance fund.

Hospitalisations for private patients do incur a charge to the patient and/or a third-party payer.

For further detail about the methods used, please refer to the Technical Supplement.

Sources: AIHW analysis of National Hospital Morbidity Database 2014–15 and ABS Estimated Resident Population 30 June 2014.

Hysterectomy hospitalisations 15 years and over

Specific populations

The lower rate of hysterectomy for benign gynaecological conditions for Aboriginal and Torres Strait Islander women compared with non-Indigenous women has been previously observed in Western Australia (1981–2003).⁸ In the Western Australian report, Aboriginal and Torres Strait Islander women had a higher rate of hysterectomy for gynaecological cancer than non-Indigenous women.⁸

The discrepancy in hysterectomy rates may be a sign of late recognition and undertreatment of gynaecological conditions more broadly for Aboriginal and Torres Strait Islander women, rather than a difference in prevalence of uterine conditions. Aboriginal and Torres Strait Islander women have a higher incidence of, and mortality from, gynaecological cancers, and lower rates of cervical screening than non-Indigenous women^{27,28}, suggesting that access to appropriate care is a potential contributor to low rates of treatment for gynaecological procedures overall. Similarly, access to appropriate and affordable care may partly explain the low rates of hysterectomy seen in remote areas, particularly areas of socioeconomic disadvantage.

It has also been suggested that Aboriginal and Torres Strait Islander women may have a higher threshold for undergoing hysterectomy for benign gynaecological conditions.⁸ If this is the case, the higher proportion of Aboriginal and Torres Strait Islander women living in remote areas could contribute to the lower rates seen in these areas.

The higher rates of hysterectomy in regional areas compared with major cities may reflect a combination of factors, including the availability of alternative treatments in non-metropolitan areas, and differences in the needs and preferences of women. For example, women in rural areas may be less willing to trial therapies, particularly if they have to travel long distances to access specialist care.

Addressing variation

Exploring variation in the use of the levonorgestrel IUS and oral treatments for heavy menstrual bleeding, including mapping use against rates of hysterectomy and endometrial ablation, may be helpful in focusing efforts to improve appropriateness of care. Examining patient funding status for hysterectomy rates by remoteness category may be helpful in determining the contribution of private health coverage to the rates seen in regional areas.

More equitable access to hysterectomy alternatives, such as oral treatments, the levonorgestrel IUS and endometrial ablation, may help address the variation in hysterectomy rates between metropolitan and non-metropolitan areas, and between areas of differing socioeconomic disadvantage. International comparison data indicate that Australia has a low use of intrauterine device contraceptives (for any indication), such as levonorgestrel IUS, compared with France, Austria and the United States.²⁹

Expanding access to practical training in levonorgestrel IUS insertion for general practitioners, particularly those working in regional and remote areas, and introducing further financial incentives may increase use of this device.^{30,31} Currently, courses are run by family planning organisations in each state and territory for medical practitioners (and, in some states, for registered nurses) on insertion of intrauterine contraceptive devices, including the levonorgestrel IUS.¹⁸ Even for those who undergo training, insufficient patient numbers to maintain skills and inadequate remuneration for insertion have been identified as barriers to uptake.³¹ In the United Kingdom, a financial incentive scheme increased the uptake of long-acting reversible contraceptives, including the levonorgestrel IUS.³²

Additional strategies for improving access to the levonorgestrel IUS include³¹:

- Providing training in levonorgestrel IUS insertion at general practices
- Implementing referral pathways within Primary Health Networks to general practitioners trained in levonorgestrel IUS insertion
- Expanding designated intrauterine device clinics at family planning centres, in public hospital outpatient departments and in outreach clinics
- Expanding training in levonorgestrel IUS insertion to eligible registered nurses.

Provision of culturally appropriate information about heavy menstrual bleeding and its treatments, access to culturally safe primary care services (including access to female general practitioners who have undergone cultural awareness training), and clear referral pathways to specialists may help address the gap between Aboriginal and Torres Strait Islander women and other Australian women.

