



Australian Government

**Australian Institute of
Health and Welfare**

AIHW

Indigenous eye health measures 2018

in-brief



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in-brief



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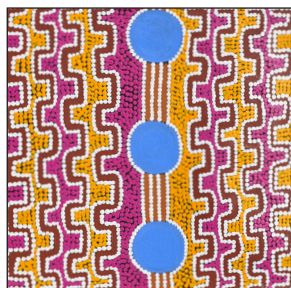
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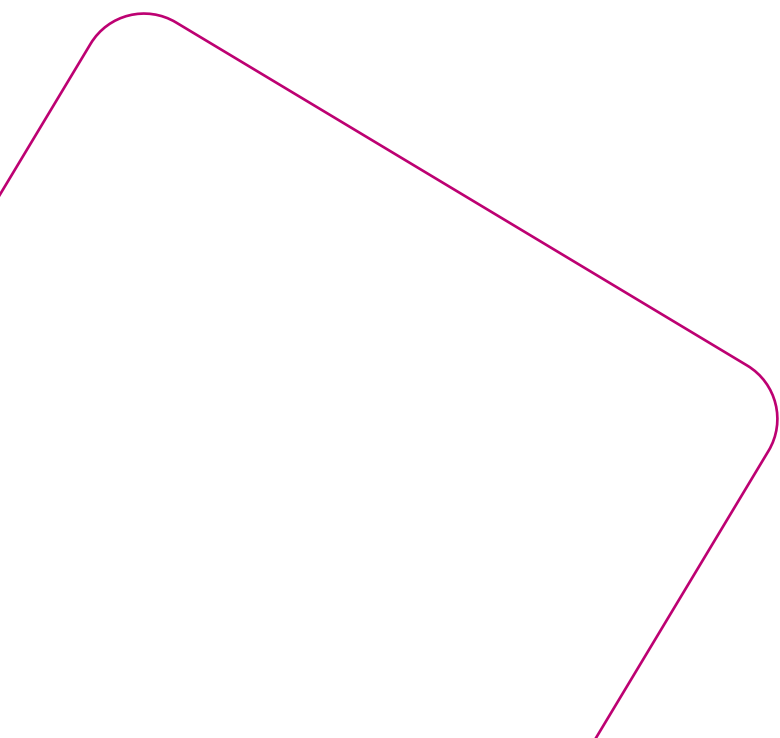
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Introduction

This booklet summarises the findings from the third annual Indigenous eye health measures report, *Indigenous eye health measures 2018* and accompanying web report.

These reports bring together the latest data on the 23 Indigenous eye health measures (see table below). They include information on:

- the prevalence and causes of vision loss and blindness
- detection and screening of problems
- eye health treatment services
- the eye health workforce and outreach programs.

The full report, web report and online tables are available at <[https:// www.aihw.gov.au/reports/indigenous-australians/indigenous-eye-health-measures-2018/](https://www.aihw.gov.au/reports/indigenous-australians/indigenous-eye-health-measures-2018/)>.

Population rates

There are 3 types of population rates used to present data in this report:

- Crude rates are the number of events divided by the total population.
- Age-specific rates are the number of events for a specified age group divided by the population in that age group.
- Age-standardised rates are the crude rates for different groups, such as Indigenous and non-Indigenous Australians, applied to a standard population to produce a summary rate.

Crude rates are used to look at differences within a population, such as the Indigenous population. These can be misleading, however, when making comparisons between populations with different age structures, such as Indigenous and non-Indigenous Australians. It is important to take into account these differences, particularly when looking at conditions that are age related, such as refractive error and cataracts.

Age-specific rates allow for comparisons between populations with different age structures. These provide information about the measures of interest for different age groups, but are difficult to summarise and present. Age-standardised rates control for the effects of age and provide a summary rate for each of the populations of interest. The resulting rates, however, are not the 'real' or reported rates that occur in the population.

The Indigenous eye health measures

Measures

Prevalence

Prevalence of vision impairment and blindness
Main causes of vision impairment and blindness
Prevalence of trachoma and trichiasis

Diagnosis and screening services

Eye health problems managed by GPs
Annual health assessments
Eye examinations undertaken by an eye care professional
Target population screened for diabetic retinopathy
Trachoma and trichiasis screening coverage
Undiagnosed eye conditions

Treatment services

Hospitalisations for diseases of the eye
Hospitalisations for injuries to the eye
Hospitalisations for eye procedures
Cataract surgery rate
Cataract surgical coverage rate
Waiting times for elective cataract surgery
Target population treated for diabetic retinopathy
Trachoma and trichiasis treatment coverage
Treatment of refractive error
Spectacles dispensed under state schemes

Workforce and outreach services

Number and rate of optometrists
Number and rate of ophthalmologists
Number and rate of allied ophthalmic personnel
Occasions of eye health services provided under outreach programs



1

How do eye health problems affect Indigenous Australians?

Eye diseases and vision problems are the most common long-term health conditions reported by Aboriginal and Torres Strait Islander Australians. Around one-third of Indigenous Australians report long-term eye conditions. Aboriginal and Torres Strait Islander children have a lower incidence of poor vision than other Australian children, but Aboriginal and Torres Strait Islander people over the age of 40 have 3 times the rate of vision loss of other Australians.

Most vision loss is potentially preventable through spectacle correction and cataract surgery.

Monitoring the size and causes of vision impairment in the population over time can help governments and service providers to develop more effective eye health policies and programs.

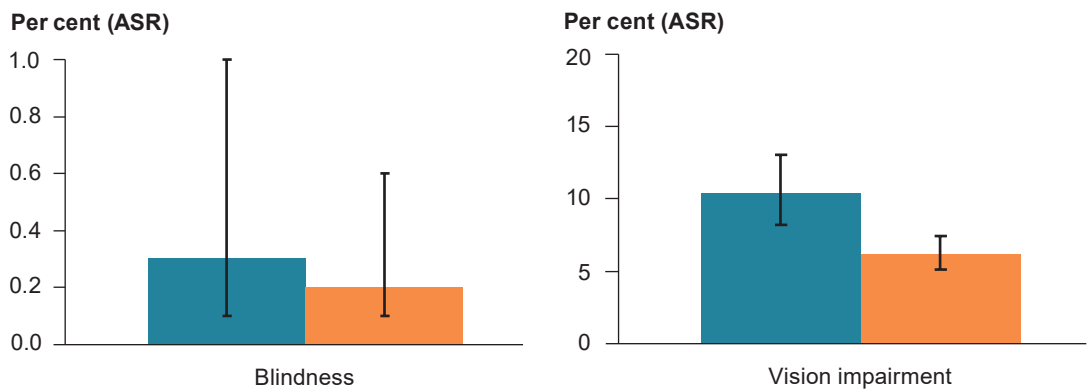
The 2016 National Eye Health Survey is the main source of data on the prevalence of eye health problems among Indigenous Australians. The survey also used eye examinations to assess vision loss and blindness. The key results from this survey are presented in this section.

How common is vision impairment and blindness?

In 2016, an estimated 1 in 10 (10%) Indigenous Australians aged 40 and over were visually impaired in both eyes and 1 in 330 (0.3%) were blind in both eyes.

