Australian Government
Australian Institute of Health and Welfare

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Eye health measures for Aboriginal and Torres Strait Islander people 2024:

Queensland

Published October 2024

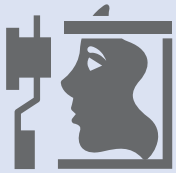
Eye health has a profound impact on a person's quality of life and ability to perform everyday activities. Lions Outback Vision notes that each year "thousands of Australians suffer from the debilitating effects of vision loss and blindness", yet 94% of vision loss is preventable or treatable (Lions Outback Vision – Saving sight is our vision).

Eye diseases and vision problems are the most common long-term health conditions reported by Aboriginal and Torres Strait Islander (First Nations) people affecting an estimated 45% of the population (ABS 2019). The main eye health conditions affecting First Nations people are refractive error, cataract and diabetic retinopathy. Trachoma is not commonly found in high-income countries, and while it is endemic in some remote First Nations communities in Western Australia, South Australia and the Northern Territory, Queensland was declared non-endemic for trachoma in 2022 (Box 1).

There is a substantial gap in access to eye health services between rural and remote areas and urban areas. Although vision impairment is similar across remoteness areas for other Australians, the age adjusted prevalence of vision impairment for First Nations Australians is higher in *Outer Regional* areas and *Very Remote* areas (Health Connect Consulting 2020). Because of this variability in access to services, measures in this report are examined by remoteness within the state using The Roadmap to Close the Gap for Vision regions (Box 2) where possible. Roadmap regions were assigned to one of 3 'predominant remoteness' categories (*Major cities*, *Inner and outer regional*, or *Remote and very remote*) based on the estimated distribution of First Nations people across Remoteness Areas (Edition 3) in 2021.

Across a continuum of care, eye health services cover prevention, screening, diagnosis and treatment services. This report presents eye health and eye health service measures across the continuum of care for the First Nations population in Queensland and compares this with the total national First Nations population. Comparisons with other Australians are also presented in the report. All rates referred to in the text or presented in figures and tables in this report are crude rates, unless specified otherwise.

This report is part of a series of reports, one for each state and territory. This report highlights programs particular to Queensland that aim to improve access to services and outcomes.



Around **1 in 7** First Nation people in Queensland had an eye examination by an optometrist or ophthalmologist in 2022–23.

0.6 per 1,000 First Nations people in Queensland were screened for diabetic retinopathy with a retinal camera in 2022–23.

In 2021–23, **43%** of First Nations people's need for cataract surgery in Queensland was met.

AIHW

Main Findings

- In 2018–19, in Queensland, 75,512 (51%) First Nations people aged 15 years and over reported eye and sight problems. This was similar to the national First Nations proportion, 52%.
- During the 2022–23 financial year, 34,854 (14%) First Nations people in Queensland had an eye examination by an optometrist or ophthalmologist. The comparable rate for the national First Nations population was the same, 14% (126,816).
- In 2022–23, in Queensland, 150 First Nations people (0.6 per 1,000 population) were screened for diabetic retinopathy with a retinal camera. The comparable rate for the national First Nations population was 0.9 per 1,000 population (802).
- In 2021–23, the hospitalisation rate for First Nations people living in Queensland for diseases of the eye was 7.6 per 1,000 population. The comparable rate for the national First Nations population was 7.4 per 1,000.
- In 2021–23 the number of hospitalisations for cataract surgery for First Nations people in Queensland (2,050 hospitalisations) was below the estimated number of people needing cataract surgery (4,803). Therefore, only 43% of the need for cataract surgery was met. The comparable number of hospitalisations for the national First Nations population was 8,008 people which was also below the estimated number of people needing cataract surgery (17,031), only 47% of need met nationally.

Queensland population

Queensland is Australia's third most populated state and contains 11 Roadmap regions (Figure 1).

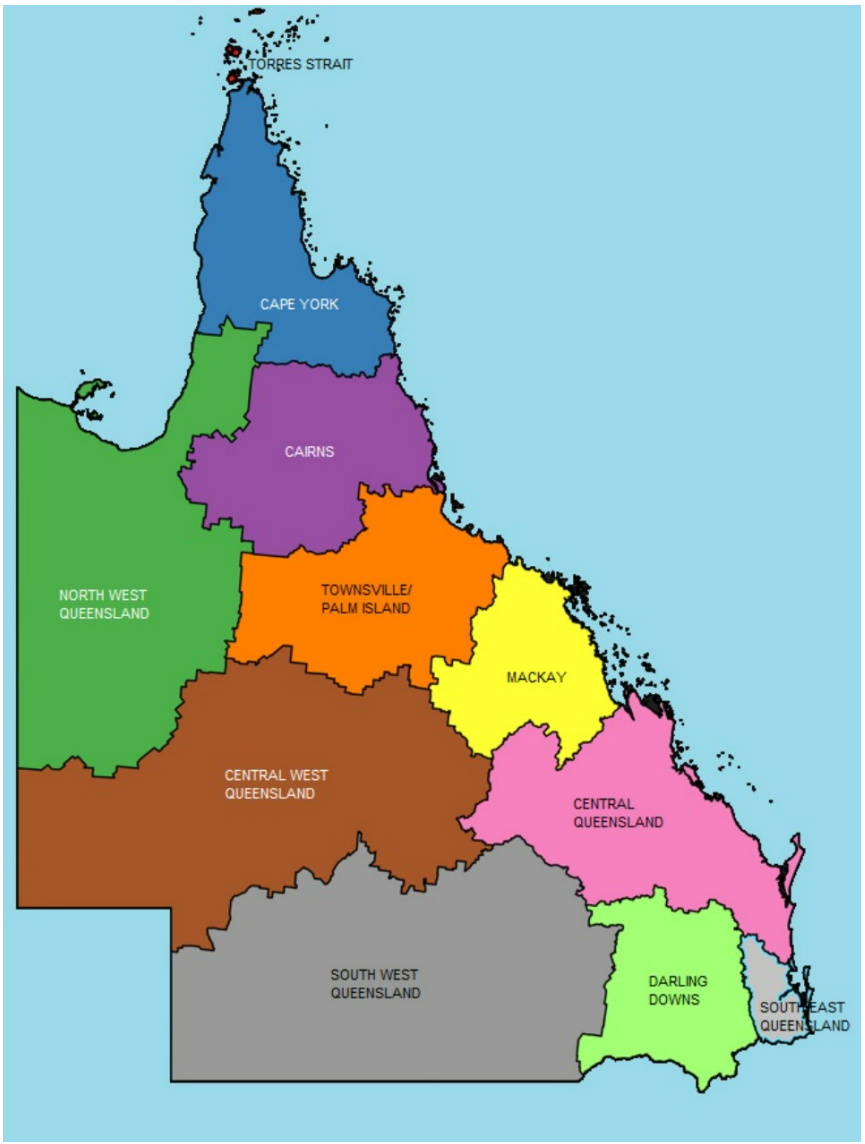
On 30 June 2021, the estimated resident population of First Nations people in Queensland was around 273,119 or 5% of the Queensland population (ABS 2023). This represents 28% of the Australian First Nations population in 2021 (983,709 population).