A lack of a national guideline or standard on management of heavy menstrual bleeding may contribute to variation in criteria used by clinicians to recommend treatment. *Therapeutic Guidelines: Endocrinology* provides guidance on pharmaceutical treatments, but has limited coverage of surgical options.³³ Internationally, the United Kingdom has a quality standard with indicators³⁴ and a clinical guideline², and the United States and Canada also have clinical guidelines on management of abnormal uterine bleeding.^{14,35}

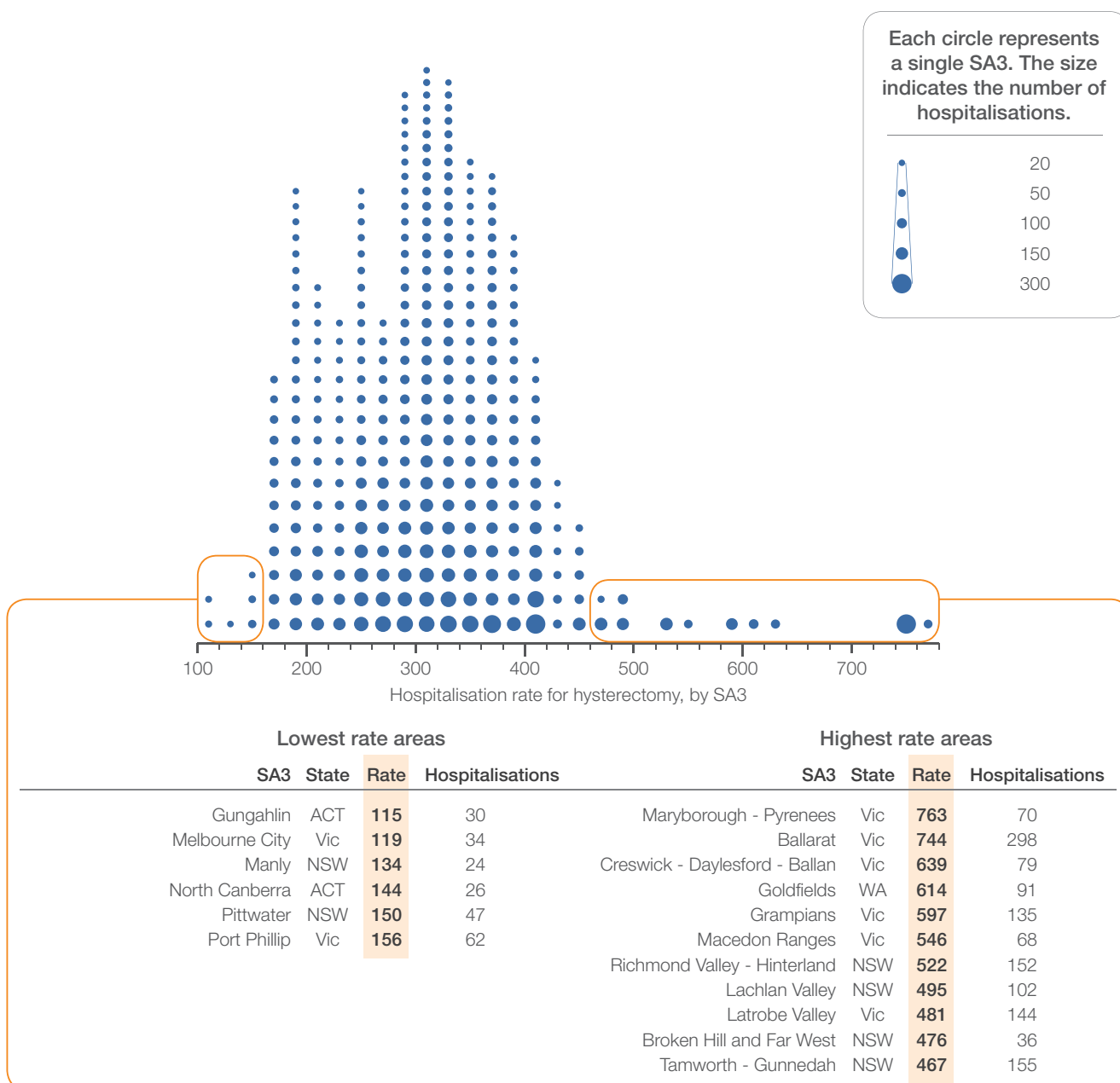
The Commission is currently working with clinical experts and consumers, including representatives from the Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG), and the Royal Australian College of General Practitioners, to develop a national clinical care standard and associated indicators on heavy menstrual bleeding.

