



How are hospitalisations reported?

The National Hospital Morbidity Database (NHMD) is a comprehensive data set that has records for all separations of admitted patients from essentially all public and private hospitals in Australia. A record is included for each separation, not for each patient, so patients who separated more than once in the year have more than 1 record in the NHMD.

An **admitted patient** is a patient who undergoes a hospital's formal admission process to receive treatment and/or care.

A **separation** is an episode of care for an admitted patient, which can be a total hospital stay (from admission to discharge, transfer or death) or a portion of a hospital stay beginning or ending in a change of type of care (for example, from acute care to rehabilitation). In this report, separations are referred to as

Most endometriosis-related hospitalisations were among females of reproductive age

Nearly 4 in 5 (79%) endometriosis-related hospitalisations were among females aged 15–44, which are generally regarded as the reproductive age group.

Rates of endometriosis-related hospitalisations varied by population group

The highest rate of endometriosis-related hospitalisations was among females living in *Inner regional* areas, followed by *Major cities*, *Outer regional* areas and *Remote and very remote* areas, after adjusting for differences in the age structure between remoteness areas (Figure 4; Table S6).

The rate of endometriosis-related hospitalisations was generally higher among females living in higher socioeconomic areas than among females living in lower socioeconomic areas, after adjusting for age.

The rate of endometriosis-related hospitalisations among non-Indigenous Australians was 1.6 times as high as the rate among Indigenous Australians, after adjusting for age (319 hospitalisations per 100,000 females compared with 196 hospitalisations per 100,000 females).

The reasons for these differences are not known, but could reflect potential variations in access to health services or differences in health-seeking behaviour between population groups, rather than a difference in disease prevalence. For example, in another study, women living in small rural centres and other rural/remote areas in New South Wales were more likely to report only fair or poor access to a hospital than those living in urban areas or large rural centres (Young et al. 2000). However, in contrast to endometriosis-related hospitalisations, rates for all hospitalisations were higher for people living in remote areas (1.1 times higher for people living in remote areas compared with people living in major cities).

Around 1 in 13 endometriosis-related hospitalisations were self-funded

Most endometriosis-related hospitalisations were partly or fully funded by private health insurance (57%)

Other reproductive conditions were common co-occurring diagnoses

Female pelvic peritoneal adhesions were the most common co-occurring diagnosis, recorded in 15% of endometriosis-related hospitalisations (Table 2; Table S9).

Nearly 1 in 10 (9.4%) endometriosis-related hospitalisations had a co-occurring diagnosis of excessive and frequent menstruation with regular cycle. There was a similar percentage with a co-occurring diagnosis of peritoneal adhesions (8.8%), unspecified leiomyoma of uterus (a type of non-cancerous tumour)] Ú M °



Among the hospitalisations with endometriosis as an additional diagnosis only, the most common principal diagnoses were:

- excessive and frequent menstruation with regular cycle (13% of these hospitalisations)
- pelvic and perineal pain (12%)
- unspecified female infertility (10%)
- in vitro fertilisation (8.6%)
- unspecified leiomyoma of uterus (a type of non-cancerous tumour) (6.1%)
- unspecified dysmenorrhoea (period pain) (5.0%)
- benign neoplasm of ovary (a non-cancerous tumour) (3.4%)
- other and unspecified ovarian cysts (2.7%)
- other specified abnormal uterine and vaginal bleeding (2.3%)
- intramural leiomyoma of uterus (fibroids growing within the wall of the uterus) (1.7%) (Table S10).

Diagnostic hysteroscopy was undertaken in 2 in 5 endometriosis-related hospitalisations

In 2016–17, 95% of endometriosis-related hospitalisations involved at least 1 procedure.