This represented an increase from the 2011 Census and 2016 Census which showed the estimated resident First Nations population was 4.2% (ABS 2013) and 4.6% (ABS 2018), respectively of the Queensland population.

In 2021, 38% (102,880) of First Nations people living in Queensland lived in *Major cities*. Among the total population living in each Queensland remoteness area, the proportion of people who were First Nations increased with remoteness:

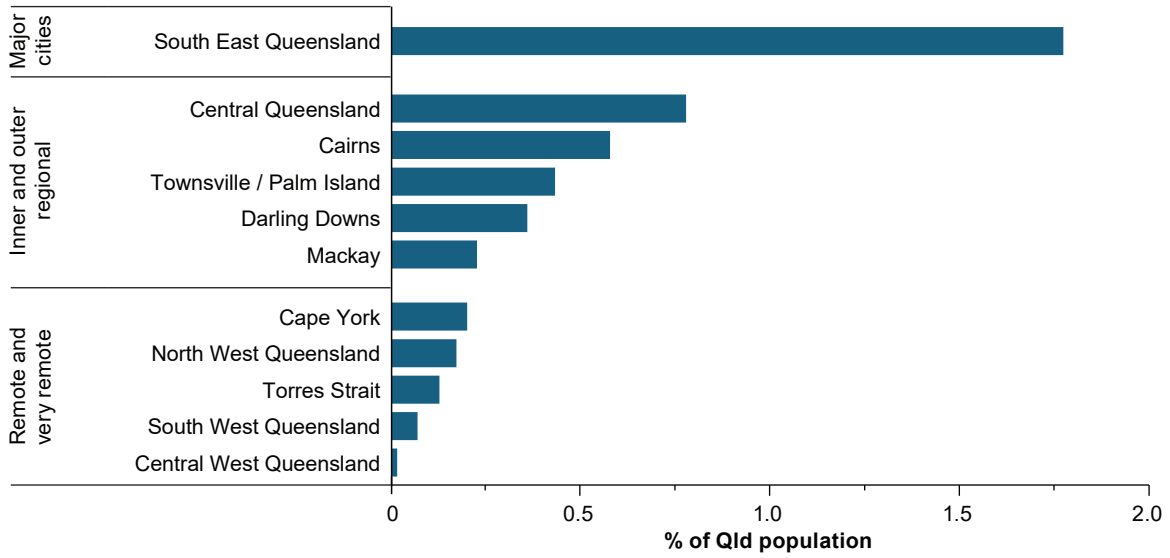
- 3.0% (102,880) of people living in Queensland in *Major cities* were First Nations
- 6.20% (62,547) in *Inner regional* areas
- 10.14% (70,686) in *Outer regional* areas
- 19.88% (14,430) in *Remote* areas and
- 42.16 % (22,576) in *Very remote* areas.

Figure 1: Queensland-Roadmap regions



In 2023, the South East Queensland Roadmap region had the highest proportion of the total Queensland population who were First Nations people. Central Queensland and Cairns, both located in Inner and outer regional areas, had the next highest proportions of the total population who were First Nations (Figure 2).

Figure 2: Queensland Roadmap regions, First Nations people, 2023



Remoteness[1]	Roadmap region	% of Qld population[2]
Major cities	South East Queensland	1.8
Inner and outer regional	Central Queensland	0.8
	Cairns	0.6
	Townsville / Palm Island	0.4
	Darling Downs	0.4
	Mackay	0.2
	Sub-total	**2.4**
Remote and very remote	Cape York	0.2
	North West Queensland	0.2
	Torres Strait	0.1
	South West Queensland	0.1
	Central West Queensland	0.0
	Sub-total	**0.6**
Qld		**4.7**

Notes:

1. Roadmap regions were assigned to one of 3 'predominant remoteness' categories (*Major cities*, *Inner and outer regional*, or *Remote and very remote*) based on the estimated distribution of First Nations people across Remoteness Areas (Edition 3) in 2021. The geographic area of a Roadmap region may differ from the boundary of the remoteness area to which it is assigned.
2. Roadmap region populations were modelled by the AIHW using 2016 ABS population estimates and projections (series B).

Eye health measures

Eye health prevalence

In 2018–19, in Queensland, 75,512 (51%) First Nations people aged 15 years and over reported eye and sight problems. This was similar to the national First Nations proportion, 52%.

In 2018–19, in Queensland, after adjusting for age differences between the First Nations and other Queenslander populations, the rate of self-reported eye or sight problems for First Nations people was 49.5 per 100 population. This was slightly lower than the age adjusted rate for other Queenslanders, 52.8 per 100 population (rate ratio of 0.9). This was similar to the age adjusted national First Nations proportion, 49% (AIHW 2023).

