

2.1 Colonoscopy hospitalisations, all ages

Why is this important?

Most colonoscopies are performed to detect bowel cancer. Australia's National Bowel Cancer Screening Program recommends colonoscopy for those people who have a positive faecal occult blood test. Guidelines for bowel cancer screening and surveillance provide evidence-based recommendations on the timing of colonoscopy for people who are at higher risk of bowel cancer. Other indications for colonoscopy include detection and assessment of inflammatory bowel disease. Australian data show that there is substantial overuse of colonoscopy in some parts of the population and underuse in others. This exposes some people to unnecessary risk from the procedure and others to potential harm because a needed procedure was not performed. It is a poor use of resources.

What did we find?

The Atlas found the rate of hospitalisation for inpatient colonoscopy varies up to about seven-fold between local areas across Australia. The rate of hospitalisations for colonoscopy for Aboriginal and Torres Strait Islander Australians was 47% lower than the rate for other Australians.

What can be done?

Triaging systems, already in place in some states, could be more widely used in Australia to prioritise colonoscopy for patients who are most at risk of bowel cancer, and to reduce inappropriate use for primary screening and unnecessary repeat colonoscopies. Lower participation in the National Bowel Cancer Screening Program, as well as poorer access to colonoscopy, needs to be addressed for Aboriginal and Torres Strait Islander Australians, people at socioeconomic disadvantage and those living outside major cities.

Colonoscopy hospitalisations, all ages

Context

Most colonoscopies are performed to detect bowel cancer. Australia is estimated to have the 11th highest incidence of colorectal cancer in the world, and bowel cancer is the second most commonly diagnosed cancer in men and in women in Australia.^{1,2} Although the estimated age-standardised incidence of bowel cancer in Australia will have fallen between 1997 and 2018, the number of cases will increase from 11,184 to an estimated 17,004 per year due to the ageing population.³

About 51% of Australia's bowel cancer burden can be attributed to preventable risk factors such as physical inactivity, obesity, a diet low in fibre and high in red and processed meat, alcohol use, and smoking.³ Although smoking rates have declined in the population as a whole, the percentage of Australian adults who are overweight or obese increased from 56% to 63% between 1995 and 2011–12.⁴

Screening reduces morbidity and mortality from bowel cancer, and Australia's National Bowel Cancer Screening Program offers biennial faecal occult blood testing (FOBT) for people aged 50–74 years. Guidelines recommend colonoscopy for people who have a positive FOBT, and for follow-up at particular time points for people who have had previous polyps or bowel cancer.

Recommendations to limit colonoscopy to higher-risk groups have been made, taking into account the risks of the procedure (for example, perforation of the bowel or bleeding) as well as the costs to society and the individual.⁵ However, these recommendations do not appear to be followed well currently, resulting in overuse of colonoscopy in people at lower risk and underuse in those at higher risk. For every 1 million Australians aged 50 years and over, an estimated 80,000 people at average risk of bowel cancer are being over-screened with colonoscopy and 29,000 people at increased risk are not having the colonoscopy they need.⁵⁻⁷

The National Bowel Cancer Screening Program commenced in 2006, and the rate of Medicare Benefits Schedule (MBS)-subsidised colonoscopy increased by 46% between 2006 and 2017.⁸ In Australia, the rate of MBS-subsidised colonoscopy was 2,355 per 100,000 people in 2013–14.⁹ In England, the rate of colonoscopy and flexible sigmoidoscopy combined was lower, at 1,527 per 100,000 people in 2014–15.¹⁰

Why revisit variation in colonoscopy?

The first *Australian Atlas of Healthcare Variation* found that, in 2013–14, the highest rate of MBS-subsidised colonoscopy was 30 times as high as the lowest rate.⁹ While people living in outer regional areas have the highest rate of bowel cancer in Australia¹, the first Atlas found that they had some of the lowest rates of colonoscopy. In major cities, colonoscopy rates were lowest in areas of low socioeconomic status, despite such areas having the highest bowel cancer incidence and mortality rates. This socioeconomic patterning was not observed in regional or remote areas. Analysis in the first Atlas was based on MBS data, which did not include data on colonoscopies provided to publicly funded patients admitted to hospital, and did not allow analysis by Indigenous status.

This edition of the Atlas uses admitted patient data from the National Hospital Morbidity Database (NHMD), which captures information on people admitted as day patients or overnight in both public and private hospitals throughout Australia. The NHMD does not capture colonoscopies for non-admitted patients. While the MBS database includes data on people who receive an MBS-subsidised service whether or not they are admitted, no national data are available on the number of non-admitted (that is, outpatient) colonoscopies funded publicly under a hospital budget. Therefore, it is not possible to get a complete picture of all colonoscopy activity across Australia.

The reason for exploring colonoscopy using NHMD data in this edition of the Atlas is to produce a more complete picture of the use of this investigation in Australia, to see whether the patterns for admitted patients are similar to those found in the MBS data. The analysis will also shine a light on access for vulnerable populations who may be missing out on appropriate colonoscopy care, particularly:

- Aboriginal and Torres Strait Islander Australians
- Publicly funded patients (patients without private health insurance or without the ability to pay for the service themselves).

About the data

Data are sourced from the NHMD, and include admitted patients in both public and private hospitals. Rates are based on the number of hospitalisations for colonoscopy per 100,000 people of all ages in 2016–17.

Because a record is included for each hospitalisation for the procedure rather than for each patient, patients hospitalised for the procedure more than once in the financial year will be counted more than once.

The analysis and maps are based on the residential address of the patient and not the location of the hospital.

Rates are age and sex standardised to allow comparisons between populations with different age and sex structures.