Providing patient information on heavy menstrual bleeding that supports shared decision-making, such as decision tools, structured interviews and option grids, as well as promoting shared decision-making to clinicians, may help some women avoid unnecessary surgery.³⁶ RANZCOG is currently updating a patient information leaflet on heavy menstrual bleeding, and the Commission is developing a decision support tool to support women's understanding of treatment options for heavy menstrual bleeding.

Some states and territories are investigating variation in hysterectomy rates and length of stay. The NSW Clinical Excellence Commission has examined hysterectomy rates for non-malignancy (2010–2014)¹⁰, and the Reducing Unwarranted Clinical Variation Taskforce of the NSW Agency for Clinical Innovation is currently examining variations in length of stay for key procedures, including hysterectomy.

Hysterectomy hospitalisations 15 years and over

Figure 3.3: Number of hospitalisations for hysterectomy per 100,000 women aged 15 years and over, age standardised, by Statistical Area Level 3 (SA3), 2014–15



Notes:

Rates are age standardised to the Australian female population in 2001.

Rates are based on the number of hospitalisations in public and private hospitals (numerator) and women in the geographic area (denominator).

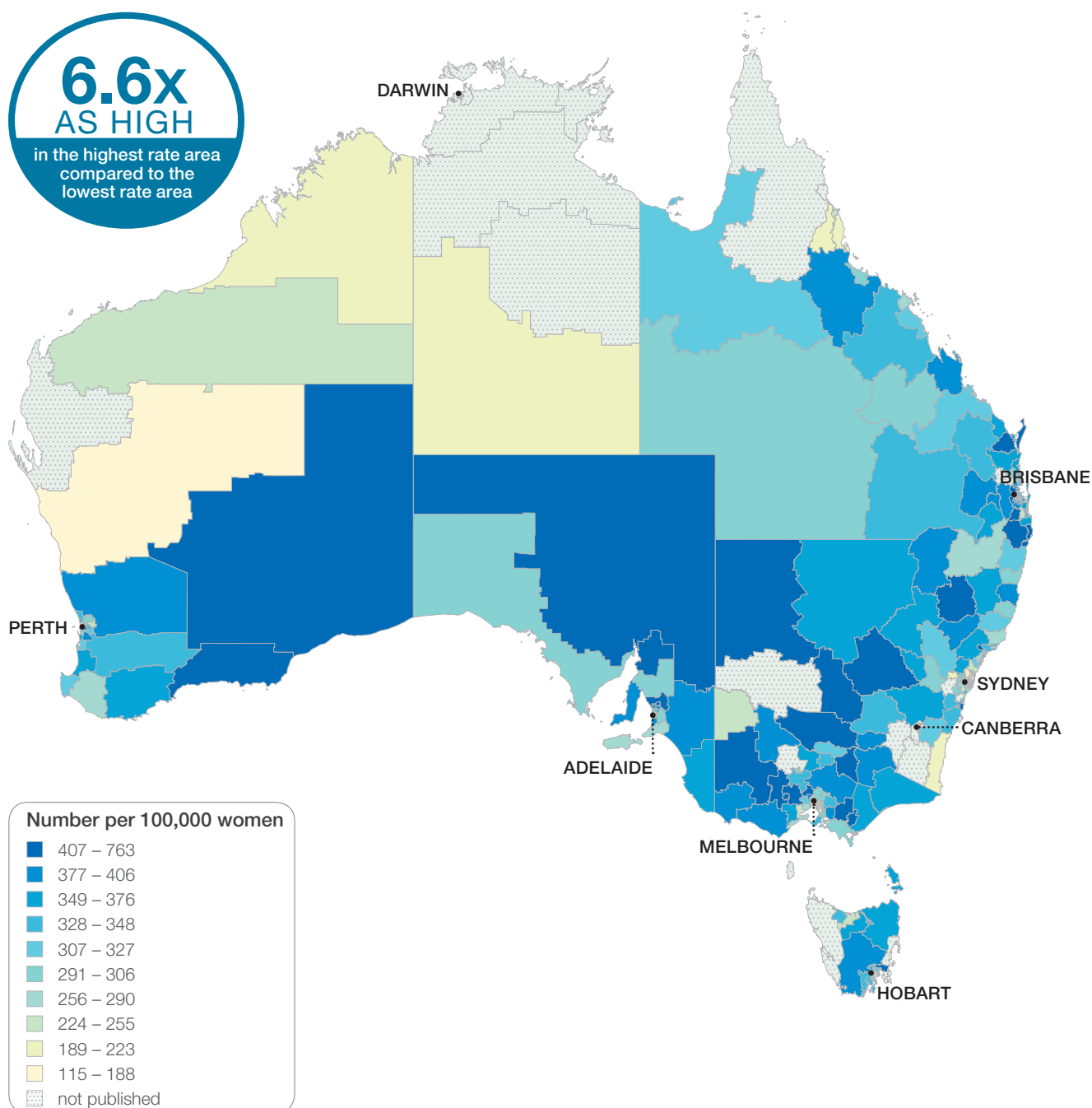
Analysis is based on the patient's area of usual residence, not the place of hospitalisation.