Eye health diagnosis and screening

Primary health care providers, such as general practitioners and pharmacists, play a key role in detecting and diagnosing problems, treating minor eye conditions and referring patients for more specialised care. They also conduct annual health assessments. Optometrists provide dedicated eye specific primary care, vision and refraction assessment and eye health screening services including screening for diabetic retinopathy. Ophthalmologists provide medical and surgical eye specialist care and treatment for eye conditions including cataract surgery and treatments for diabetic retinopathy.

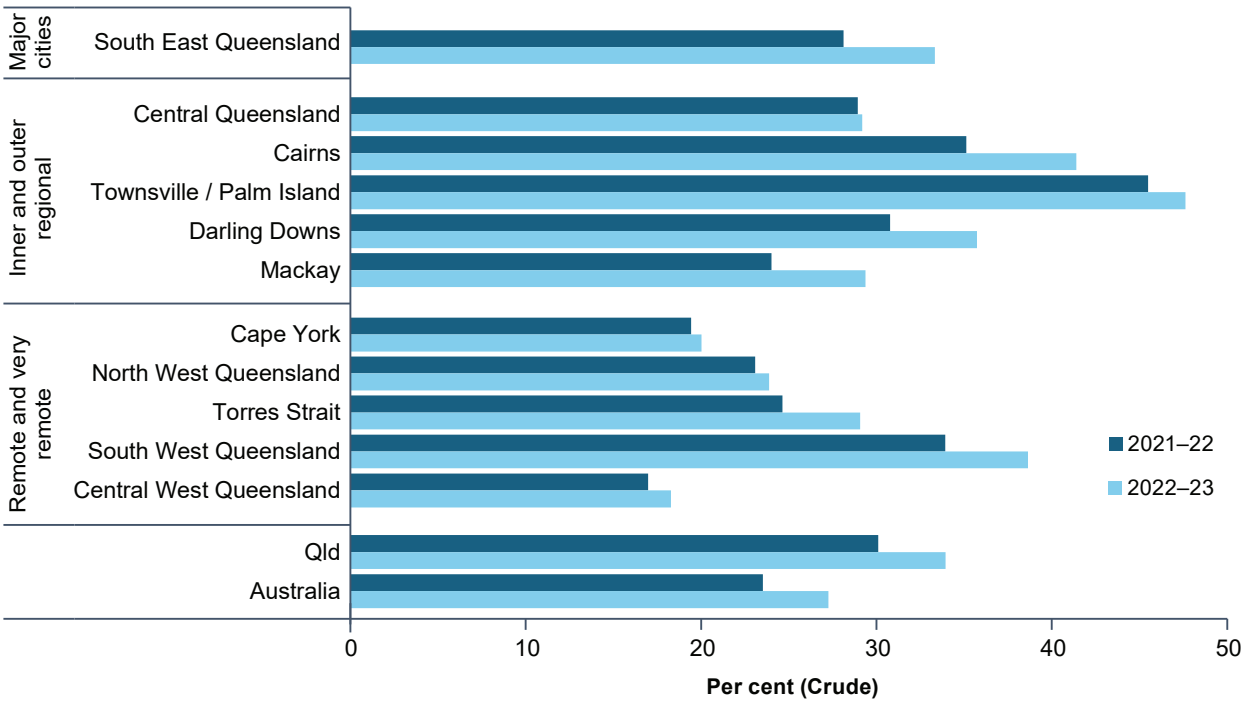
Annual health assessments

First Nations people can receive an annual health assessment, designed specifically for First Nations people and funded through Medicare. A basic eye check is a mandatory part of the assessment and may include examining the eye, checking visual acuity, and referring the patient to an optometrist or ophthalmologist for comprehensive eye care if necessary.

In 2022–23, around one in three (34%, or 86,756) First Nations people in Queensland had an annual health check, higher than the national proportion (27%). In 2021–22, the proportion of health checks in Queensland was lower, just under one in three (30%, around 75,200), but still higher than the national First Nations proportion (24%) (Figure 3).

The proportion of general MBS annual health assessments for First Nations people in Queensland was highest in the Townsville/Palm Island Roadmap region (around 10,400 or 45% in 2021–22 and 11,100 or 48% in 2022–23). Rates of annual health assessments in all Roadmap regions increased between 2021–22 and 2022–23 (Figure 3).

Figure 3: Annual health assessments, by Roadmap Region, Queensland and Australia, First Nations people



Remoteness	Roadmap region	2021–22		2022–23	
		Number of people	Per cent	Number of people	Per cent
Major cities	South East Queensland	26,451	28.1	32,053	33.3
Inner and outer regional	Central Queensland	11,931	28.9	12,303	29.2
	Cairns	10,705	35.1	12,903	41.4
	Townsville / Palm Island	10,363	45.5	11,094	47.6
	Darling Downs	5,833	30.8	6,924	35.7
	Mackay	2,867	24.0	3,586	29.4
Remote and very remote	Cape York	2,043	19.4	2,152	20.0
	North West Queensland	2,076	23.1	2,197	23.9
	Torres Strait	1,633	24.6	1,970	29.1
	South West Queensland	1,227	33.9	1,429	38.6
	Central West Queensland	132	17.0	145	18.3
Qld		75,258	30.1	86,756	33.9
Australia		208,759	23.5	246,707	27.3

Source: AIHW analysis of MBS data.

