4.6 Cataract surgery hospitalisations 40 years and over

Context

This data item examines hospitalisations for cataract surgery in people aged 40 years and over based on their place of residence.

The first *Australian Atlas of Healthcare Variation* examined variation in cataract surgery based on data from the Medicare Benefits Schedule, which did not reflect all publicly funded services. Further analysis using hospital admissions data was suggested, to provide a better understanding of all cataract services, both public and private.

Cataract is the second most common cause of bilateral vision impairment in Australia.[1] The strongest risk factor for cataracts is age.[2] Diabetes and smoking also increase the risk.[2,3] Cataract surgery is the most common elective surgical procedure in Australia. It involves replacing the lens with a clear, permanent, artificial lens.[4] As well as restoring sight lost from cataract, artificial lenses can help correct poor sight from refractive errors. As a result, many people who previously had to wear glasses can become spectacle-free following a cataract operation.

Factors that influence the amount of cataract surgery in a community include the age structure of the population, indications and thresholds for the surgery, access to surgical services, and the financial systems for paying and incentivising surgeons.[5] Half of the population develops significant cataract by their 70s.[5] In Australia, 90% of cataract operations are for people aged 60 years and over, and only 1% are in people under 40 years of age.[6]

Measured visual acuity is one factor that determines the threshold for surgery; the functional impact of cataract on a person's life is also a key consideration. Poor eyesight affects the ability of people to live independently and places them at risk of preventable injuries – for example, from falls.[7]

Cataract surgery hospitalisations 40 years and over

International comparisons are often made using an overall 'cataract surgical rate', which is defined by the World Health Organization as the number of cataract operations per million population per year.[8] In 2012, Australia had a high ranking compared with other high-income countries, with a cataract surgical rate of 8,000 per million, which was twice as high as that of New Zealand, but lower than that of France, Sweden, the Netherlands and the United States (≥10,000 per million).[9] The cataract surgical rates per million population over the age of 40 for the states and territories, and national data examined in this Atlas are available at www.safetyandquality.gov.au/atlas.

The prevalence of vision loss from unoperated cataract is 12 times as high in Aboriginal and Torres Strait Islander Australians than in other Australians.[10] Poor access to eye services is the key factor in higher rates of untreated cataract among Aboriginal and Torres Strait Islander Australians.[11] Only 65% of Aboriginal and Torres Strait Islander Australians with vision impairment due to cataract undergo surgery.[11] Aboriginal and Torres Strait Islander Australians also experience longer waiting times for cataract surgery than other Australians (median waiting times of 140 and 92 days, respectively).[12] Waiting times for cataract surgery also vary between states and territories, ranging from a median waiting time of 37 days in Western Australia to 301 days in Tasmania.[12] Waiting times have not been investigated at a national level by Statistical Local Areas of patient residence.

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 cataract surgery per 100,000 people aged 40 years and over in 2014–15. Because a record is included for each hospitalisation for cataract surgery, rather than for each patient, patients hospitalised for this procedure more than once in the financial year will be counted more than once. Data for the Australian Capital Territory (ACT) are not presented separately, because not all ACT facilities that undertake cataract surgery contribute to the National Hospital Morbidity Database. In New South Wales, some cataract procedures are undertaken in outpatient departments as non-admitted care, and these procedures are not counted in the data presented.

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 comparison between populations with different age and sex 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 245,797 hospitalisations for cataract surgery, representing 2,138 hospitalisations per 100,000 people aged 40 years and over (the Australian rate).

The number of hospitalisations for cataract surgery across 316† local areas (Statistical Area 3 – SA3) ranged from 835 to 3,279 per 100,000 people aged 40 years and over. The rate was **3.9 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 1,810 per 100,000 people aged 40 years and over in South Australia to 2,520 in Tasmania (Figures 4.39–4.42).

After the highest and lowest 10% of results were excluded and 254 SA3s remained, the number of hospitalisations per 100,000 people aged 40 years and over was 1.6 times as high in the area with the highest rate compared to the area with the lowest rate.

† There are 333 SA3s. For this item, data were suppressed for eight SA3s due to a small number of hospitalisations and/or population in an area. Data from ACT private free-standing day hospital facilities, which undertake some cataract surgery, were not provided to the National Hospital Morbidity Database. For this reason, results for ACT (nine SA3s in total) were also suppressed.
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.