For further detail about the methods used, please refer to the Technical Supplement.

Sources: AIHW analysis of National Hospital Morbidity Database 2014–15 and ABS Estimated Resident Population 30 June 2014.

Hysterectomy hospitalisations 15 years and over

Figure 3.4: Number of hospitalisations for hysterectomy per 100,000 women aged 15 years and over, age standardised, by Statistical Area Level 3 (SA3), 2014–15: Australia map



Notes:

Rates are age standardised to the Australian female population in 2001.

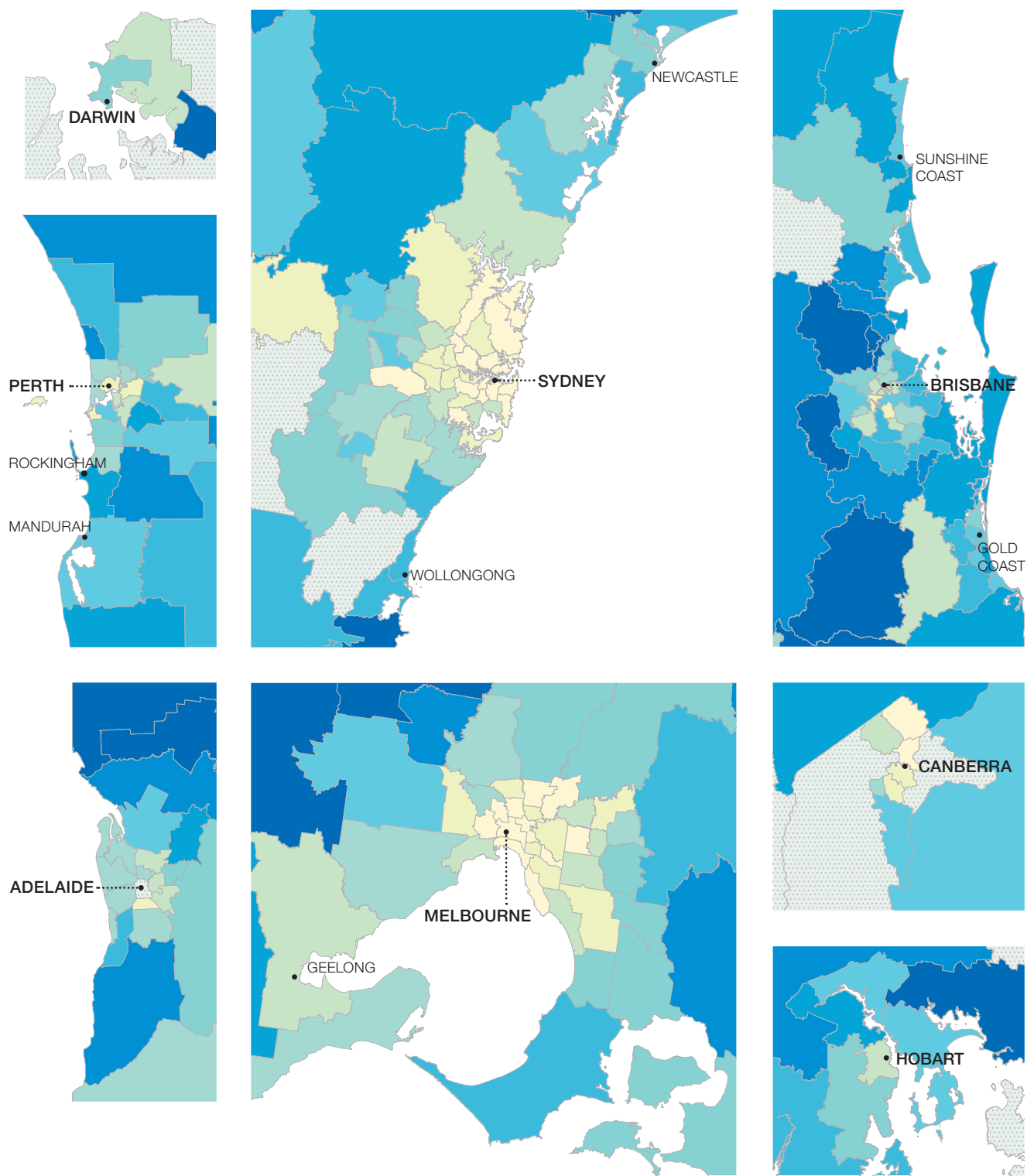
Rates are based on the number of hospitalisations in public and private hospitals (numerator) and women in the geographic area (denominator).