Eye examinations by an eye care professional (optometrists and ophthalmologists)

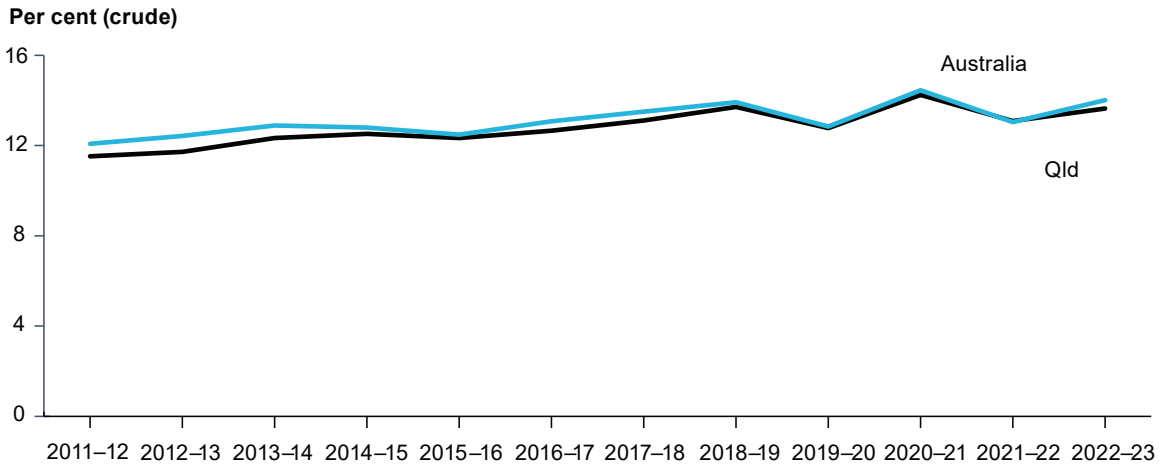
Patients may have one or a series of appointments with an optometrist or ophthalmologist. This measure includes only the first appointment.

The proportion of initial eye examinations for First Nations people in Queensland has increased slightly over time from 12% in 2011–12 to 14% in 2022–23. The proportion of eye examinations for First Nations people nationally and in Queensland has been very similar over this period (Figure 4).

Optometrists – primary eye care professionals who perform eye examinations, vision tests for refractive error to prescribe glasses and critical screening for other eye conditions, some are therapeutically endorsed for limited prescribing rights

Ophthalmologists – medical eye specialists who provide diagnostic, treatment and preventive medical services related to diseases, injuries and deficiencies in the human eye, such as cataract surgery.

Figure 4: Eye examinations by an eye care professional, Queensland and Australia, First Nations people



Year	Queensland		Australia	
	Number of patients	Per cent	Number of patients	Per cent
2011–12	23,161	11.5	87,929	12.1
2012–13	24,101	11.7	92,393	12.4
2013–14	25,924	12.3	97,873	12.9
2014–15	26,873	12.5	99,155	12.8
2015–16	27,037	12.3	98,683	12.5
2016–17	28,316	12.7	105,430	13.1
2017–18	29,987	13.1	110,951	13.5
2018–19	32,065	13.7	116,560	13.9
2019–20	30,540	12.8	109,709	12.8
2020–21	34,821	14.2	125,862	14.5
2021–22	32,720	13.1	115,735	13.0
2022–23	34,854	13.6	126,816	14.0

Source: AIHW analysis of MBS data.

The age adjusted proportion of the national population who had an initial eye examination by an optometrist or ophthalmologist has been consistently lower for First Nations people than for other Australians from 2011–12 to 2022–23. The First Nations age adjusted national proportion ranged from 18% to 20%, over this period, while the proportion for other Australians ranged from 22% to 27%, over the same period. In 2022–23, after adjusting for differences in age structure, First Nations people were less likely than other Australians to have an eye examination (rate ratio of 0.7, rate difference of -7.5).

Screening for diabetic retinopathy

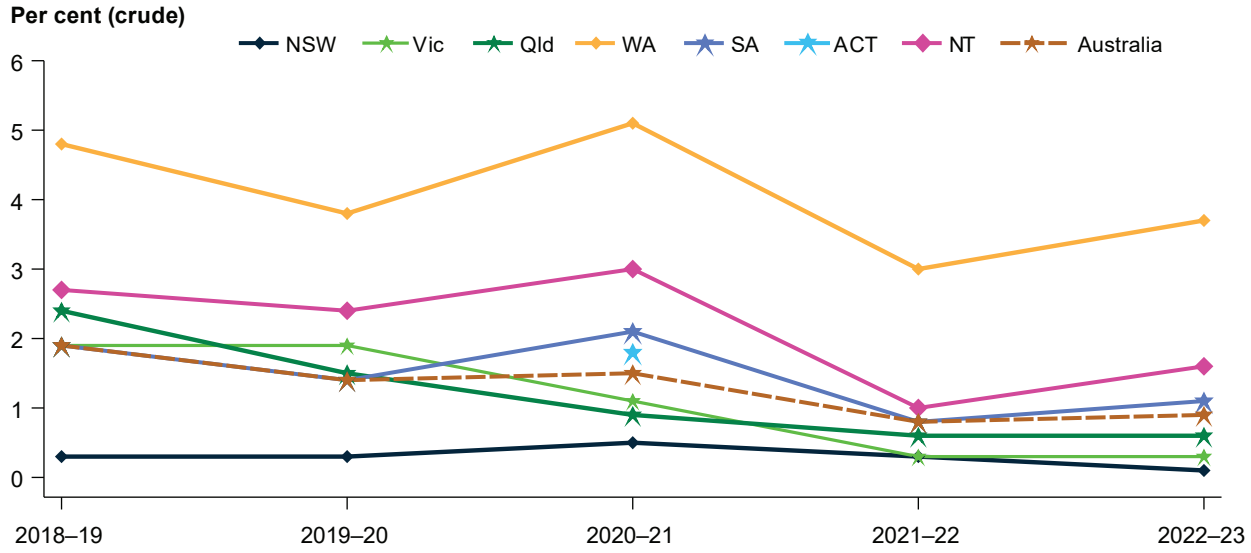
Diabetic retinopathy is an eye condition that can cause vision loss and blindness in people who have diabetes. Current guidelines recommend that First Nations people with diabetes have an annual eye examination to screen for diabetic retinopathy (National Health and Medical Research Council 2008).