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

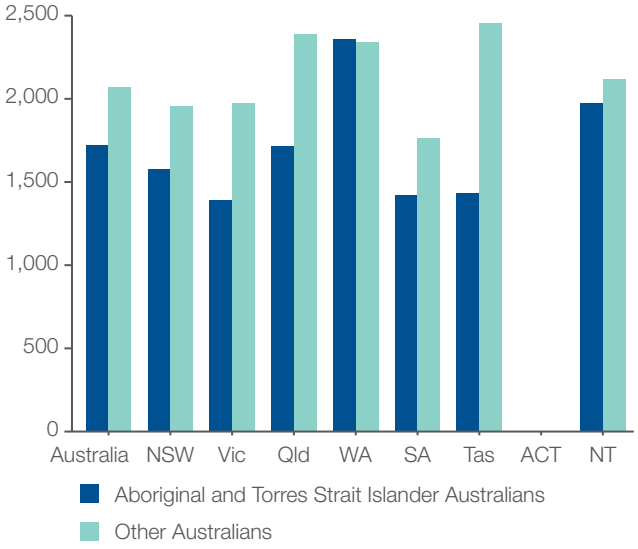
Analysis by remoteness and socioeconomic status

Rates tended to be higher in inner and outer regional areas than in major cities or remote areas. There was no clear pattern according to socioeconomic disadvantage (Figure 4.43).

Analysis by Aboriginal and Torres Strait Islander status

The rate for Aboriginal and Torres Strait Islander Australians (1,719 per 100,000 people) was 17% lower than the rate for other Australians (2,073 per 100,000 people) (Figure 4.37).

Figure 4.37: Number of hospitalisations for cataract surgery per 100,000 people aged 40 years and over, age and sex standardised, by state and territory and Indigenous status, 2014–15

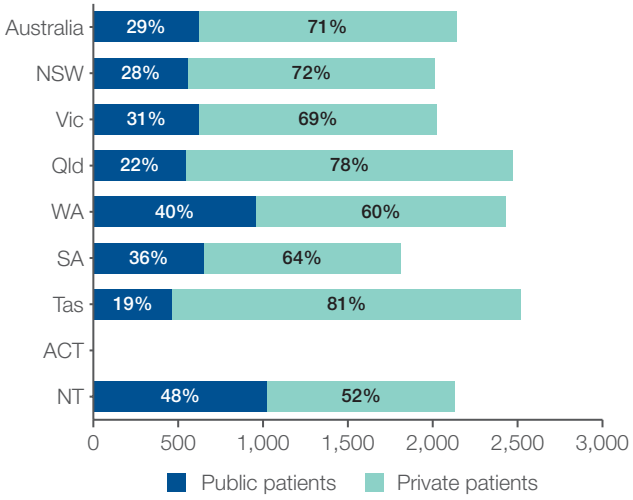


The data for Figure 4.37 are available at www.safetyandquality.gov.au/atlas.

Analysis by patient funding status

Overall, 71% of hospitalisations for cataract surgery were for privately funded patients. This proportion varied from 52% in the Northern Territory to 78% in Queensland and 81% in Tasmania. The median age of patients at the time of hospitalisation was 74 years for publicly funded patients and 73 years for privately funded patients (Figure 4.38).

Figure 4.38: Number of hospitalisations for cataract surgery per 100,000 people aged 40 years and over, age and sex standardised, by state and territory and patient funding status, 2014–15



The data for Figure 4.38 are available at www.safetyandquality.gov.au/atlas.

Notes:
Rates are age and sex standardised to the Australian population in 2001.
Rates are based on the number of hospitalisations in public and private hospitals (numerator) and people 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.
Data from ACT private free-standing day hospital facilities, which undertake some cataract surgery, were not provided to the National Hospital Morbidity Database. For this reason, results for ACT are not published.
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.

Cataract surgery hospitalisations 40 years and over

Interpretation

Potential reasons for the variation include differences in:

- Risk factors for cataract
- Prevalence and severity of cataracts
- Access to eye screening and assessment services
- The decision-making criteria of patients and specialists about the level of visual acuity and functional impairment that indicate the need for surgery
- The availability of specialists in rural and remote locations
- Provision of public cataract surgery facilities and access to these services
- Rates of private health insurance and levels of access to private hospitals among some population groups
- Special initiatives to reduce waiting lists for surgery in some states and territories during 2014–15
- Government policies that involve governments purchasing the services of private providers in private hospitals for public patients.

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.