Same-day procedure admission policies

States and territories differ in their admission policies for same-day procedures. As colonoscopies for non-admitted publicly funded patients are not included in the data shown, variation in admission policies is expected to contribute to variation in colonoscopy rates between states and territories. For example, in 2013–14 in Western Australia and

Victoria, almost all endoscopy procedures occurred as admitted patient care, so the data shown should be a near complete count of colonoscopies in these states.¹¹ In contrast, many colonoscopies in South Australia occurred as non-admitted care, and so the data shown are likely to be an under-count.

In Tasmania, procedures that are bulk-billed are coded as non-admitted episodes. This will lead to an underestimate of colonoscopy rates. A substantial proportion of public patients accessing Tasmanian public hospitals may be bulk-billed and therefore not represented in the data.

Aboriginal and Torres Strait Islander identification

The identification of Aboriginal and Torres Strait Islander patients may not be accurate for all admissions, and processes for seeking and recording identification may vary among states and territories. Therefore, the data shown may under-count the number of Aboriginal and Torres Strait Islander Australians hospitalised for colonoscopy.

What do the data show?

Magnitude of variation

In 2016–17, there were 765,411 hospitalisations for colonoscopy, representing 2,881 hospitalisations per 100,000 people of all ages (the Australian rate).

The number of hospitalisations for colonoscopy across 330* local areas (Statistical Area Level 3 – SA3) ranged from 622 to 4,607 per 100,000 people of all ages. The rate was **7.4 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 1,144 per 100,000 people of all ages in the Australian Capital Territory to 3,371 in Victoria (Figures 2.3-2.6).

* There are 340 SA3s. For this item, data were suppressed for 10 SA3s due to a small number of hospitalisations and/or population in an area.

Notes:

Data from a number of ACT private hospitals, which undertake some colonoscopies, were not provided to the National Hospital Morbidity Database. For this reason, data for the ACT should be interpreted with caution.

Some of the published SA3 rates were considered more volatile than others. These rates are excluded from the calculation of the difference between the highest and lowest SA3 rates in Australia.

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

Colonoscopy hospitalisations, all ages

After the highest and lowest 10% of results were excluded and 264 SA3s remained, the number of hospitalisations per 100,000 people of all ages was 2.2 times as high in the area with the highest rate compared to the area with the lowest rate.

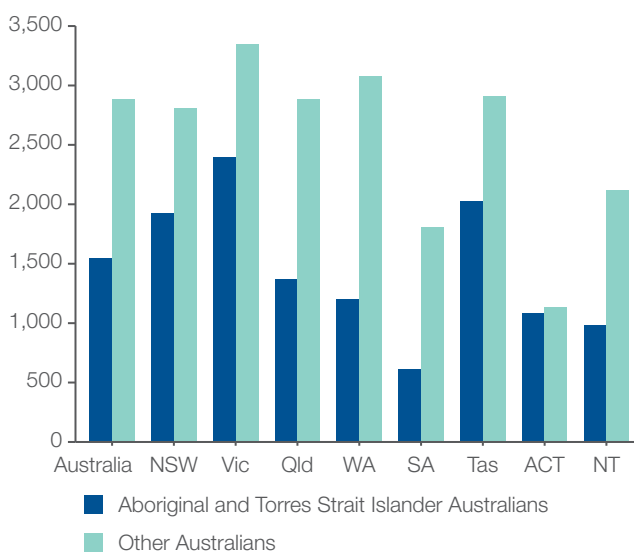
Analysis by remoteness and socioeconomic status

Rates for hospitalisation for colonoscopy were higher in major cities and inner regional areas than in outer regional and remote areas. Rates were lower in areas with lower socioeconomic status in major cities and remote areas. However, there was no clear pattern according to socioeconomic status in other remoteness categories (Figure 2.7).

Analysis by Aboriginal and Torres Strait Islander status

The rate for Aboriginal and Torres Strait Islander Australians (1,542 per 100,000 people) was 47% lower than the rate for other Australians (2,884 per 100,000 people) (Figure 2.1).

Figure 2.1: Number of hospitalisations for colonoscopy per 100,000 people of all ages, age and sex standardised, by state and territory of patient residence, by Aboriginal and Torres Strait Islander status, 2016–17



Notes:

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. Data from a number of ACT private hospitals, which undertake some colonoscopies, were not provided to the National Hospital Morbidity Database. For this reason, data for the ACT should be interpreted with caution. For further detail about the methods used, please refer to the Technical Supplement.

Sources: AIHW analysis of National Hospital Morbidity Database and ABS Estimated Resident Population 30 June 2016.

Analysis by sex for people aged 49 years and under

The age-standardised rate of hospitalisations for colonoscopy among people aged 49 years and under was 1,022 per 100,000 for males and 1,291 per 100,000 for females (Figure 2.2).

Figure 2.2: Number of hospitalisations for colonoscopy per 100,000 people aged 49 years and under, age standardised, by state and territory of patient residence, by sex, 2016–17



The data for Figures 2.1 and 2.2 are available at www.safetyandquality.gov.au/atlas.

Interpretation

Variation is warranted and desirable when it reflects variation in the underlying need for care. However, use of colonoscopy does not appear to match patterns of patient need. The pattern in major cities, where there is greater use of colonoscopy in higher socioeconomic areas, does not reflect disease patterns for bowel cancer, as bowel cancer incidence and mortality rates are highest in areas of socioeconomic disadvantage.^{1,3} The higher rate of colonoscopy in females across all states is the reverse of what would be expected, given the known higher rates of bowel cancer in men.¹

These data are consistent with the patterns found in the first Atlas using MBS colonoscopy data.⁹ The degree of overall variation observed in these hospitalisation data is less than previously observed when using MBS data. Differences in the scope of each dataset are likely to contribute to this.

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.