In the 2016 National Eye Health Survey, just over half (53%) of First Nations participants aged 40 and over with self-reported diabetes had a diabetic eye examination in the preceding 12 months. This varied by remoteness, with participants in *Very remote* areas having the lowest proportion of examinations (35%).

More recent Medicare data of rates of eye examinations among those tested for diabetes indicate whether people who may have diabetes are accessing eye examinations and retinopathy screening. Not all people who have a diabetes test have diabetes so this measure may be an underestimate.

In 2022–23, the screening rate for diabetic retinopathy with a retinal camera for First Nations people in Queensland was 0.6 per 1,000 population (150 people). This was lower than the national screening rate for First Nations people (0.9 per 1,000). From 2018–19 to 2022–23, screening rates among First Nations people tested for diabetes have been declining in Queensland overall (Figure 5).

Figure 5: Screened for diabetic retinopathy with a retinal camera, by state/territory, First Nations people



	2018–19		2019–20		2020–21		2021–22		2022–23	
	Numbe of patients	Rate per 1,000	Numbe of patients	Rate per 1,000	Numbe of patients	Rate per 1,000	Numbe of patients	Rate per 1,000	Numbe of patients	Rate per 1,000
NSW	93	0.3	88	0.3	140	0.5	99	0.3	35	0.1
Vic	115	1.9	121	1.9	73	1.1	20	0.3	23	0.3
Qld	566	2.4	354	1.5	231	0.9	152	0.6	150	0.6
WA	512	4.8	403	3.7	557	5.1	330	3.0	418	3.7
SA	85	1.9	65	1.4	98	2.1	40	0.8	50	1.1
Tas	—	—	n.p.	n.p.	—	—	n.p.	n.p.	—	—
ACT	—	—	n.p.	n.p.	15	1.8	n.p.	n.p.	—	—
NT	211	2.7	165	2.1	234	3.0	79	1.0	126	1.6
Australia	1,582	1.9	1,196	1.4	1,348	1.5	722	0.8	802	0.9

Note: n.p. = not published due to small numbers. — = Number of patients and rate was 0.
Source: AIHW analysis of MBS data.

Eye health treatment

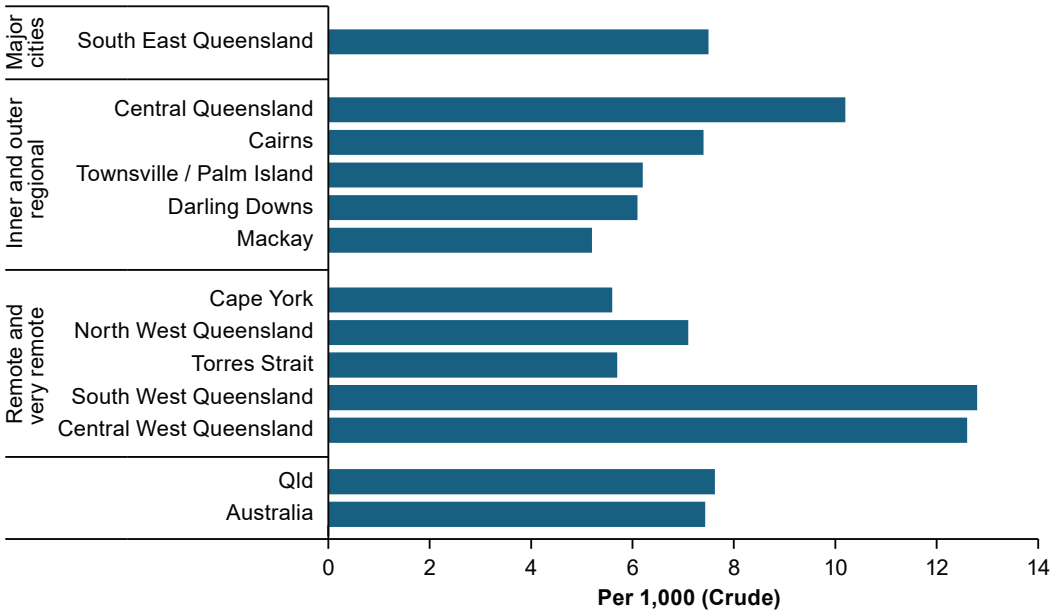
Different eye problems require different treatments. For example, surgery is required to remove cataracts while refractive error is treated by using visual aids, such as glasses and contact lenses.

Hospitalisations for diseases of the eye

In the 2-year period, 2021–23, there were 3,856 hospitalisations (7.6 per 1,000 population) for First Nations people for diseases of the eye in Queensland.

In 2021–23, across the Queensland Roadmap regions, hospitalisation rates for eye diseases ranged from 5.2 to 13 per 1,000 population. In five of the 11 Queensland Roadmap regions, hospitalisation rates for diseases of the eye for First Nations people were the same as or higher than the Australian rate (Figure 6).

Figure 6: Hospitalisation rates for diseases of the eye, by Roadmap region, Queensland and Australia, First Nations people, 2021–23



Remoteness	Roadmap region	Number of separations	Rate per 1,000
Major cities	South East Queensland	1,441	7.5
Inner and outer regional	Central Queensland	856	10.2
	Cairns	463	7.4
	Townsville / Palm Island	288	6.2
	Darling Downs	237	6.1
	Mackay	128	5.2
Remote and very remote	Cape York	120	5.6
	North West Queensland	130	7.1
	Torres Strait	78	5.7
	South West Queensland	95	12.8
	Central West Queensland	20	12.6
Qld		3,856	7.6
Australia		13,329	7.4

Source: AIHW analysis of NHMD.