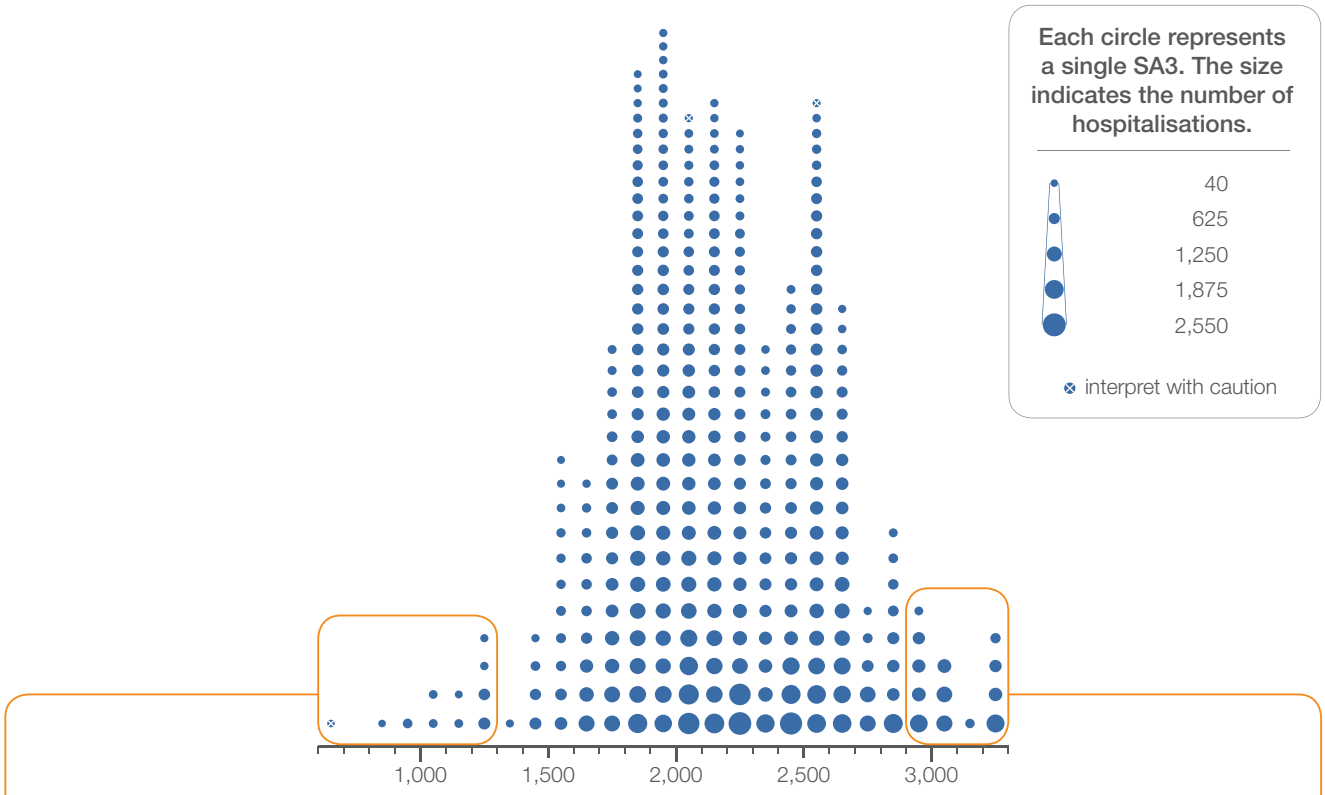
Addressing variation

A major barrier to cataract surgery for Aboriginal and Torres Strait Islander Australians is limited public ophthalmology services.[13] Other barriers include poor coordination between hospital, other healthcare and eye care services. Case management to help patients navigate the referral process and hospital system may go some way towards addressing these issues.[14] Improving literacy around eye health may also be important to increase the number of Aboriginal and Torres Strait Islander Australians who seek help for cataract before it causes blindness.[15]

Increasing the availability of eye services that are specific for Aboriginal and Torres Strait Islander Australians, and increasing the cultural competence of mainstream services are also paramount for improving rates of cataract surgery among Aboriginal and Torres Strait Islander Australians.[14,16] Providing training opportunities in Aboriginal and Torres Strait Islander clinic settings may increase cultural awareness and encourage specialists to include this work in their practice.[13,14]

'Surgical blitzes' in regional and remote areas have resulted in short-term increases in the numbers of cataract procedures for Aboriginal and Torres Strait Islander Australians, but they may also prevent planning for the required ongoing services.[17] Sustainable strategies for increasing the rate of cataract surgery among Aboriginal and Torres Strait Islander Australians in regional areas have included integrated eye health services, which incorporated optometry, eye health nursing, ophthalmology and cataract surgery services.[18] The *Roadmap to Close the Gap for Vision*[14] provides many other strategies that would improve the provision of cataract surgery for Aboriginal and Torres Strait Islander and other Australians.