Analysis is based on the patient's area of usual residence, not the place of hospitalisation.

For further detail about the methods used, please refer to the Technical Supplement.

Sources: AIHW analysis of National Hospital Morbidity Database 2014–15 and ABS Estimated Resident Population 30 June 2014.

Figure 3.5: Number of hospitalisations for hysterectomy per 100,000 women aged 15 years and over, age standardised, by Statistical Area Level 3 (SA3), 2014–15: capital city area maps



Notes:

Rates are age standardised to the Australian female population in 2001.

Rates are based on the number of hospitalisations in public and private hospitals (numerator) and women in the geographic area (denominator).

Analysis is based on the patient's area of usual residence, not the place of hospitalisation.

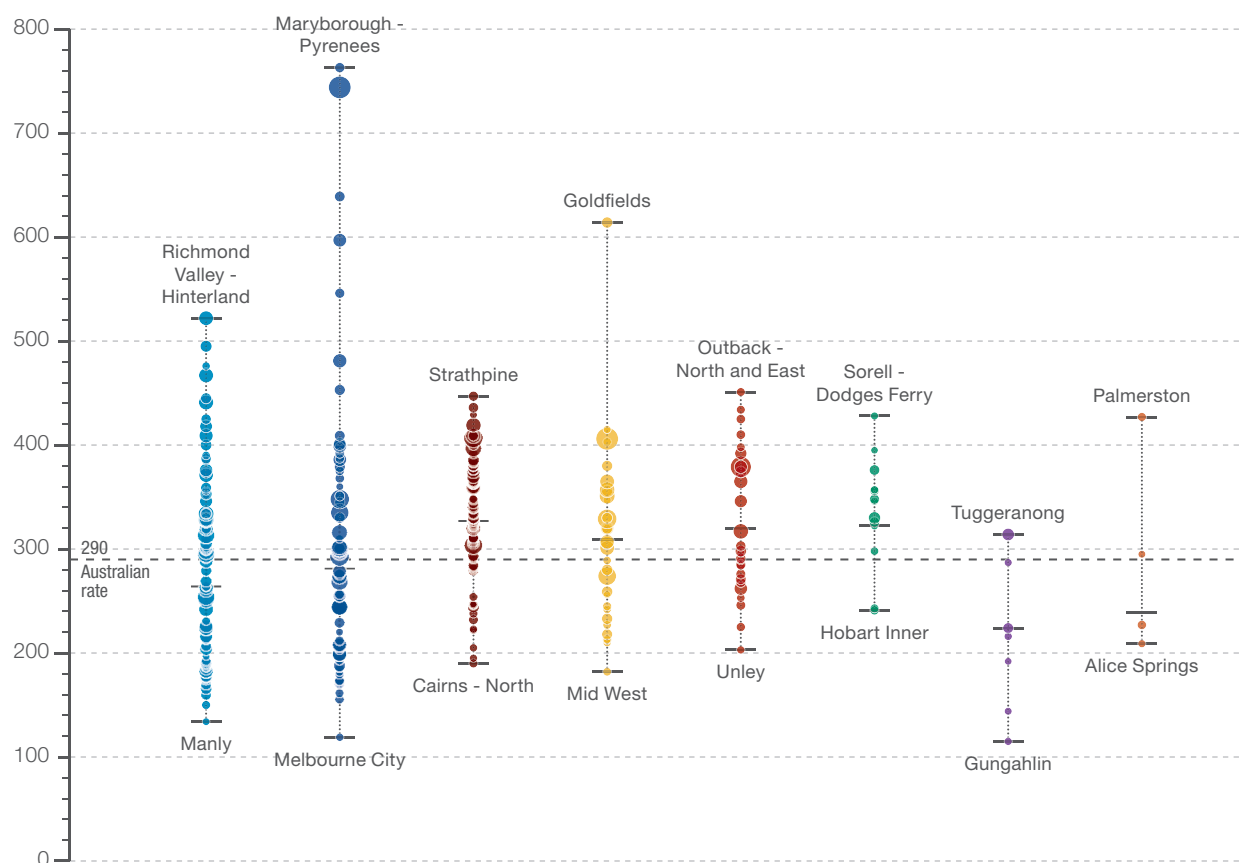
For further detail about the methods used, please refer to the Technical Supplement.