The most common procedures were:

- diagnostic hysteroscopy, a procedure used to examine the inside of the uterus
- dilation and curettage of the uterus, a procedure in which the lining of the uterus is scraped away

Table 3: Most common procedures undertaken among endometriosis-related hospitalisations, 2016–17 (% of hospitalisations)

Rank	Most common procedures in endometriosis-related hospitalisations	Most common procedures when endometriosis was the principal diagnosis	Most common procedures when endometriosis was an additional diagnosis only
1	Diagnostic hysteroscopy (35630-00), 38.0%	Diagnostic hysteroscopy (35630-00), 44.4%	Diagnostic hysteroscopy (35630-00), 31.0%
2	Dilation and curettage of uterus [D&C] (35640-00), 33.1%	Laparoscopic excision of lesion of pelvic cavity (35637-10), 40.7%	Dilation and curettage of uterus [D&C] (35640-00), 29.7%
3	Laparoscopic excision of lesion of pelvic cavity (35637-10), 31.6%	Dilation and curettage of uterus [D&C] (35640-00), 36.2%	Laparoscopic excision of lesion of pelvic cavity (35637-10), 21.8%
4	Laparoscopic division of abdominal adhesions (30393-00), 20.0%	Laparoscopic division of abdominal adhesions (30393-00), 22.6%	Laparoscopic division of abdominal adhesions (30393-00), 17.1%
5	Laparoscopic diathermy of lesion of pelvic cavity (35637-02), 19.1%	Laparoscopic diathermy of lesion of pelvic cavity (35637-02), 21.0%	Laparoscopic diathermy of lesion of pelvic cavity (35637-02), 17.1%
6	Test for tubal patency (35703-00), 17.6%	Test for tubal patency (35703-00), 19.2%	Test for tubal patency (35703-00), 15.8%
7	Insertion of intrauterine device [IUD] (35503-00), 10.9%	Insertion of intrauterine device [IUD] (35503-00), 13.7%	Cystoscopy (36812-00), 10.6%
8	Cystoscopy (36812-00), 9.6%	Cystoscopy (36812-00), 8.6%	Allied health intervention, physiotherapy (95550-03), 10.5%
9	Allied health intervention, physiotherapy (95550-03), 8.9%	Laparoscopic ovarian cystectomy, unilateral (35638-04), 7.9%	Insertion of intrauterine device [IUD] (35503-00), 7.9%
10	Laparoscopic ovarian cystectomy, unilateral (35638-04), 7.5%	Allied health intervention, physiotherapy (95550-03), 7.4%	Laparoscopically assisted vaginal hysterectomy with removal of adnexa (35753-02), 7.6%

Notes

1. Procedures were counted only once if the same procedure was conducted more than once in a hospitalisation.
2. Procedures for cerebral anaesthesia (ACHI block code 1910) were not included in this analysis—these are companion procedures for many other procedures.
3. Shading corresponds to the ACHI chapter each procedure belongs to—**blue** corresponds to *Digestive system*; **green** to *Gynaecological procedures*; **pink** to *Urinary system*; and **purple** to

Source: AIHW analysis of NHMD; Table S11.

The rate of endometriosis-related hospitalisations rose slightly over time

Figure 5: Age-standardised rate of endometriosis-related hospitalisations, 2007–08 to 2016–17

Source:

Although the National Action Plan for Endometriosis does not specifically cover related conditions (such as polycystic ovarian syndrome, pelvic inflammatory disease, and chronic pelvic and period pain), it does suggest that the identified research priorities could consider these conditions where appropriate. Future projects could replicate the analyses in this report for other conditions.

Recent waves of the Longitudinal Study of Australian Children collected data on the age at first period, period pain, and the impacts of periods on school, social and HOA (Can

References

ABS (Australian Bureau of Statistics) 2017. Health service usage and health related actions, Australia, 2014–15. ABS cat. no. 4364.0.55.002. Canberra: ABS.

ABS 2018. National Health Survey: first results, 2017–18. ABS cat. no. 4364.0.55.001. Canberra: ABS.

ACCD (Australian Consortium for Classification Development) 2014. The International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Australian Modification (ICD-10-AM)—9th edn.—tabular list of diseases, and Alphabetic index of diseases. Adelaide:

Treloar S, O'Connor D, O'Connor V & Martin N 1999. Genetic influences on endometriosis in an Australian twin sample. *Fertility and Sterility* 71:701-10.

Vercellini P, Fedele L, Aimi G, Pietropaolo G, Consonni D & Crosignani P 2007. Association between