Figure 4.39: Number of hospitalisations for cataract surgery per 100,000 people aged 40 years and over, age and sex standardised, by Statistical Area Level 3 (SA3), 2014–15



Lowest rate areas

SA3	State	Rate	Hospitalisations
Daly - Tiwi - West Arnhem	NT	**683***	40
Brighton	Tas	**835**	51
Mount Druitt	NSW	**978**	385
Queanbeyan	NSW	**1,064**	241
Bathurst	NSW	**1,083**	254
Esperance	WA	**1,154**	97
St Marys	NSW	**1,182**	241
Lower North	SA	**1,202**	185
Merrylands - Guildford	NSW	**1,208**	774
Blacktown	NSW	**1,245**	696
Snowy Mountains	NSW	**1,268**	148

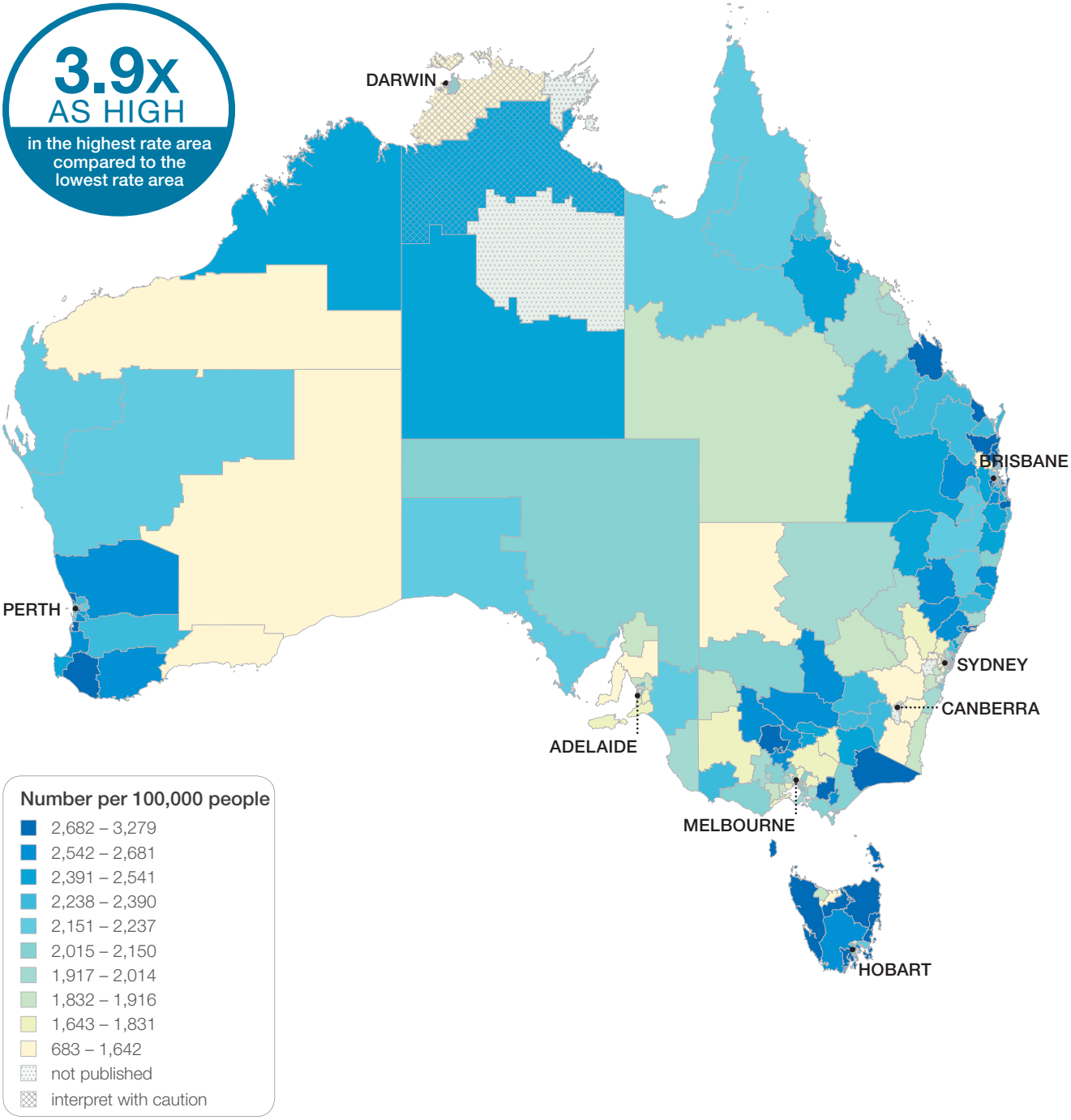
Highest rate areas

SA3	State	Rate	Hospitalisations
North East	Tas	**3,279**	827
Caloundra	Qld	**3,266**	1,753
Meander Valley - West Tamar	Tas	**3,255**	494
Gympie - Cooloola	Qld	**3,239**	1,002
Huon - Bruny Island	Tas	**3,116**	356
Launceston	Tas	**3,094**	1,435
Gippsland - East	Vic	**3,015**	1,067
Gosnells	WA	**3,000**	1,369