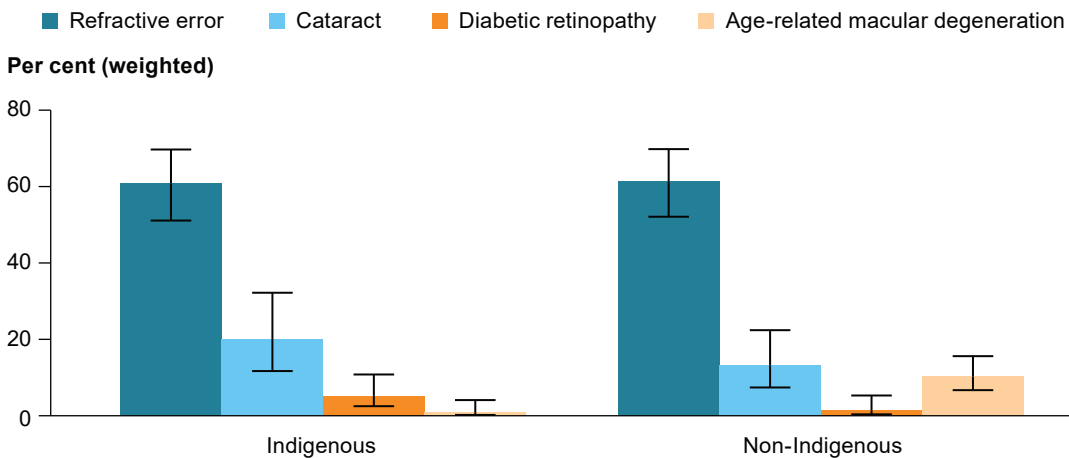
Indigenous Australians of this age were nearly 3 times more likely to suffer vision impairment or blindness compared with older non-Indigenous Australians.

Rates of vision impairment and blindness, Australia, 2016



The 3 main causes of vision loss (vision impairment and blindness combined) for Indigenous Australians aged 40 and over in 2016 were refractive error (61%), cataract (20%) and diabetic retinopathy (5.5%). For non-Indigenous Australians, the main causes were refractive error (61%), cataract (13%) and macular degeneration (10%).

Main causes of vision loss, Australia, 2016

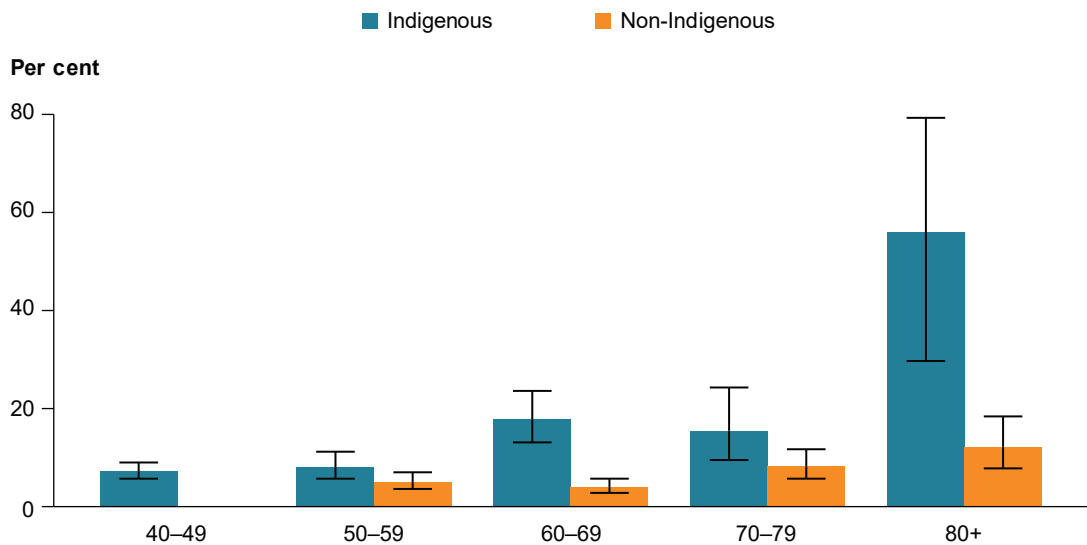


Age differences

Vision loss increases with age for all Australians, but the rate is higher for Indigenous Australians than non-Indigenous Australians in all age groups over 50.

1 in 14 (7.2%) Indigenous Australians aged 40–49 and more than 1 in 2 (56%) of those aged 80 and over have some form of vision loss.

Proportion of Indigenous Australians with vision loss, by age group, 2016





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How are eye health problems identified?

Information in this section comes from the Medical Benefits Schedule (MBS) data on health checks undertaken by general practitioners; eye examinations provided by eye care specialists; and screening for diabetic retinopathy.

In November 2016, new MBS items were listed for general practitioners for testing for diabetic retinopathy through retinal photography.

Health assessments

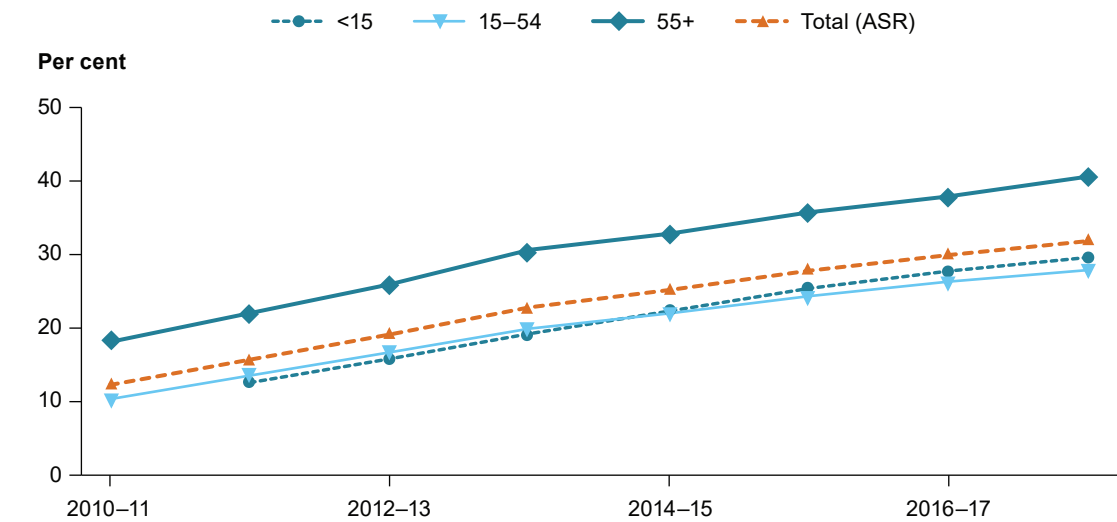
Eye health checks are a mandatory component of Indigenous health assessments undertaken by GPs. These assessments are referred to as item 715 in the MBS.

Just under 1 in 3 (32% or 230,000) Indigenous Australians had an Indigenous-specific health check in 2017–18.

Between 2010–11 and 2017–18, the age-standardised proportion of Indigenous Australians who had a health assessment increased from 12% to 32%.

The increase occurred across all age groups (0–14, 15–54 and 55+), but was highest for those aged 55 and over.