Variation in rates of colonoscopy is likely to be due to geographical differences in the factors discussed below and the data issues discussed above.

Clinical decision-making

High rates of colonoscopy in some areas may be related to clinical practice that is not supported by guidelines. A recent Australian study found that, among people who underwent colonoscopy in the previous five years, in 21% of cases it had been performed as a screening test or for another reason not supported by guidelines.¹² Previous Australian studies have also found that repeat and surveillance colonoscopies were often requested sooner than recommended by guidelines.^{13,14}

Inappropriate use of colonoscopy to investigate non-specific irritable bowel syndrome symptoms, particularly in younger patients without red flags such as rectal bleeding or weight loss, may also contribute to variation in rates and the high rates in people under 50 years of age, particularly women. Conversely, not performing colonoscopy when it is warranted – for example, in older patients with unexplained iron deficiency anaemia or rectal bleeding – will also contribute to variation.

Access to colonoscopy services

Ability to pay out-of-pocket costs for colonoscopy is likely to be lower in areas of socioeconomic disadvantage, and geographic access is likely to be more difficult in areas with fewer gastroenterology services. Open access endoscopy services are likely to increase the rates of colonoscopy in areas where these services are available, because general practitioners are effectively able to request a colonoscopy without further review from a specialist.

Rates of colonoscopy are lower in outer regional and remote areas, raising concerns about adequate access to colonoscopy in these areas. The lower rates in Aboriginal and Torres Strait Islander Australians suggest that this population group is also missing out on appropriate care and need improved access to colonoscopy.

Rates of private health insurance

Having private health insurance significantly reduces waiting time between presenting to a doctor and having a diagnosis of bowel cancer (with colonoscopy in most cases).¹⁵ Higher rates of private health insurance in areas of greater socioeconomic advantage may explain the higher rates of colonoscopy in these areas.

Notes:

Data from a number of ACT private hospitals, which undertake some colonoscopies, were not provided to the National Hospital Morbidity Database. For this reason, data for the ACT should be interpreted with caution.

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

Sources: AIHW analysis of National Hospital Morbidity Database and ABS Estimated Resident Population 30 June 2016.

Colonoscopy hospitalisations, all ages

Uptake of bowel cancer screening

The percentage of invited people who participate in the National Bowel Cancer Screening Program varies by:

- State and territory – between 28% (Northern Territory) and 47% (South Australia)
- Remoteness – 28% and 44% in very remote and inner regional areas, respectively
- Socioeconomic status – 30% and 43% in areas of highest and lowest socioeconomic status, respectively.³

Participation by Aboriginal and Torres Strait Islander Australians was estimated at 20% in 2015–16, compared to 42% of other Australians.³

Other factors

Higher rates of colonoscopy in women under 50 years of age may also reflect investigation of anaemia in women who have not been properly investigated for heavy menstrual bleeding. Management of heavy menstrual bleeding according to the Australian Clinical Care Standard¹⁶ may reduce rates of unnecessary colonoscopy in premenopausal women.

Variation in rates of colonoscopy between areas 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.

Addressing variation

The National Bowel Cancer Screening Program has been implemented in stages, and by 2020 all eligible Australians between 50 and 74 years of age will be invited for screening every two years.³ This will further increase the demand for colonoscopies, and adds to the urgency to better target colonoscopy resources so that those with a clear need are prioritised. Strategies could include prioritising patients who are most at risk of bowel cancer, and reducing the number of colonoscopies inappropriately used for primary screening or repeated more frequently than recommended. Despite national guidelines, confusion persists about appropriate use of colonoscopy in people with a family history of bowel cancer.

Lower participation in the National Bowel Cancer Screening Program, as well as poorer access to colonoscopy, needs to be addressed for Aboriginal and Torres Strait Islander Australians, people at socioeconomic disadvantage and those living outside major cities. Improving management of irritable bowel syndrome could reduce inappropriate use of colonoscopy.

Colonoscopy Clinical Care Standard

The Australian Commission on Safety and Quality in Health Care (the Commission) released a national Colonoscopy Clinical Care Standard in 2018, which includes a requirement for timely and appropriate use of colonoscopy, as per Australian guidelines.¹⁷ As the number of colonoscopies continues to increase in Australia, ensuring quality and safety is essential to maximise the benefits that are delivered to individual patients and the population as a whole. The Colonoscopy Clinical Care Standard highlights the key components of a high-quality colonoscopy. These include appropriate referral and timely assessment, maximising adenoma detection rates through certification of proceduralists and adequate bowel preparation before colonoscopy, safe use of sedation, and surveillance intervals based on best evidence. The clinical care standard also requires that patients are properly informed about each aspect of their care.

Facilities providing colonoscopies should be monitoring adherence to the clinical care standard to ensure that patients with the greatest need are prioritised for colonoscopy. Aligning surveillance intervals with guidelines is one of the aims of the proposed changes to MBS items for colonoscopy, and this may reduce the use of colonoscopies more frequently than recommended.¹⁸

Triage systems

Some states in Australia (Queensland, Victoria and Western Australia) have introduced models of care or triage guidelines to support appropriate referral for colonoscopy.¹⁹⁻²¹ These programs include guidance for prioritisation of patients for colonoscopy, and prompts for key information required from referring clinicians. Implementing such triaging programs more widely across Australia, through online systems or with standardised referral templates, could result in better use of current colonoscopy capacity.

Appropriate prioritisation of colonoscopy and gastroscopy

Gastroscopies and colonoscopies are often performed by the same specialists and on the same procedural list. Bowel cancer is much more common than cancer of the upper gastrointestinal tract, but gastroscopies currently may be inappropriately prioritised over more clinically important colonoscopies, thus contributing to access problems. One way to examine whether this is happening at a local level would be to explore the volume of each procedure being undertaken and the pathology yield rates for both colonoscopy and gastroscopy.