Nambour - Pomona	Qld	**2,990**	1,070
Noosa	Qld	**2,938**	821
Maroochy	Qld	**2,933**	964
Loddon - Elmore	Vic	**2,925**	244
Rockhampton	Qld	**2,905**	1,699

Notes:
Rates are age and sex standardised to the Australian population in 2001.
Rates are based on the number of hospitalisations in public and private hospitals (numerator) and people in the geographic area (denominator).
Analysis is based on the patient's area of usual residence, not the place of hospitalisation.
Crosses and asterisks 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.
Data from ACT private free-standing day hospital facilities, which undertake some cataract surgery, were not provided to the National Hospital Morbidity Database. For this reason, results for ACT are not published.
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.

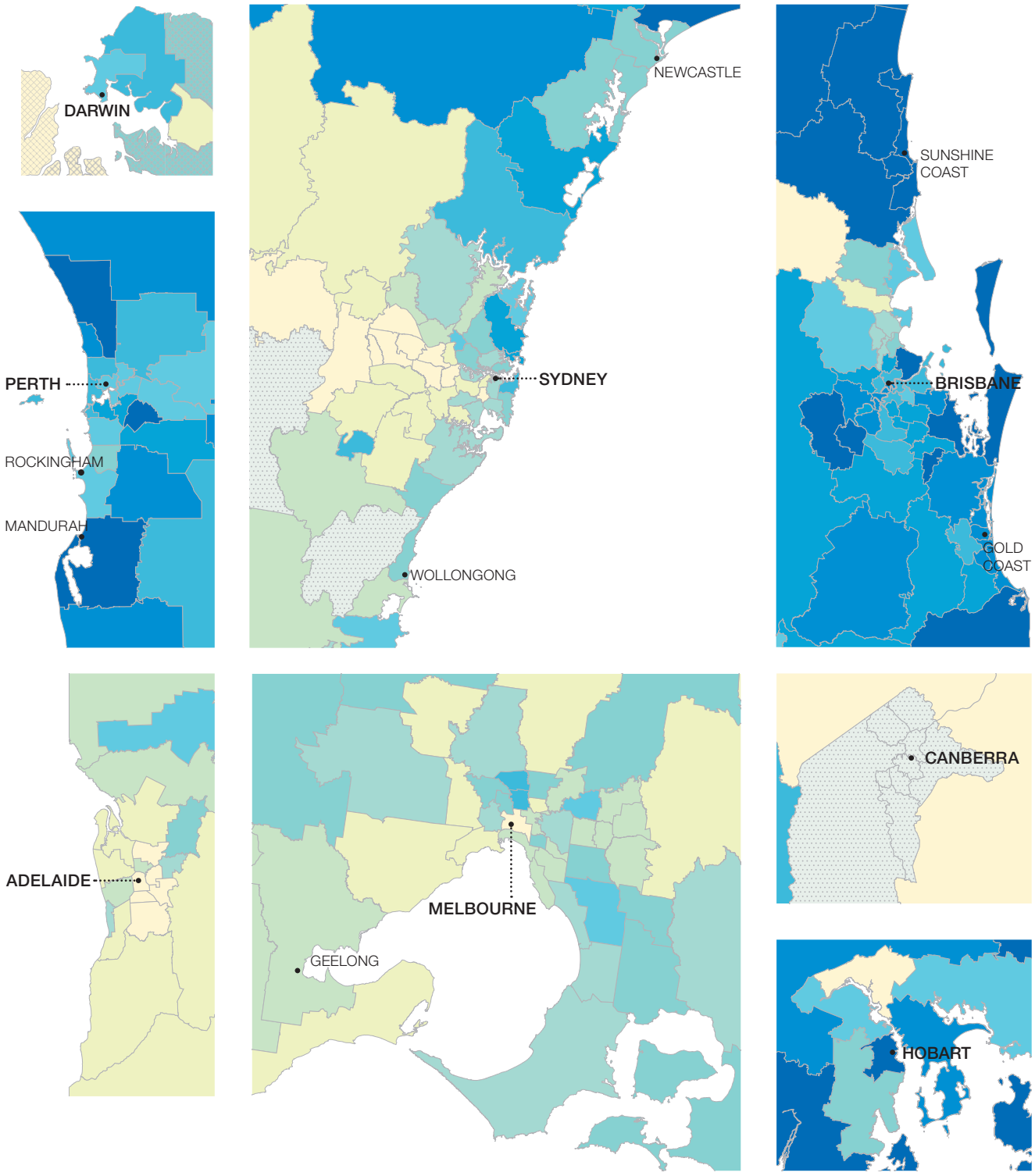
Cataract surgery hospitalisations 40 years and over