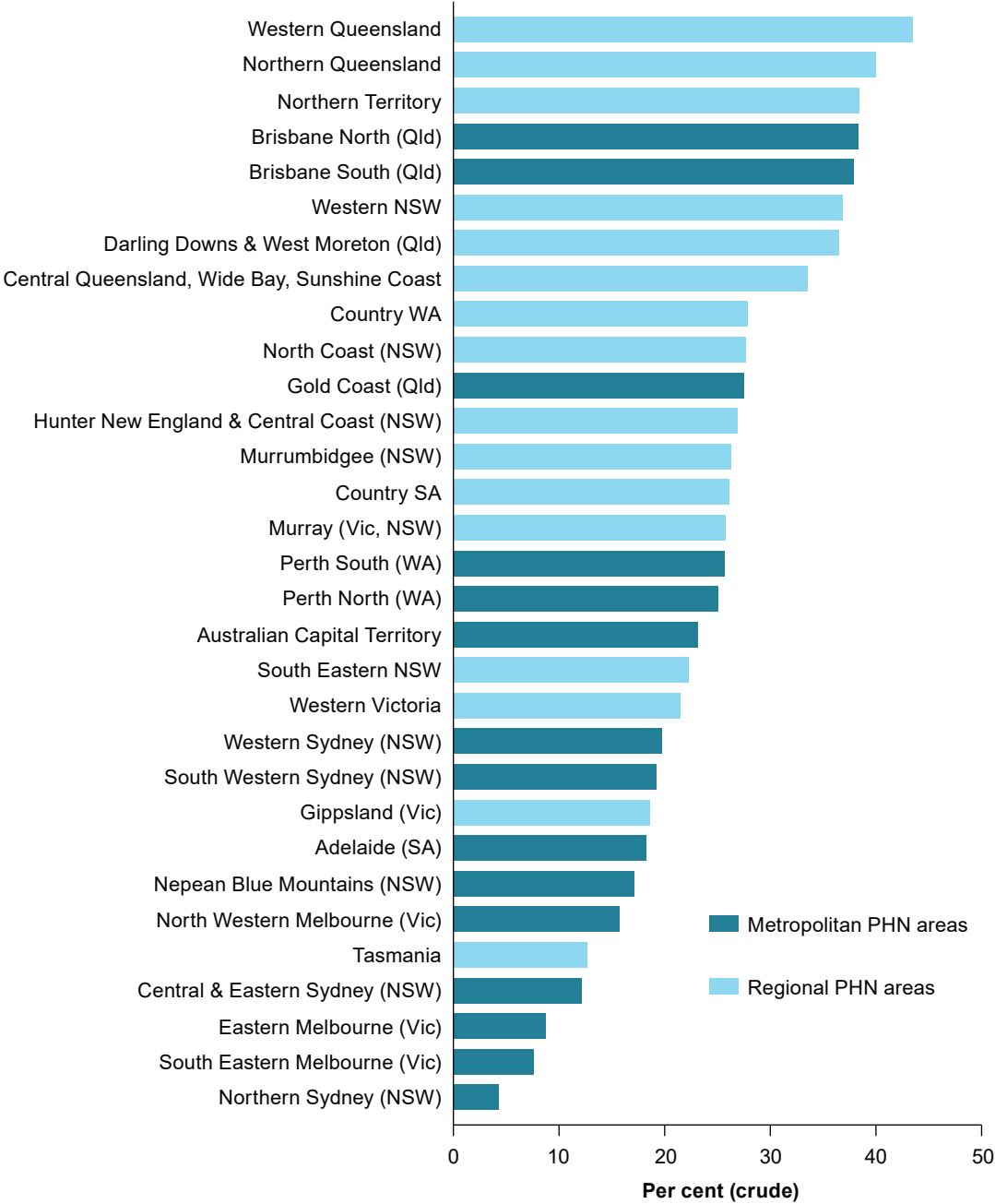
Trends in the proportion of Indigenous Australians who had a health assessment (item 715), by age group, 2010–11 to 2017–18



Note: ASR refers to the age-standardised rate.

The proportion of the Indigenous population who had a health assessment varied across Australia, and ranged from over 40% in Primary Health Networks (PHNs) in more remote areas to under 5% in the Northern Sydney PHN.

Proportion of Indigenous Australians who had a health assessment (item 715), by PHN, 2017–18



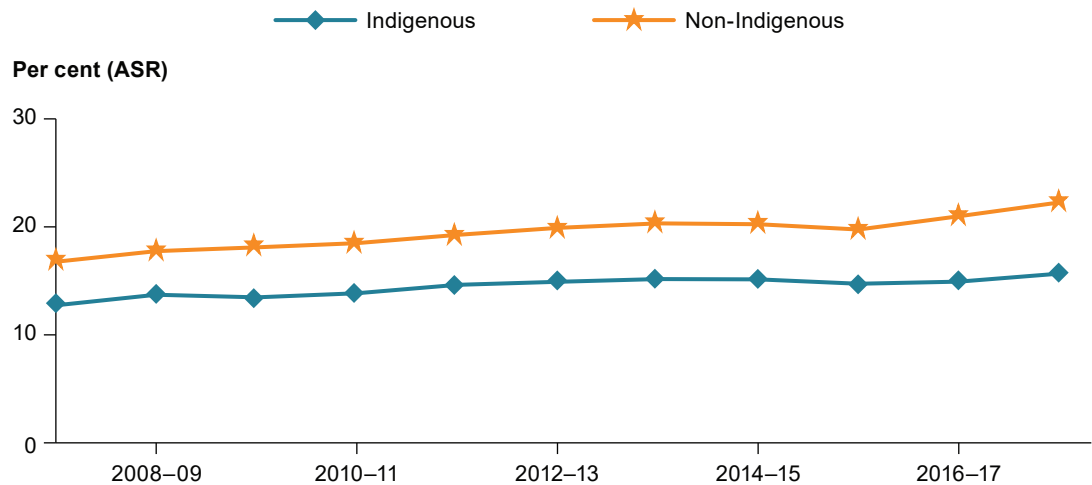
Eye examinations

In 2017–18, around 96,000 (12%) Indigenous Australians had had an eye examination by an optometrist or ophthalmologist in the previous 12 months.

In the period from 2007–08 to 2017–18, the age-standardised proportion of the Indigenous population that had had an eye examination increased from 13% to 16%.

Over the same period, the proportion of non-Indigenous Australians increased from 17% to 22%.

Trends in eye examinations in Australia, by Indigenous status, 2007–08 to 2017–18



Note: ASR refers to the age-standardised rate.



Did you know?

The proportion of people who had an eye examination decreased with remoteness for both Indigenous and non Indigenous Australians.

For Indigenous Australians, the proportion was lowest in the Northern Territory (11%) followed by Western Australia (12%).

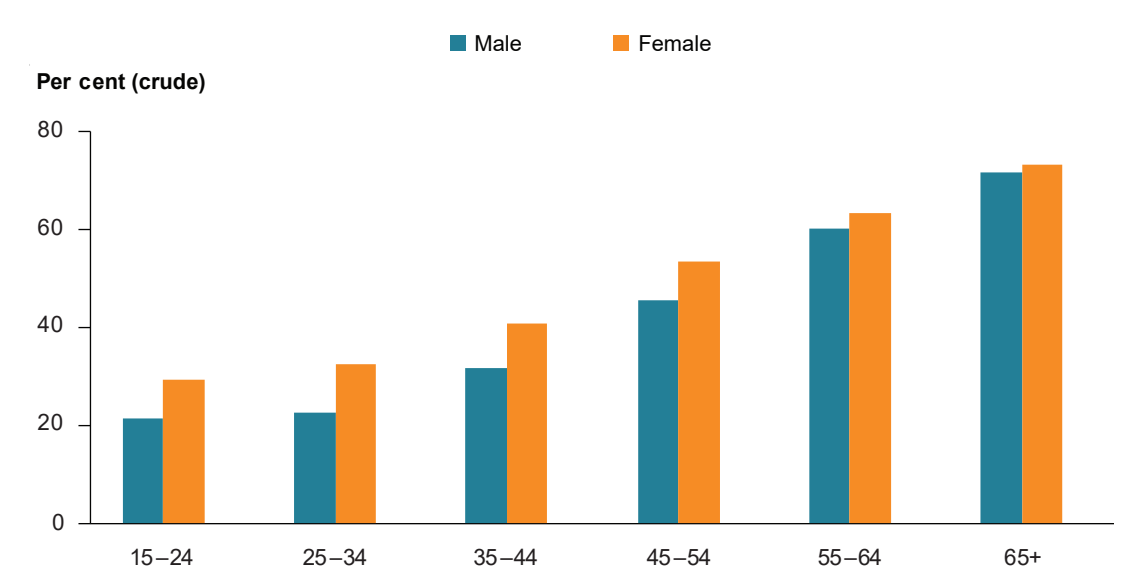
Eye screening for people with diabetes

Current guidelines recommend an annual eye examination for Indigenous Australians with diabetes.