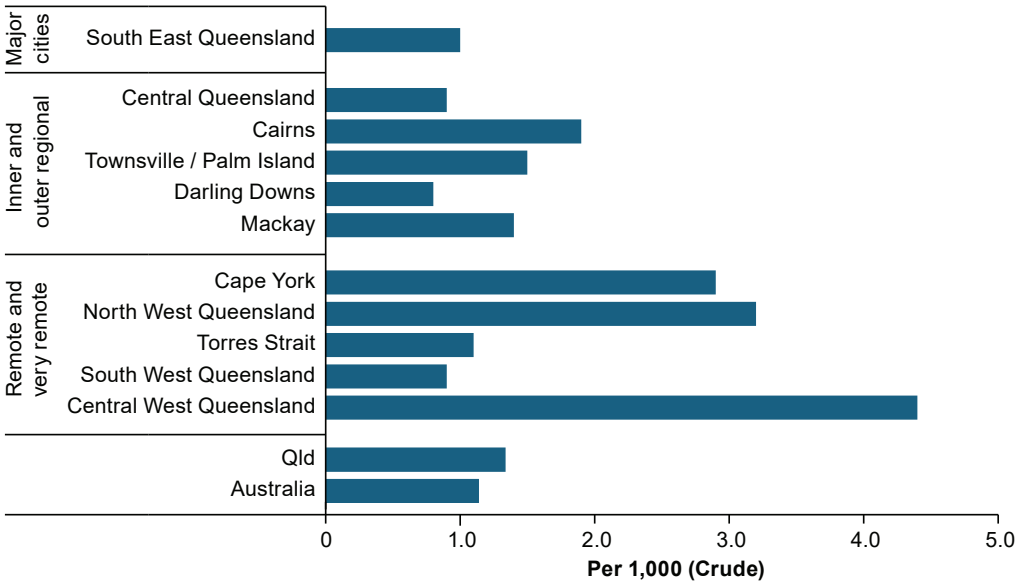
In 2021–23 in Queensland, after adjusting for age differences between the First Nations and other Queenslander populations, the hospitalisation rate for First Nations Australians for diseases of the eye (13 per 1,000 population) was slightly lower than the hospitalisation rate for other Queenslanders (16 per 1,000 population); rate ratio of 0.8, rate difference of -2.8.

Hospitalisations for injuries to the eye

In the 2-year period, 2021–23, for First Nations people nationally, the most common principal diagnosis for hospitalisations for injury to the eye were an open wound of eyelid and periocular area, periorbital fracture and superficial injuries of eyelid and periocular area. In 2021–23, in Queensland, there were 676 hospitalisations (1.3 per 1,000 population) for First Nations people for injuries to the eye.

In 2021–23, across the Queensland Roadmap regions, hospitalisation rates for eye injuries ranged from 0.8 to 4.4 per 1,000 population. In seven of the 11 Queensland Roadmap regions, hospitalisation rates for injuries to the eye for First Nations people were the same as or higher than the Australian rate (Figure 7).

Figure 7: Hospitalisation rates for injuries to the eye, by Roadmap region, Queensland and Australia, First Nations people, 2021–23



Remoteness	Roadmap region	Number of separations	Rate per 1,000
Major cities	South East Queensland	199	1.0
Inner and outer regional	Central Queensland	74	0.9
	Cairns	119	1.9
	Townsville / Palm Island	69	1.5
	Darling Downs	30	0.8
	Mackay	35	1.4
Remote and very remote	Cape York	62	2.9
	North West Queensland	59	3.2
	Torres Strait	15	1.1
	South West Queensland	7	0.9
	Central West Queensland	7	4.4
Qld		676	1.3
Australia		2,045	1.1

Source: AIHW analysis of NHMD.

In 2021–23, in Queensland, after adjusting for age differences between the First Nations and other Queenslander populations, the hospitalisation rate for First Nations Australians for injuries to the eye (1.5 per 1,000 population) was notably higher than the hospitalisation rate for other Queenslanders (0.5 per 1,000 population); rate ratio of 2.9, rate difference of 1.0.