Figure 4.40: **Number of hospitalisations for cataract surgery per 100,000 people aged 40 years and over, age and sex standardised, by Statistical Area Level 3 (SA3), 2014–15: Australia map**



Notes:
Rates are age and sex standardised to the Australian population in 2001.
Rates are based on the number of hospitalisations in public and private hospitals (numerator) and people in the geographic area (denominator).
Analysis is based on the patient's area of usual residence, not the place of hospitalisation.
Hatching indicates a rate that is considered more volatile than other published rates and should be interpreted with caution.
Data from ACT private free-standing day hospital facilities, which undertake some cataract surgery, were not provided to the National Hospital Morbidity Database. For this reason, results for ACT are not published.
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 4.41: **Number of hospitalisations for cataract surgery per 100,000 people aged 40 years and over, age and sex standardised, by Statistical Area Level 3 (SA3), 2014–15: capital city area maps**

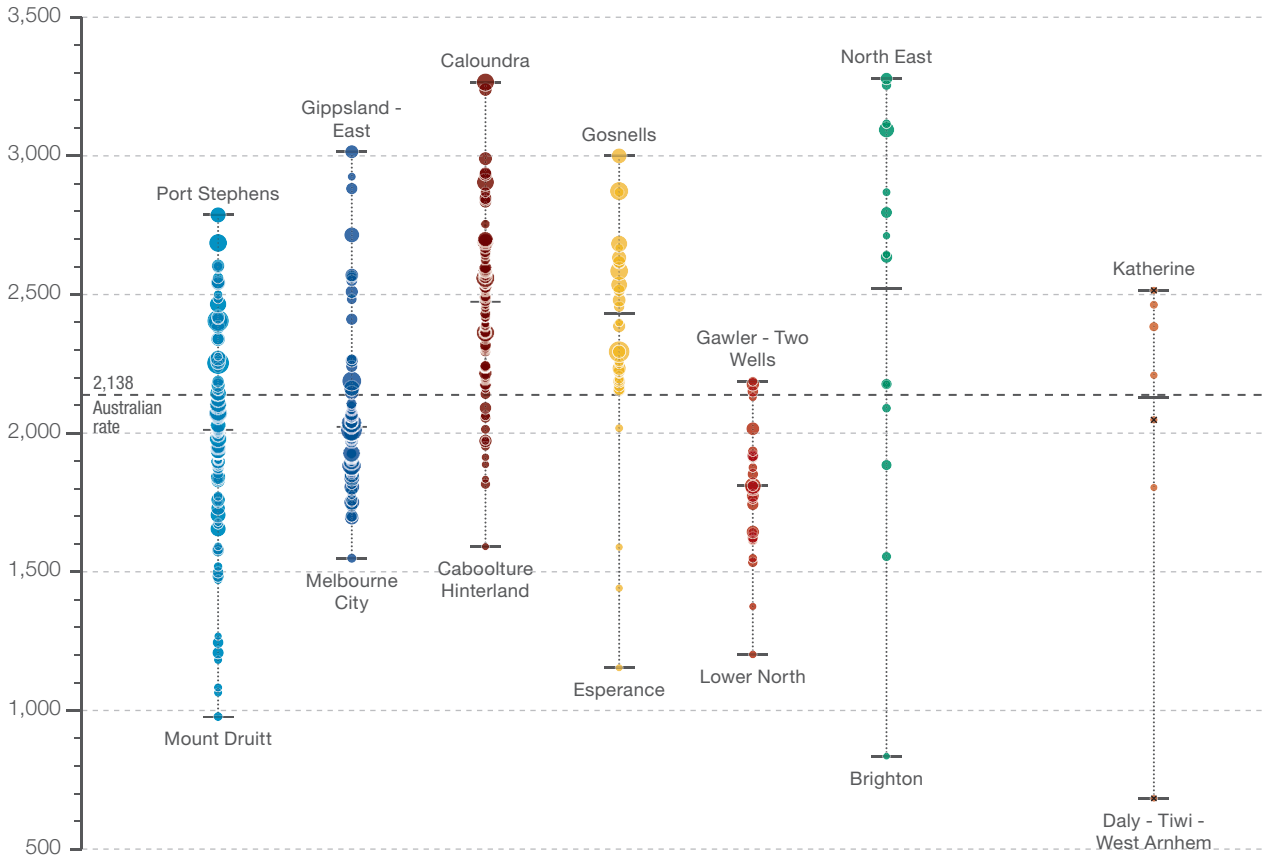


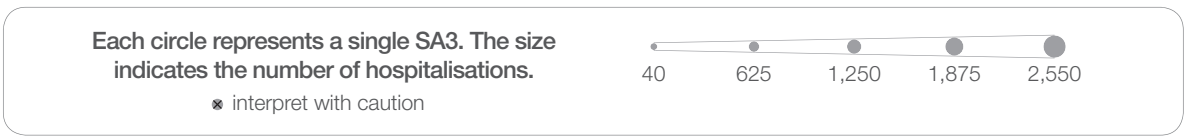
Notes:
Rates are age and sex standardised to the Australian population in 2001.