In 2017–18, about 13,000 Indigenous Australians were screened for diabetic eye health, or 42% of those who had a diabetes test within the previous 2 years.

The proportion of Indigenous Australians who had had a diabetes test who were screened increased with age, rising from around 20% of 15–24 year olds to nearly 60% of those aged 65 and over.

Proportion of Indigenous Australians who had a diabetes test who were screened for diabetic retinopathy, by age group, 2017–18



Did you know?

Most people who have had diabetes for 20 years or more have diabetic retinopathy to some extent (Liu & Feener 2013). Diabetic retinopathy is caused by damage to blood vessels. Treatment and close control of blood sugar levels can help reduce symptoms, but in severe cases surgery is necessary.



3

How are eye health problems treated?

Different eye problems require different treatments. For example, surgery is required to remove cataracts, while refractive error is treated through visual aids, such as contact lenses and glasses.

This section includes the data on hospitalisations for eye diseases and injuries, and for cataract surgery; and the treatment of diabetic retinopathy. Information on subsidised glasses comes from state or territory government data.

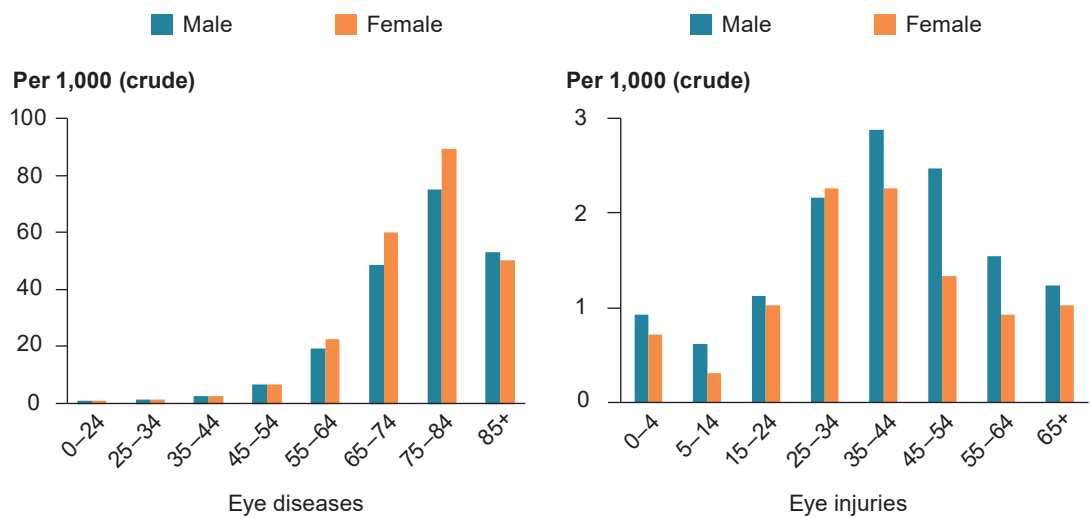
Hospitalisations for eye diseases and injuries

In the 2-year period 2015–17, there were around 8,300 (5.6 per 1,000 population) hospitalisations of Indigenous Australians for eye diseases and 1,900 (1.3 per 1,000) for eye injuries.

Hospitalisation rates for eye diseases increased with age, and were highest for those aged 75–84.

Rates for eye injuries were highest in the middle years (ages 25–54).

Indigenous hospitalisations for eye diseases and eye injuries, by age group and sex, 2015–17



Rates of hospitalisation for eye diseases were higher for Indigenous than for non-Indigenous Australians for those aged 45 to 54 (6.8 and 6.1 per 1,000, respectively) and 55 to 64 (21.1 and 19.5 per 1,000, respectively).

The hospitalisation rate for eye injuries for Indigenous Australians aged 35 to 44 was more than 8 times the rate of non-Indigenous Australians in this age group.



Did you know?

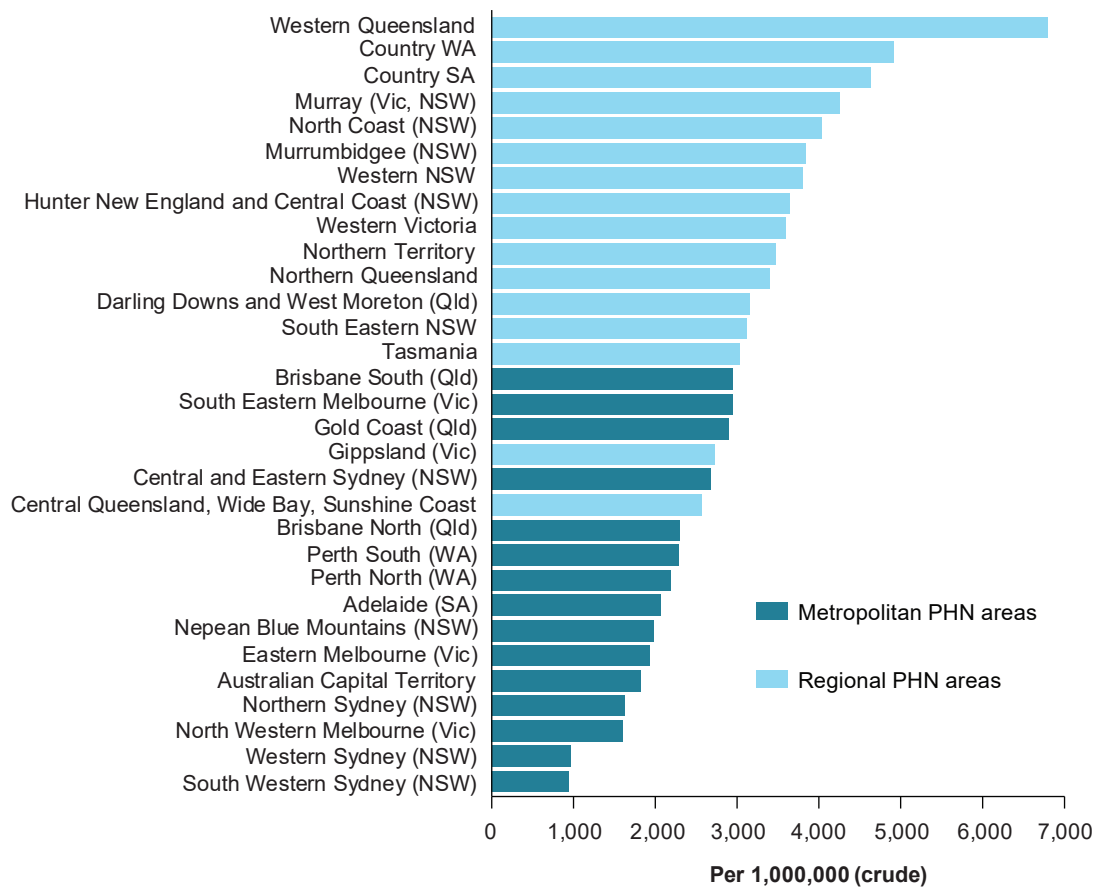
According to a study of hospitalisation records in Sweden, low socio-economic status is associated with increases in a number of age-related eye diseases—suggesting the importance of community-level factors in preventing hospitalisations for eye disease (Hamano et al. 2015).