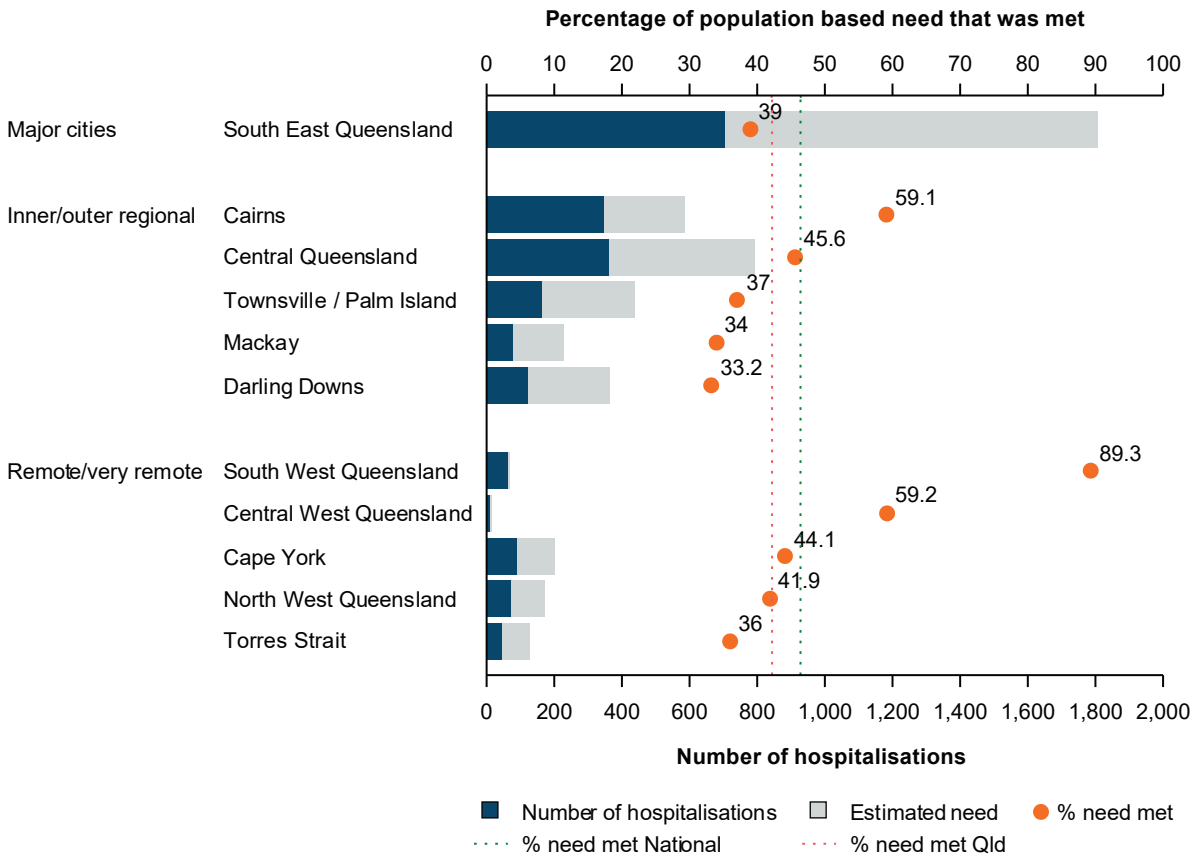
Cataract surgery

In the 2-year period, 2021–23, there were 2,050 hospitalisations for First Nations people for cataract surgery in Queensland (4,055 per 1,000,000 population). In 2021–23, the number of hospitalisations for cataract surgery in Queensland for First Nations people was below the estimated number of people needing cataract surgery (4,803) (IEHU 2017). The data do not include outpatient surgery and may underestimate the number of procedures and, therefore, the percentage of need for cataract surgery that was met.

The number of people needing cataract surgery was calculated using the University of Melbourne IEHU 'Calculator for the delivery and coordination of eye care services', based on the 2008 National Indigenous Eye Health Survey and models of service delivery developed in the Roadmap to Close the Gap for Vision (IEHU 2017). This calculator uses the First Nations population for a community or region to estimate the annual need for eye care services in that area.

In 2021–23, across the Queensland Roadmap regions, rates of hospitalisations for cataract surgery ranged from 3,156 to 8,480 per 1,000,000 population. In 2021–23, the Roadmap region with the highest proportion of need for cataract surgery that was met was South West Queensland – 89% of need met. In 2021–23, in three of the 11 Queensland Roadmap Regions, a higher proportion of First Nations people's need for cataract surgery was met than was met nationally (Figure 8).

Figure 8: Hospitalisation rates, need for cataract surgery and proportion of need that was met, by Roadmap Region, Queensland and Australia, First Nations people, 2021–23



(continued)

Figure 8 (continued): Hospitalisation rates, need for cataract surgery and proportion of need that was met, by Roadmap Region, Queensland and Australia, First Nations people, 2021–23

Remoteness	Roadmap region	Hospitalisations	Rate per 1,000,000	Hospitalisations need	Percentage of need that was met
Major cities	South East Queensland	704	3,701	1,807	39.0
Inner and outer regional	Central Queensland	361	4,329	792	45.6
	Cairns	346	5,614	586	59.1
	Townsville / Palm Island	162	3,512	438	37.0
	Darling Downs	121	3,156	364	33.2
	Mackay	78	3,230	229	34.0
Remote and very remote	Cape York	89	4,192	202	44.1
	North West Queensland	72	3,977	173	41.9
	Torres Strait	46	3,424	127	36.0
	South West Queensland	62	8,480	69	89.3
	Central West Queensland	9	5,626	15	59.2
Qld		2,050	4,055	4,803	42.7
Australia		8,008	4,467	17,031	47.0

Source: AIHW of NHMD, and AIHW analysis of calculator for the delivery and coordination of eye care services (IEHU).

In 2021–23 in Queensland, after adjusting for age differences between the First Nations and other Queenslander populations, the hospitalisation rate for First Nations Australians for cataract surgery (7,705 per 1,000,000 population) was lower than the hospitalisation rate for other Queenslanders (9,287 per 1,000,000 population); rate ratio of 0.8, rate difference of -1,581. The cataract surgery rate was calculated per 1,000,000 to align with international standards (WHO 2013).