The national rate of hospitalisations for colonoscopy is 2,881 per 100,000, and for gastroscopy it is 1,931 per 100,000. However, these figures do not reflect the relevant relative burden of disease. For example, the estimated age-standardised incidence rate per 100,000 in 2017 for oesophageal cancer was 8.4 for men and 3.0 for women; for stomach cancer, the estimated age-standardised incidence rate per 100,000 in 2017 was 10.9 for men and 5.2 for women.²² In comparison, for bowel cancer in 2017, the estimated age-standardised incidence rate per 100,000 was 67.3 for men and 49.4 for women.²²

A reduction in gastroscopy services could free up resources for colonoscopy. The MBS Review Taskforce recommended that the Gastroenterological Society of Australia consider the need for guidelines on the appropriate concurrent use of upper and lower gastrointestinal endoscopy services.²³ See page 97 for analysis of gastroscopy services in Australia.

Prevention of bowel cancer

Preventing bowel cancer by promoting lifestyle changes, particularly in populations with the highest rates of risk factors, would reduce the overall need for colonoscopy. Risk factors for bowel cancer include smoking, alcohol intake, dietary factors, obesity and family history.¹ Physical inactivity and high body mass index (BMI) are the greatest contributors to bowel cancer burden in Australia (16% and 13%, respectively).³

Aboriginal and Torres Strait Islander Australians and bowel cancer

Although the reported incidence of bowel cancer is equal among Aboriginal and Torres Strait Islander Australians and other Australians, survival rates are not.²⁴ (Additionally, the reported incidence of bowel cancer for Aboriginal and Torres Strait Islander Australians may be an underestimate.) Aboriginal and Torres Strait Islander Australians have a 58% chance, on average, of surviving for five years after being diagnosed with bowel cancer, compared with other Australians, who have a 67% chance, on average, of surviving for five years.²⁴

Trends in detected bowel cancers and mortality do not show improvements for Aboriginal and Torres Strait Islander Australians. The incidence of bowel cancer increased significantly among Aboriginal and Torres Strait Islander Australians between 1998 and 2013, but remained steady among other Australians.²⁴ The mortality rate from bowel cancer remained steady among Aboriginal and Torres Strait Islander Australians between 1998 and 2015, but fell among other Australians.²⁴

Colonoscopy hospitalisations, all ages

Participation by Aboriginal and Torres Strait Islander Australians in the National Bowel Cancer Screening Program (20% in 2014–15) was lower than for other Australians (42%).³ Lower participation in the screening program is likely to contribute to poorer outcomes among Aboriginal and Torres Strait Islander Australians.²⁴ Many factors may contribute to lower participation, including:

- Lack of knowledge and awareness about bowel cancer (poor health literacy)
- Bowel cancer being a taboo topic or not a health priority
- An out-of-date address in Medicare registration details preventing Aboriginal and Torres Strait Islander Australians receiving an FOBT kit.

Lower rates of private health insurance may also contribute to the lower rate of colonoscopy among Aboriginal and Torres Strait Islander Australians²⁵, as well as poorer access to effective and culturally safe primary health care and specialist care.

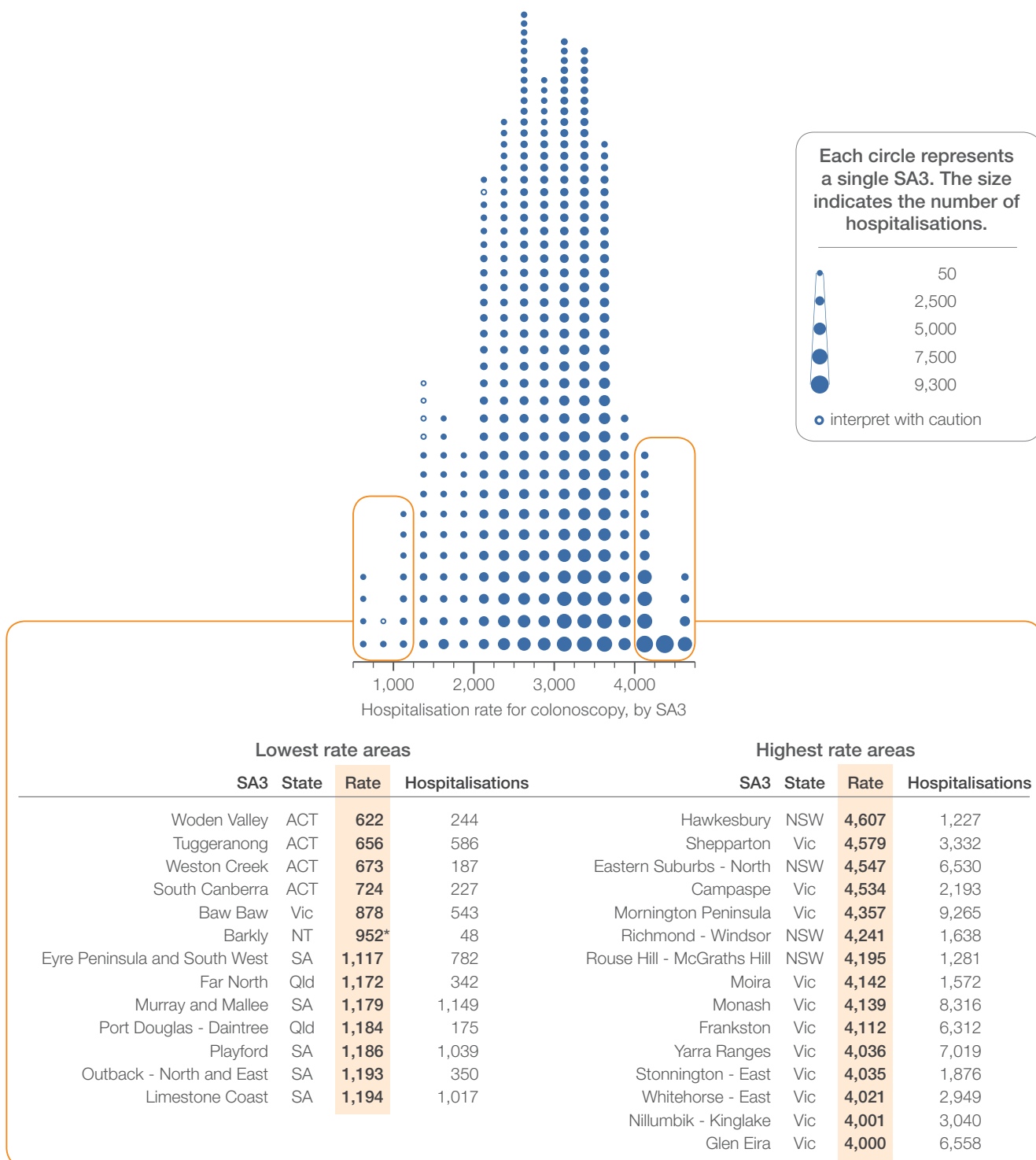
Increasing participation by Aboriginal and Torres Strait Islander Australians in the National Bowel Cancer Screening Program could improve survival rates, if matched by better access to treatment.