Cataract surgery

There were around 7,900 hospitalisations of Indigenous Australians for eye procedures in 2015–17. The most common procedure was cataract surgery (5,131 procedures, or 3,443 per 1,000,000 hospitalisations).

Hospitalisation rates for cataract surgery for Indigenous Australians were higher in regional PHNs than in metropolitan areas.

Rates of hospitalisations for cataract surgery for Indigenous Australians, by PHN, 2015–17

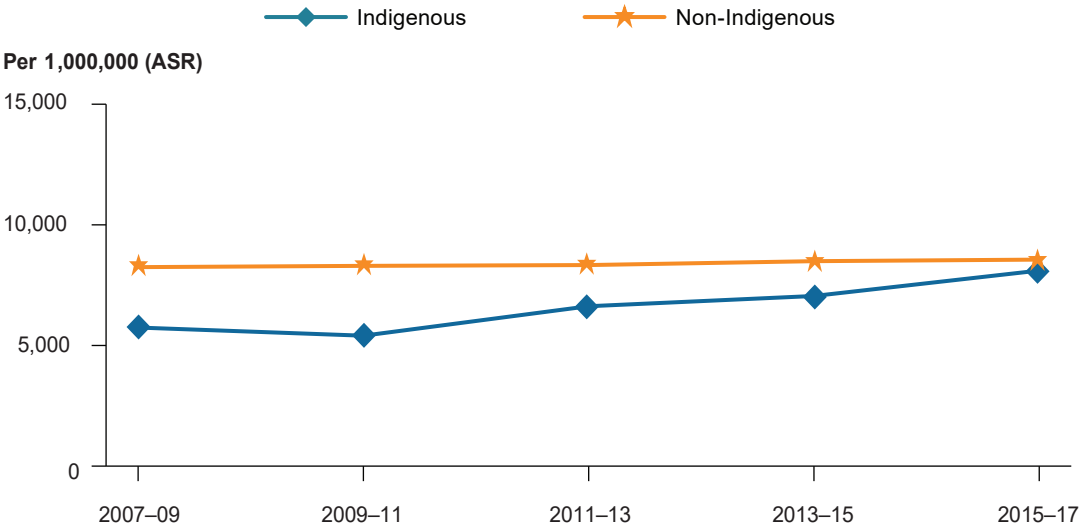


Did you know?

The Royal Australian and New Zealand College of Ophthalmologists released a report in 2013 that identified several barriers to Indigenous access to cataract surgery, and provided some suggested solutions. For further details, see Boudville et al. 2013.

Age-standardised cataract surgery rates for Indigenous Australians rose over the last 10 years at a faster rate than for non-Indigenous Australians, so there was a narrowing of the gap in rates.

Trends in cataract surgery rates for Indigenous and non-Indigenous Australians



Looking at age-specific rates over the same period, the hospitalisation rate for Indigenous Australians for cataract surgery remained relatively constant for those aged 45 to 64, but increased for those aged 65 to 74 and 75 to 84.

The rate for non-Indigenous Australians remained relatively constant across all age groups over 45.

In 2016-17, Indigenous Australians waited longer for cataract surgery (a median number of 141 days) than non-Indigenous Australians (89 days).

The proportion of Indigenous Australians who waited more than 365 days for cataract surgery (3.3%) was higher than the proportion of non-Indigenous Australians who waited this long (1.6%).

Treatment for diabetic retinopathy

In 2017–18, there were 462 Indigenous Australians screened for diabetic retinopathy who had treatment for diabetic retinopathy. This was 3.6% of those screened for diabetes.

The age-standardised proportion treated was the same for Indigenous and non-Indigenous Australians.

Between 2005–06 and 2017–18, the number of Indigenous Australians screened for diabetic retinopathy who underwent treatment increased from 372 in 2005–06 to 462 in 2017–18.



Did you know?

Diabetic retinopathy is a complication of diabetes and refers to damage to the blood vessels in the retina.

The timely treatment of diabetic retinopathy can prevent vision loss. Treatment generally involves injections into the eye, or laser therapy.

Subsidised spectacles

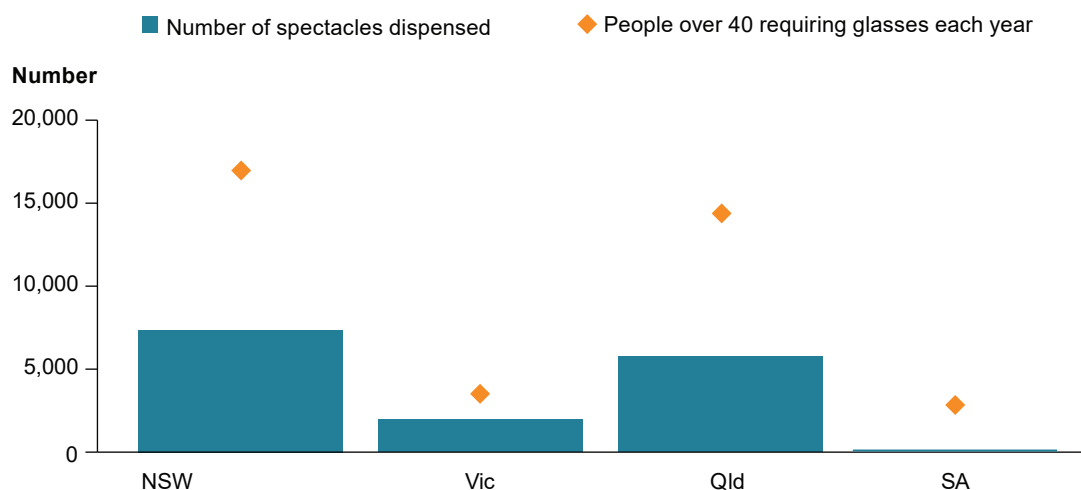
All states and territories have schemes that provide eye care and visual aids, including spectacles, to eligible people at low or no cost. Only 4 states could provide data on the number of spectacles dispensed to Indigenous Australians.

In 2017–18, the number of spectacles dispensed to Indigenous Australians under state schemes was:

- 7,365 in New South Wales (31 per 1,000)
- 5,755 in Queensland (26 per 1,000)
- 1,980 in Victoria (18 per 1,000)
- 82 in South Australia (2 per 1,000).

The number of spectacles dispensed in Victoria was closest to meeting the estimated number of Indigenous people aged over 40 who needed them—with an estimated 54% having their needs met.

Number of spectacles dispensed to Indigenous Australians and estimated need, 2017–18



Did you know?

The provision of spectacles is a low-cost measure that can address the main cause of vision loss for Indigenous Australians.



4

Spotlight on trachoma

Trachoma is an infectious disease of the eye that, left untreated, can result in scarring, in-turned eyelashes (trichiasis) and blindness. Trachoma is highly infectious and easily spread. Antibiotics and environmental improvements are used to treat trachoma, while surgery is required to prevent blindness for people who have trichiasis.