Rates are based on the number of hospitalisations in public and private hospitals (numerator) and people in the geographic area (denominator).
Analysis is based on the patient's area of usual residence, not the place of hospitalisation.
Hatching indicates a rate that is considered more volatile than other published rates and should be interpreted with caution.
Data from ACT private free-standing day hospital facilities, which undertake some cataract surgery, were not provided to the National Hospital Morbidity Database. For this reason, results for ACT are not published.
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.

Cataract surgery hospitalisations 40 years and over

Figure 4.42: Number of hospitalisations for cataract surgery per 100,000 people aged 40 years and over, age and sex standardised, by Statistical Area Level 3 (SA3), state and territory, 2014–15

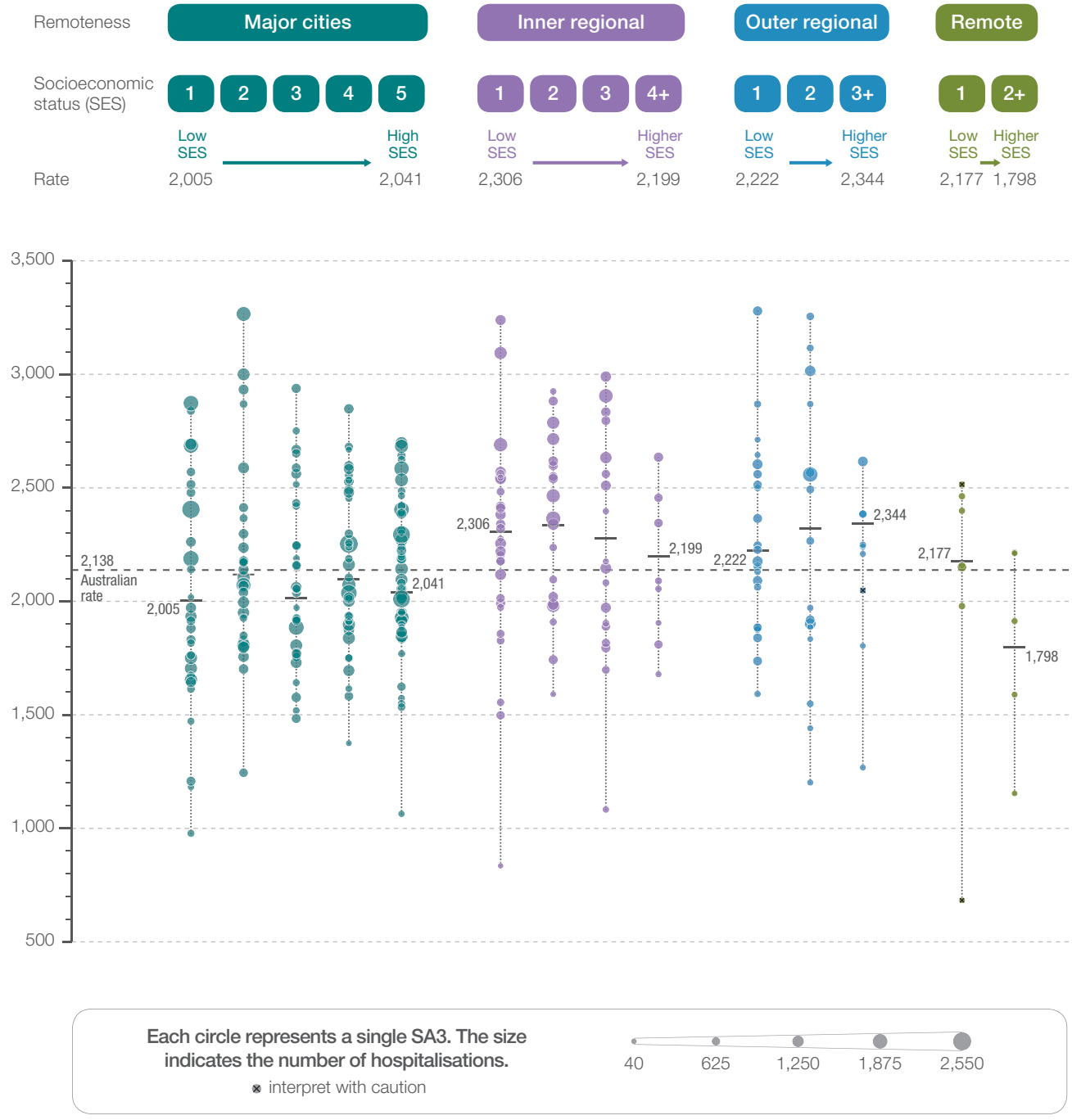
	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Highest rate	2,787	3,015	3,266	3,000	2,187	3,279	n.p.	2,515*
State/territory	2,012	2,023	2,474	2,431	1,810	2,520	n.p.	2,130
Lowest rate	978	1,549	1,591	1,154	1,202	835	n.p.	683*
No. hospitalisations	77,410	58,451	54,350	26,947	17,289	7,602	n.p.	1,381