A New South Wales study of bowel cancer among Aboriginal and Torres Strait Islander Australians reported poorer survival than for other Australians, despite no obvious differences in the treatment or follow-up.²⁶ It is possible that small delays and differences in treatment, which could be due to cultural barriers, also contribute to poorer survival, in addition to other factors.²⁶

More work is needed to identify and understand the reasons for the disparities between Aboriginal and Torres Strait Islander Australians and other Australians in bowel cancer screening and survival.

Rates by local area

Figure 2.3: Number of hospitalisations for colonoscopy per 100,000 people of all ages, age and sex standardised, by Statistical Area Level 3 (SA3) of patient residence, 2016–17



Notes:

Hollow circles (○) and asterisks (*) indicate rates that are considered more volatile than other published rates and should be interpreted with caution.

Data from a number of ACT private hospitals, which undertake some colonoscopies, were not provided to the National Hospital Morbidity Database. For this reason, data for the ACT should be interpreted with caution.

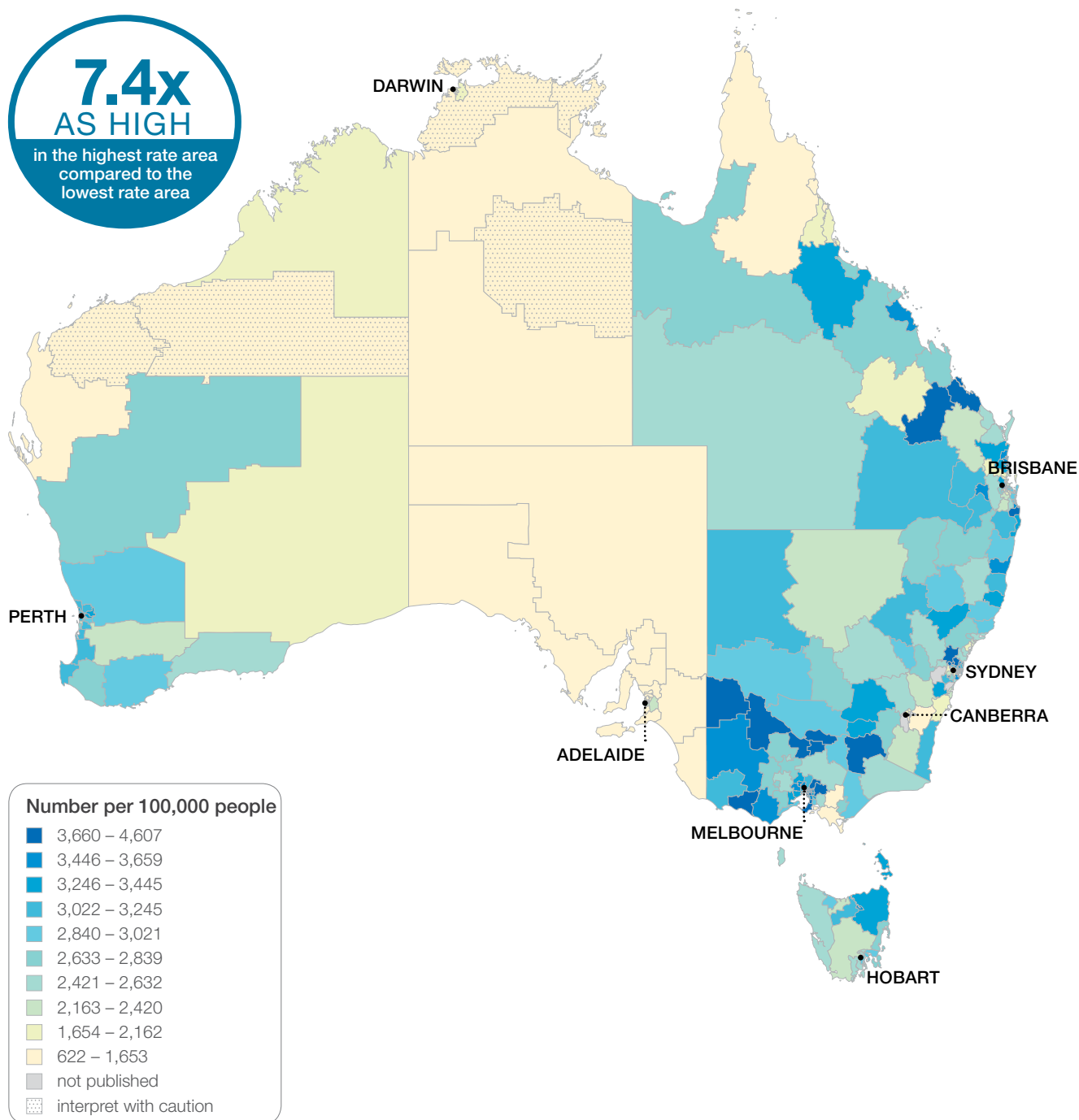
For further detail about the methods used, please refer to the Technical Supplement.