Trachoma is not commonly found in high-income countries, but it is endemic in some remote Indigenous communities in Western Australia, South Australia and the Northern Territory.

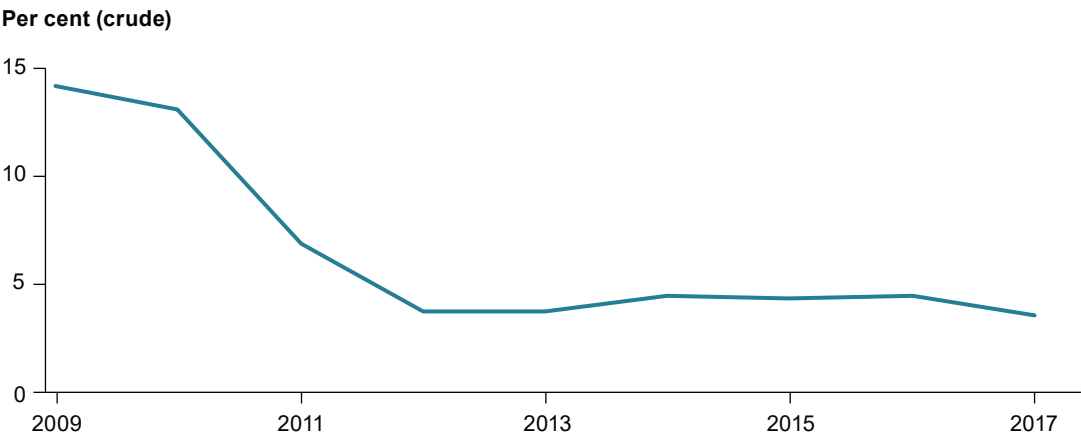
The Australian Government funds trachoma control, surveillance and reporting. National data on trachoma comes from the Australian Trachoma Surveillance Reports from the Kirby Institute.

How common is trachoma?

In 2017, trachoma screening was undertaken among children aged 5–9 in 84 at-risk communities across Queensland, Western Australia, South Australia and the Northern Territory.

The estimated prevalence of active trachoma among 5–9 year olds in at-risk communities fell from 14% in 2009 to 4% in 2012 and then stabilised: it was just under 4% in 2017.

Trends in trachoma prevalence among Indigenous 5–9 year olds



Trachoma screening and treatment

In 2017, 2,872 Indigenous children aged 5–9 were screened for trachoma in the 84 communities. There was 83% screening coverage for this group, just below the recommended 85% for trachoma control.

Nearly all (99%, or 73) of the communities that required treatment received it. All children found to have trachoma received treatment (antibiotics).

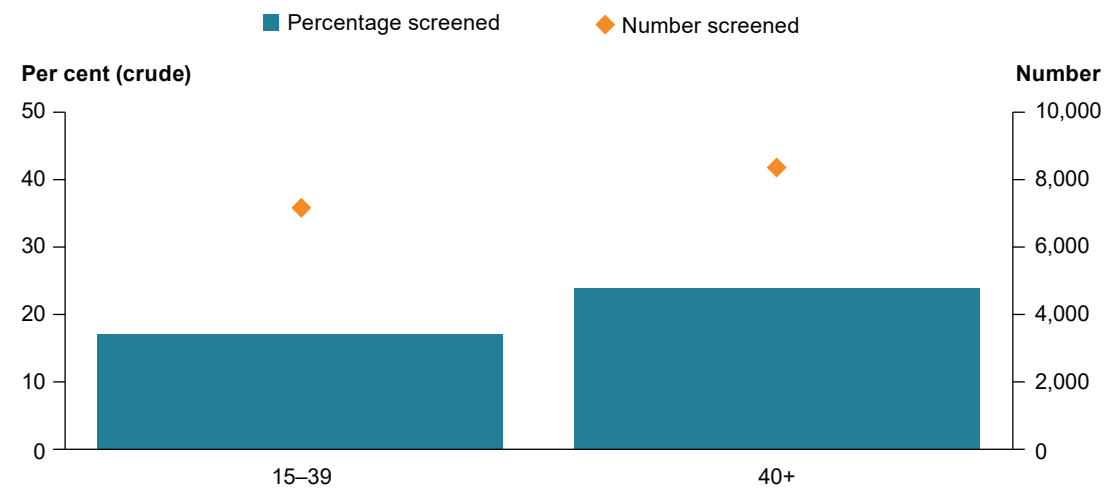
Trachoma-related trichiasis

Screening for trichiasis is undertaken through a range of strategies, including during adult health assessments.

In 2017, screening data were reported for 135 at-risk communities:

- About 7,200 Indigenous adults aged 15–39, and almost 8,300 Indigenous adults aged 40 and over, were screened for trichiasis.
- 50 cases of trichiasis were identified—6 among those aged 15–39 and 44 among those aged 40 and over.

Screening for trichiasis in at-risk communities, 2017





5

What is the size and location of the eye health workforce?

Optometrists and ophthalmologists are specialists in eye sight and eye health. They play an important role in Indigenous eye health.

Optometrists perform eye examinations and vision tests to determine the presence of visual, eye and other abnormalities; eye diseases; and other bodily diseases that may affect the eye. They also prescribe lenses, other optical aids, therapy and medication to correct and manage vision problems and eye diseases.

Ophthalmologists provide diagnostic, treatment and preventative medical services related to diseases, injuries and deficiencies of the human eye.

Data on the size and location of the eye health workforce can indicate the availability of specialised services in different regions. Annual data on the number of registered optometrists and ophthalmologists are available from the National Health Workforce Dataset.

Full-time employment rate (FTE)

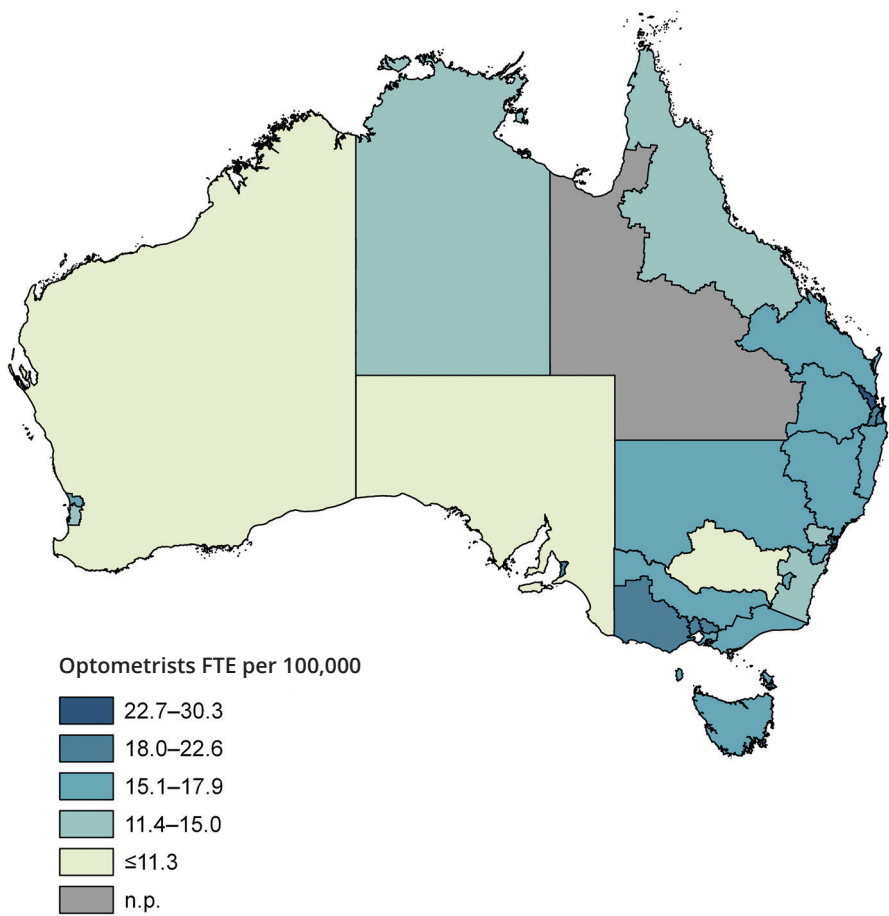
The FTE is a measure used to present data on the eye health workforce. This is calculated by dividing the total hours worked by employees in an occupation, by the standard hours worked.