Notes:
Rates are age and sex standardised to the Australian population in 2001.
Rates are based on the number of hospitalisations in public and private hospitals (numerator) and people in the geographic area (denominator).
Analysis is based on the patient's area of usual residence, not the place of hospitalisation.
Crosses and asterisks 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.
Data from ACT private free-standing day hospital facilities, which undertake some cataract surgery, were not provided to the National Hospital Morbidity Database. For this reason, results for ACT are not published.
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 4.43: Number of hospitalisations for cataract surgery per 100,000 people aged 40 years and over, age and sex standardised, by Statistical Area Level 3 (SA3), remoteness and socioeconomic status, 2014–15



Notes:
Rates are age and sex standardised to the Australian population in 2001.
Rates are based on the number of hospitalisations in public and private hospitals (numerator) and people in the geographic area (denominator).
Analysis is based on the patient's area of usual residence, not the place of hospitalisation.
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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 2014–15 and ABS Estimated Resident Population 30 June 2014.

Cataract surgery hospitalisations 40 years and over

Resources

- 2015 annual update on the implementation of *The Roadmap to Close the Gap for Vision*. www.mspgh.unimelb.edu.au/centres-institutes/centre-for-health-equity/research-group/indigenous-eye-health#roadmap-to-close-the-gap-for-vision
- Roadmap Regional Implementation Toolkit. www.mspgh.unimelb.edu.au/centres-institutes/centre-for-health-equity/research-group/indigenous-eye-health/roadmap-to-close-the-gap-for-vision/overview/toolkit#toolkit
- National Eye Health Survey data.[1]

Australian initiatives

The information in this item complements work already under way to address the rates of cataract surgery in Australia. At a national level, this work includes:

- National Framework for Action to Promote Eye Health and Prevent Avoidable Blindness and Vision Loss
- Ophthalmology expansion of the Medical Specialist Outreach Assistance Program
- Eye and Ear Surgical Support Services program 2015–2017, an Australian Government support program aimed at improving access to surgical services for Aboriginal and Torres Strait Islander Australians living in remote and rural areas
- The National Visiting Optometrists Scheme
- The National Rural Health Outreach Fund.

State and territory initiatives include:

- Queensland Health initiative to reduce waiting times for eye surgery
- Rebuilding Health Services, Tasmania
- Tasmanian Health Assistance Package (Australian Government funded)
- TAZREACH funding for cataract surgery for Aboriginal and Torres Strait Islander patients, Tasmania
- Victorian elective surgery initiative
- The Pilbara Aboriginal Eye Health Program, Western Australia
- The Derbarl Yerrigan Eye Health Program, Western Australia
- The Aboriginal Vision Program (New South Wales and Northern Territory)
- The Central Australia and Barkly Integrated Eye Health Strategy, Northern Territory.

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