Sources: AIHW analysis of National Hospital Morbidity Database and ABS Estimated Resident Population 30 June 2016.

Colonoscopy hospitalisations, all ages

Rates across Australia

Figure 2.4: Number of hospitalisations for colonoscopy per 100,000 people of all ages, age and sex standardised, by Statistical Area Level 3 (SA3) of patient residence, 2016–17



Notes:

Dotted areas indicate rates that are considered more volatile than other published rates and should be interpreted with caution. These rates are excluded from the calculation of the difference between the highest and lowest SA3 rates in Australia.

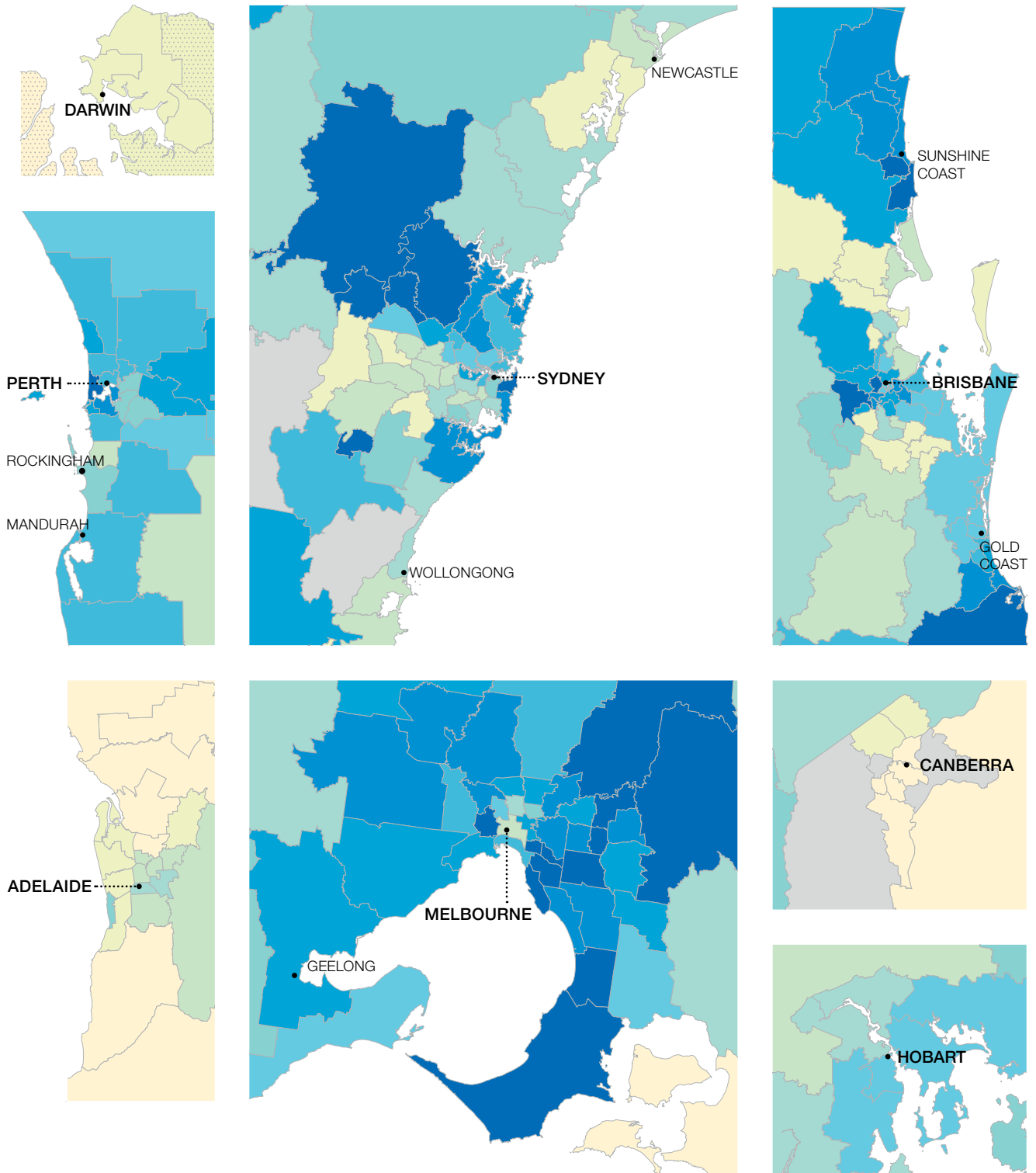
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For further detail about the methods used, please refer to the Technical Supplement.

Sources: AIHW analysis of National Hospital Morbidity Database and ABS Estimated Resident Population 30 June 2016.

Rates across capital city areas

Figure 2.5: Number of hospitalisations for colonoscopy per 100,000 people of all ages, age and sex standardised, by Statistical Area Level 3 (SA3) of patient residence, 2016–17



Notes:

Dotted areas indicate rates that are considered more volatile than other published rates and should be interpreted with caution.