Optometrists

In 2017, 4,832 optometrists were employed in Australia (18 FTE per 100,000). This was an increase of 798 optometrists since 2011.

The number and rates of optometrists were higher in metropolitan areas. Central and Eastern Sydney had the highest rate, while Country Western Australia had the lowest rate.

Rates of optometrists by PHN, 2017



Did you know?

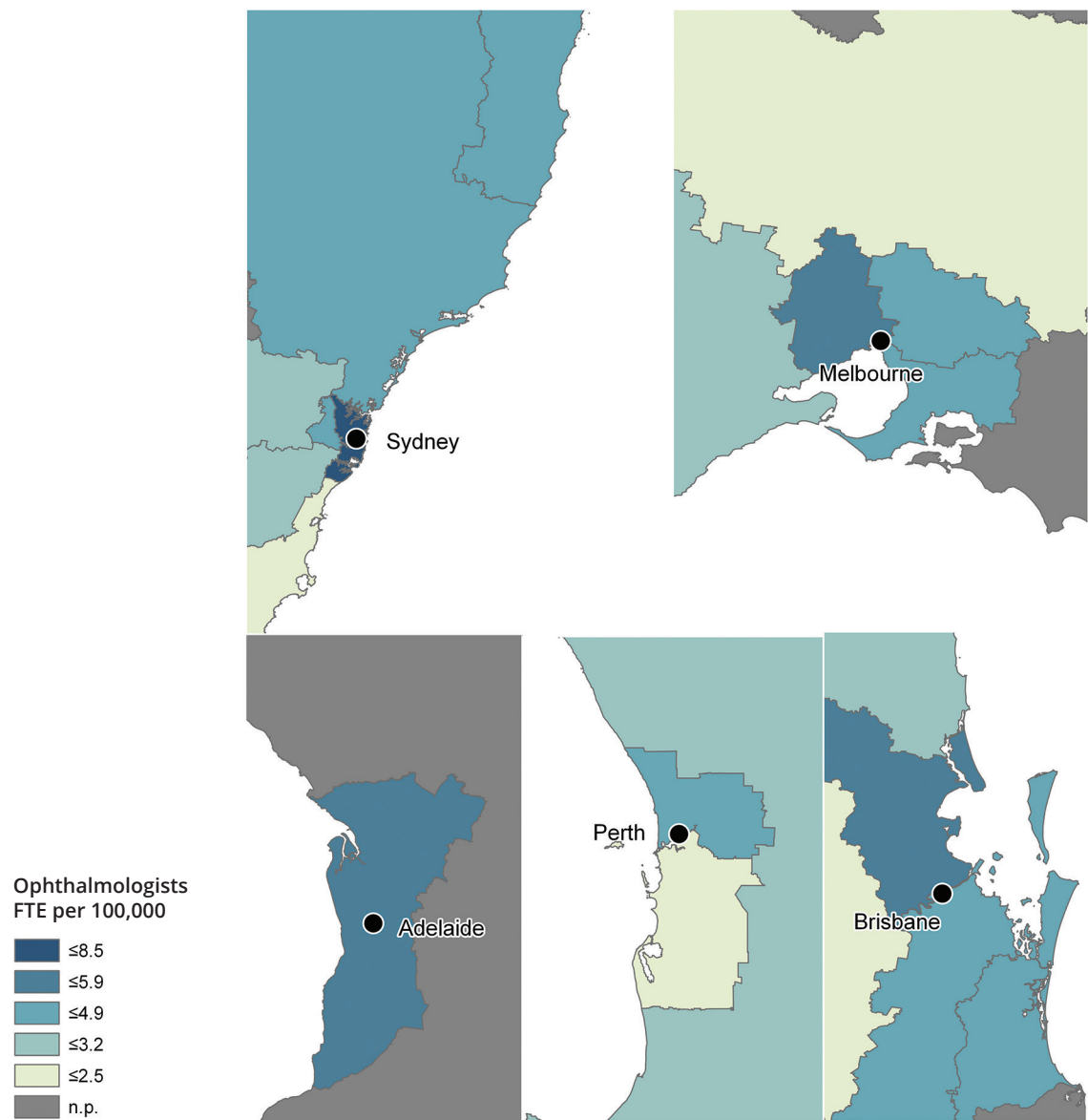
In 2017 there were only 35 registered optometrists in the Northern Territory and fewer than 10 ophthalmologists.

Ophthalmologists

The ophthalmologist workforce is smaller than the optometrist workforce with 930 ophthalmologists employed in Australia (4.0 FTE per 100,000) in 2017.

Ophthalmologists were primarily located in metropolitan areas, with the highest rates in the Central and Eastern Sydney PHN (142 and 9.2 per 100,000).

Rates of ophthalmologists by PHN, 2017





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What support is provided through outreach programs?

The Australian Government outreach programs are designed to address the uneven distribution of the health workforce and to improve access to eye health services across Australia. There are 3 programs that provide specialist eye health services, primarily in regional and remote areas of Australia.

Services provided

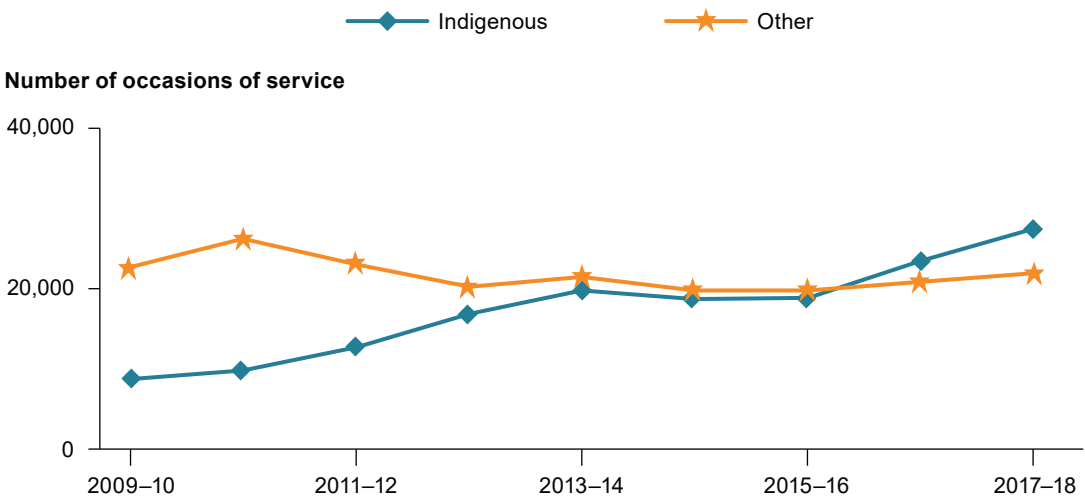
In 2017–18, the number of occasions of service delivered to Indigenous patients by outreach programs was:

- 29,161 by the Visiting Optometrist Scheme (VOS)
- 7,821 by the Rural Health Outreach Fund (RHOF)
- 2,038 by the Medical Outreach Indigenous Chronic Disease Program (MOICDP).