Sources: AIHW analysis of National Hospital Morbidity Database 2014–15 and ABS Estimated Resident Population 30 June 2014.

Hysterectomy hospitalisations 15 years and over

Figure 3.6: Number of hospitalisations for hysterectomy per 100,000 women aged 15 years and over, age standardised, by Statistical Area Level 3 (SA3), state and territory, 2014–15

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Highest rate	522	763	447	614	451	428	314	427
State/territory	264	281	327	309	320	323	224	239
Lowest rate	134	119	190	182	203	241	115	209
No. hospitalisations	8,058	6,750	6,193	3,113	2,228	674	337	211



Each circle represents a single SA3. The size indicates the number of hospitalisations.



Notes:

Rates are age standardised to the Australian female population in 2001.

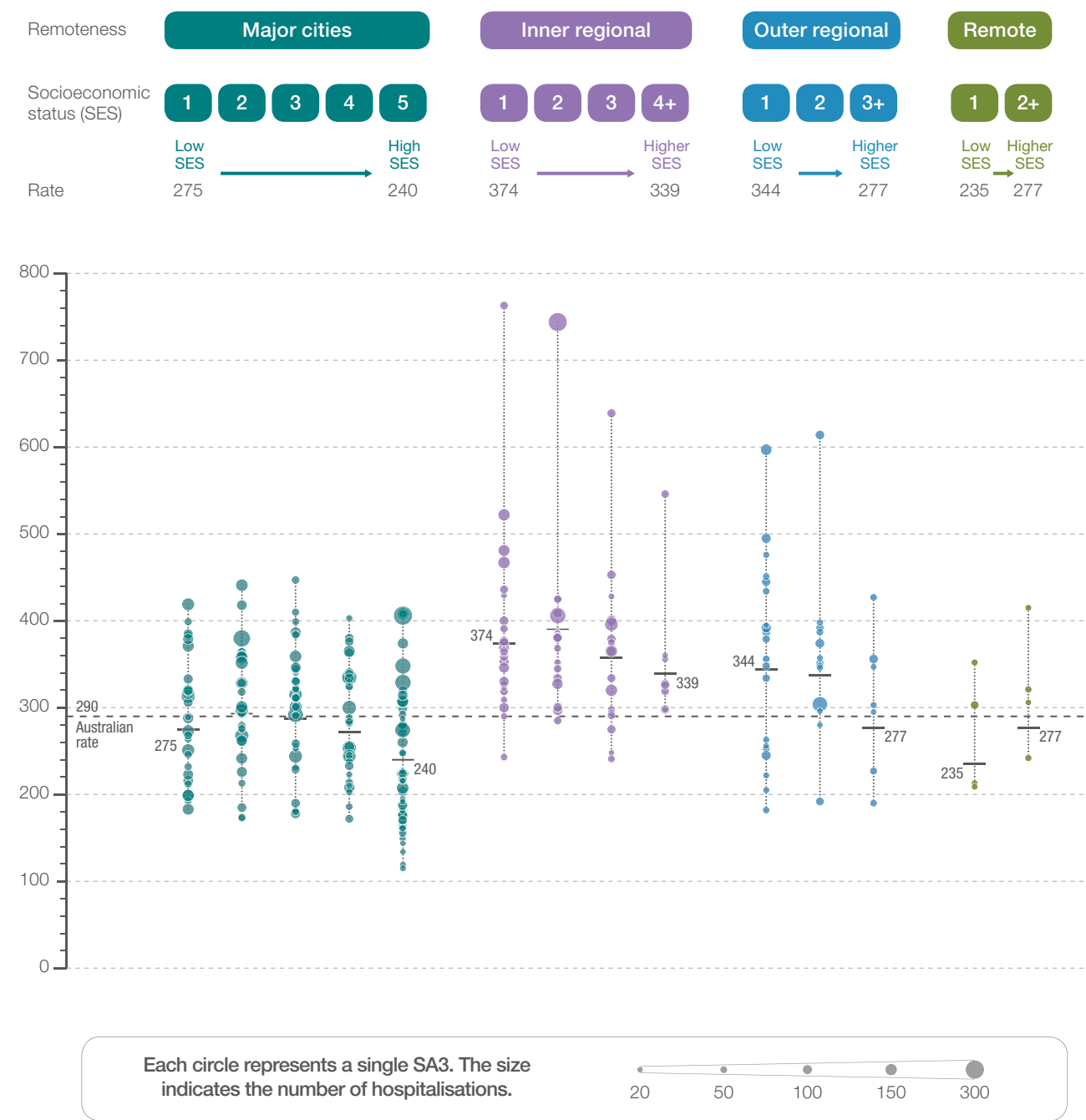
Rates are based on the number of hospitalisations in public and private hospitals (numerator) and women in the geographic area (denominator).

Analysis is based on the patient's area of usual residence, not the place of hospitalisation.

For further detail about the methods used, please refer to the Technical Supplement.

Sources: AIHW analysis of National Hospital Morbidity Database 2014–15 and ABS Estimated Resident Population 30 June 2014.

Figure 3.7: Number of hospitalisations for hysterectomy per 100,000 women aged 15 years and over, age standardised, by Statistical Area Level 3 (SA3), remoteness and socioeconomic status, 2014–15



Notes:
Rates are age standardised to the Australian female population in 2001.