Data from a number of ACT private hospitals, which undertake some colonoscopies, were not provided to the National Hospital Morbidity Database. For this reason, data for the ACT should be interpreted with caution.

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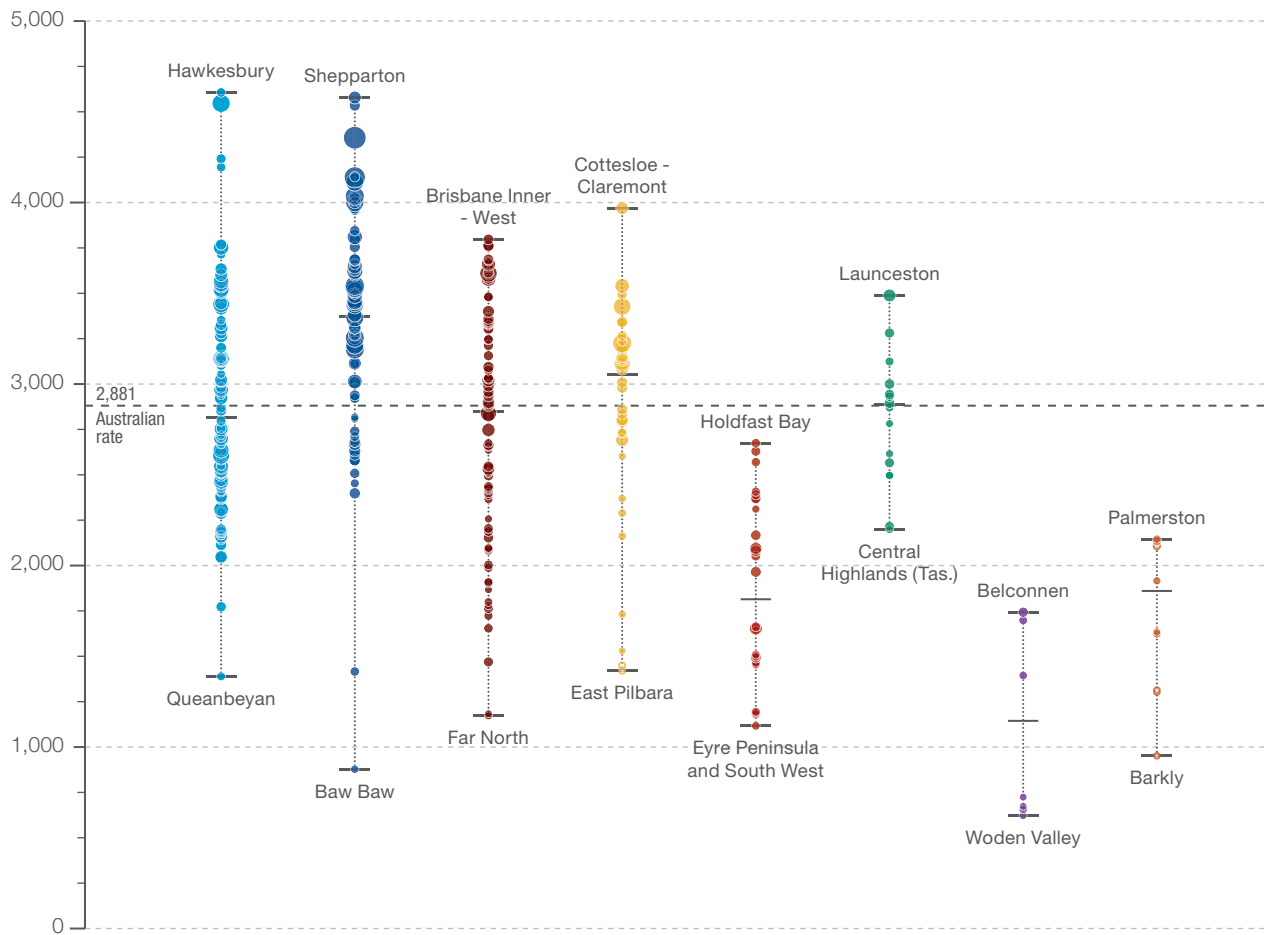
Sources: AIHW analysis of National Hospital Morbidity Database and ABS Estimated Resident Population 30 June 2016.

Colonoscopy hospitalisations, all ages

Rates by state and territory

Figure 2.6: Number of hospitalisations for colonoscopy per 100,000 people of all ages, age and sex standardised, by Statistical Area Level 3 (SA3) of patient residence, 2016–17

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Highest rate	4,607	4,579	3,797	3,969	2,674	3,488	1,743	2,146
State/territory	2,814	3,371	2,851	3,051	1,814	2,885	1,144	1,860
Lowest rate	1,389	878	1,172	1,420*	1,117	2,198	622	952*
No. hospitalisations	242,070	225,764	150,784	82,217	37,203	18,529	4,557	3,833