VOS occasions of service for Indigenous patients more than quadrupled between 2009–10 and 2017–18, rising from 6,975 to 29,161.

In 2017–18, services provided to Indigenous patients exceeded those provided to other patients (that is, to those of non-Indigenous and unknown Indigenous status).

Trends in VOS occasions of services, by Indigenous status



Did you know?

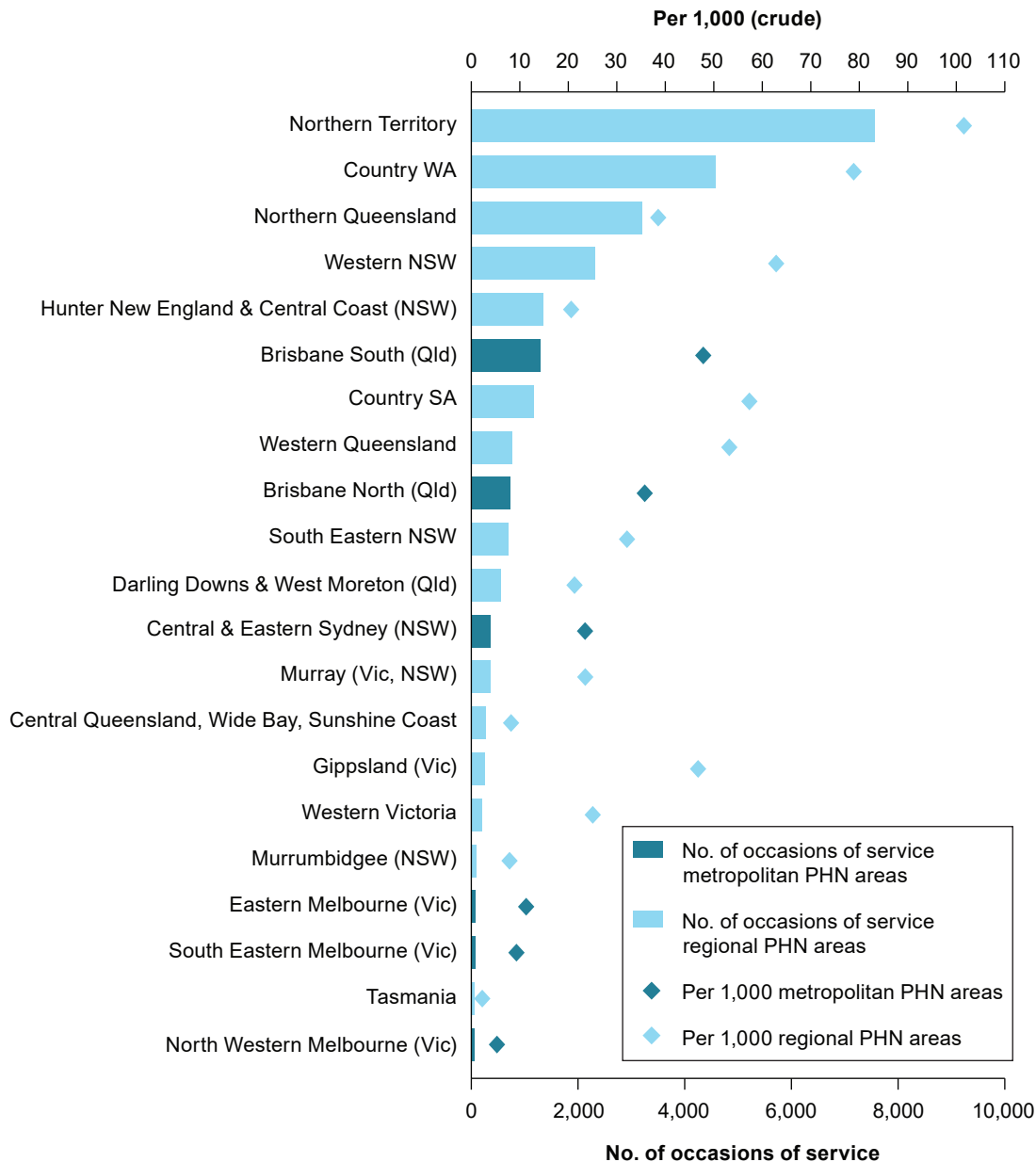
Eye health is one of the 4 main priorities of the Rural Health Outreach Fund—along with chronic disease management; maternity and paediatric health; and mental health.

Where are outreach services provided?

Outreach services generally cover areas where there are low numbers of registered optometrists and ophthalmologists.

The highest number and rates of occasions of service for VOS, for example, were provided in the Northern Territory and Country WA.

VOS occasions of service, by PHN, 2017–18



References

Australian Institute of Health and Welfare 2019. Indigenous eye health measures 2018. Cat. no. IHW 210. Canberra: AIHW.

Boudville AI, Anjou MD, and Taylor HR 2013. Indigenous access to cataract surgery: an assessment of the barriers and solutions within the Australian health system. *Clinical & Experimental Ophthalmology*, 41: 148-154. doi:10.1111/j.1442-9071.2012.02840.x.

Foreman J, Keel S, Xie J, van Wijngaarden P, Crowston J, Taylor HR et al. 2016. National Eye Health Survey: full report 2016. Melbourne: Vision 2020 and East Melbourne: Centre for Eye Research Australia.

Hamano T, Li X, Tanito M, Nabika T, Shiwaku K, Sundquist J, Sundquist K 2015. Neighborhood Deprivation and Risk of Age-Related Eye Diseases: A Follow-up Study in Sweden, *Ophthalmic Epidemiology*, 22:5, 308-320. doi: 10.3109/09286586.2015.1056537.

IEHU (Indigenous Eye Health Unit) 2017. Calculator for the delivery and coordination of eye care services. Melbourne: University of Melbourne. Viewed 28 February, <2017. <http://dr-grading.iehu.unimelb.edu.au/ecwc/>>.

Kirby Institute 2018. Australian trachoma surveillance report 2017. Kensington, NSW: Kirby Institute, University of NSW.

Liu J & Feener EP 2013. Plasma kallikrein-kinin system and diabetic retinopathy. *Biological Chemistry* 394(3):319–28. doi: 10.1515/hsz-2012-0316.

Shattock AJ, Gambhir M, Taylor HR, Cowling CS, Kaldor JM & Wilson DP (2015). Control of trachoma in Australia: a model based evaluation of current interventions. *PLoS Neglected Tropical Diseases* 9(4):e0003474. doi: 10.1371/journal.pntd.0003474.

Taylor HR 2009. National Indigenous Eye Health Survey—Minum Barreng (Tracking Eyes). Melbourne: University of Melbourne School of Population Health, Indigenous Eye Health Unit in collaboration with the Centre for Eye Research Australia and the Vision CRC. Viewed October 2016, <www.iehu.unimelb.edu.au>.



This report provides an overview of the latest Indigenous eye health data. It includes information on the prevalence of eye health conditions, diagnosis and treatment services, the eye health workforce and outreach services.

Indigenous eye health measures 2018 is a companion to this report.

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Stronger evidence,
better decisions,
improved health and welfare