Rates are based on the number of hospitalisations in public and private hospitals (numerator) and women in the geographic area (denominator).
Analysis is based on the patient's area of usual residence, not the place of hospitalisation.
For further detail about the methods used, please refer to the Technical Supplement.

Sources: AIHW analysis of National Hospital Morbidity Database 2014–15 and ABS Estimated Resident Population 30 June 2014.

Hysterectomy hospitalisations 15 years and over

Resources

- National Collaborating Centre for Women's and Children's Health. Heavy menstrual bleeding. Clinical guideline (National Institute for Health and Clinical Excellence). London: Royal College of Obstetricians and Gynaecologists; 2007.

Australian initiatives

The information in this chapter will complement work already under way to improve management of heavy menstrual bleeding in Australia. At a national level, this work includes:

- Heavy menstrual bleeding Clinical Care Standard (planned for publication late 2017), Australian Commission on Safety and Quality in Health Care. www.safetyandquality.gov.au/our-work/clinical-care-standards/heavy-menstrual-bleeding
- Heavy menstrual bleeding patient information leaflet (in development), RANZCOG.

Some states and territory initiatives are also in place, including:

- NSW Clinical Excellence Commission data collection on hysterectomy rates for non-malignancy (2010–2014)¹⁰
- NSW Agency for Clinical Innovation Reducing Unwarranted Clinical Variation Taskforce examination of variation in length of stay for key procedures, including hysterectomy.

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