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

○ interpret with caution



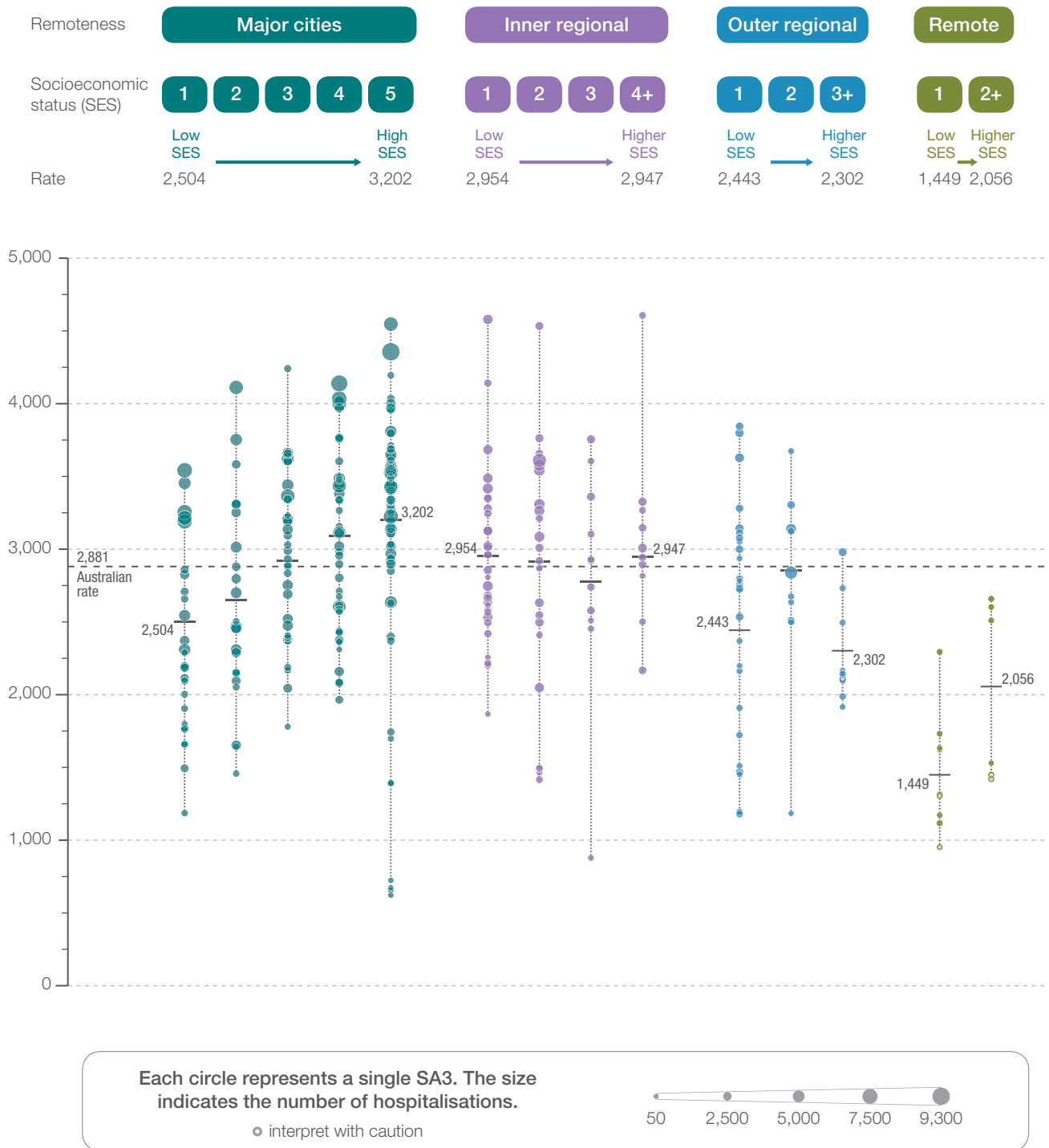
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Sources: AIHW analysis of National Hospital Morbidity Database and ABS Estimated Resident Population 30 June 2016.

Rates by remoteness and socioeconomic status

Figure 2.7: Number of hospitalisations for colonoscopy per 100,000 people of all ages, age and sex standardised, by Statistical Area Level 3 (SA3) of patient residence, 2016–17



Notes:

Hollow circles (○) indicate rates that are considered more volatile than other published rates and should be interpreted with caution. For further detail about the methods used, please refer to the Technical Supplement.

Sources: AIHW analysis of National Hospital Morbidity Database and ABS Estimated Resident Population 30 June 2016.

Colonoscopy hospitalisations, all ages

Resources

- Australian Commission on Safety and Quality in Health Care, Colonoscopy Clinical Care Standard¹⁷
- Australian Commission on Safety and Quality in Health Care, Colonoscopy Clinical Care Standard clinician and consumer fact sheets²⁷
- Cancer Council Australia, *Clinical Practice Guidelines for the Prevention, Early Detection and Management of Colorectal Cancer*²⁸
- Gastroenterological Society of Australia, IBS4GPs, an online IBS management tool for general practitioners²⁹
- Cancer Council Australia, *Clinical Practice Guidelines for Surveillance Colonoscopy*³⁰
- Royal Australian College of General Practitioners, *Guidelines for Preventive Activities in General Practice* (9th edition). Section 9.2: Colorectal cancer.³¹

Australian initiatives

The information in this chapter will complement work already under way to improve the use of colonoscopy in Australia. At a national level, this work includes:

- MBS Review Taskforce, review of MBS colonoscopy items²³
- Australian Commission on Safety and Quality in Health Care, Colonoscopy Clinical Care Standard¹⁷
- Gastroenterological Society of Australia, Choosing Wisely recommendation 1: Do not repeat colonoscopies more often than recommended by the National Health and Medical Research Council (NHMRC) endorsed guidelines³²
- Gastroenterological Society of Australia, online management tool for irritable bowel syndrome²⁹
- Colorectal Surgical Society of Australia and New Zealand, Bi-National Colorectal Cancer Audit.

Many states and territory initiatives are also in place to improve the use of colonoscopy, including:

- Queensland Health, clinical prioritisation criteria for gastroenterology³³
- Agency for Clinical Innovation, New South Wales, clinical priority categories for colonoscopy³⁴
- NSW Cancer Institute, grants for research projects on access to bowel cancer screening services
- Department of Health, Tasmania, Patients First Colonoscopy Access Strategy
- Department of Health and Human Services, Victoria, *Colonoscopy Categorisation Guidelines*²⁰
- Department of Health, Western Australia, *Colonoscopy Services Model of Care*.¹⁹

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