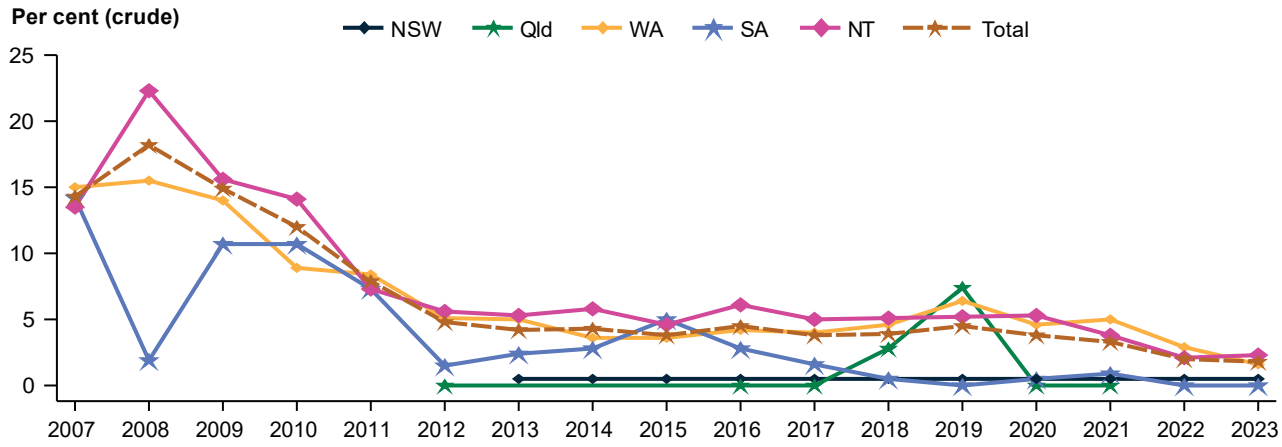
Trachoma and trichiasis

Trachoma is the world's leading infectious cause of preventable blindness, caused by the bacteria *Chlamydia trachomatis*. Australia is the only high-income country in which trachoma has remained endemic. Trachoma is primarily found in remote Aboriginal and Torres Strait Islander communities in Western Australia, South Australia and the Northern Territory. Antibiotics, facial cleanliness and environmental improvements are used to control the spread of trachoma. Surgery is required to correct trachomatous trichiasis, an advanced sequela of multiple trachoma infections that lead to vision loss and blindness (WHO Alliance for the global elimination of Trachoma, 2023).

Trachoma and trichiasis, prevalence and treatment

In 2023, jurisdictions designated 67 remote Indigenous communities in the Northern Territory, South Australia and Western Australia as at risk of endemic trachoma. New South Wales and Queensland were declared non endemic for trachoma in 2017 and 2022 respectively. Nationally, the overall prevalence of trachoma in children aged 5–9 years fell from 14% in 2007 to 1.8% in 2023. Overall prevalence was 0.5% in New South Wales, 2.3% in the Northern Territory, 0% in South Australia, and 1.6% in Western Australia in 2023 (Figure 9). Eighteen communities nationally required antibiotic treatment for chlamydial infection in 2023. Treatment coverage for cases detected in screening activities was 99%, with 81% of household and community contacts also treated (Figure 9).

Figure 9: Overall trachoma prevalence among Aboriginal children aged 5–9 years in all current and former at-risk communities



Note: Overall prevalence was calculated using the most recent data for all at-risk communities screened in 2023 as well as the most recent data carried forward from at-risk communities that did not screen, and communities removed from the at-risk register. More information can be found in Table 1.2 Australian Trachoma Surveillance Reports | Kirby Institute (unsw.edu.au)

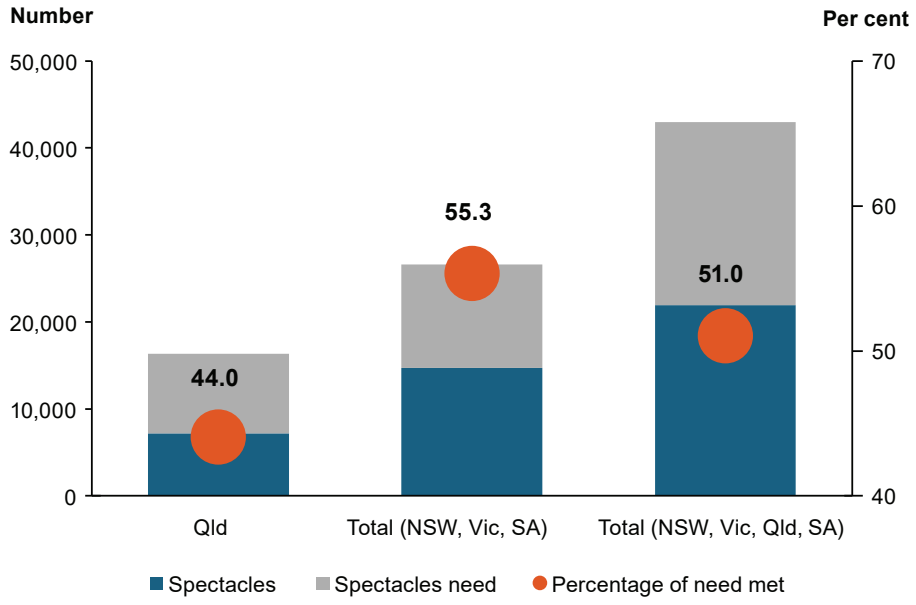
Sources: Kirby Institute 2011, 2012, 2013, 2014, 2015, 2016, 2018, 2019a, 2019b, 2020, 2021, 2022, 2023, in press.

Nationally, in 2023, 13,219 adults aged 15 years and over in 150 at risk and previously at risk communities were screened for trichiasis. There were 9 cases of trichiasis detected in persons aged 15 years and older, with a prevalence in screened persons of 0.07%. Surgery for trachoma related trichiasis was reported by jurisdictional teams to have been undertaken for 7 adults in 2023.

Subsidised spectacles

All states and territories have schemes that provide eye care and visual aids, including glasses, to eligible people at low or no cost. In 2022–23, across the four states able to provide data (New South Wales, Victoria, Queensland and South Australia), around 17,500 spectacles were provided to First Nations people through the schemes. In 2021–22, around 7,200 spectacles were provided to First Nations people under the Queensland scheme (28 per 1,000 population). The estimated number needed (16,346) was considerably greater than the number dispensed; meaning only 44% of the need was met (Figure 10).

Figure 10: State spectacles schemes, number of spectacles dispensed and need, First Nations people, 2022–23



State/Territory	Spectacles number	Spectacles need	Percentage of need met
Qld	7,199	16,346	44.0
Total (NSW, Vic, SA)	14,722	26,608	55.3
Total (NSW, Vic, Qld, SA)	21,921	42,954	51.0

Note: The estimated number of people needing spectacles was derived from the calculator for the coordination and delivery of eye care services (IEHU, 2017).

Sources: AIHW analysis of Calculator for the delivery and coordination of eye care services (IEHU 2017), Queensland Health data (unpublished).

Eye health workforce

The size and location of the eye health workforce gives a broad indication of access to specialists and eye services.

Eye Health Workforce:

Optometrists - primary eye care professionals - described above

Ophthalmologists - medical eye specialists - described above

Allied ophthalmic personnel include:

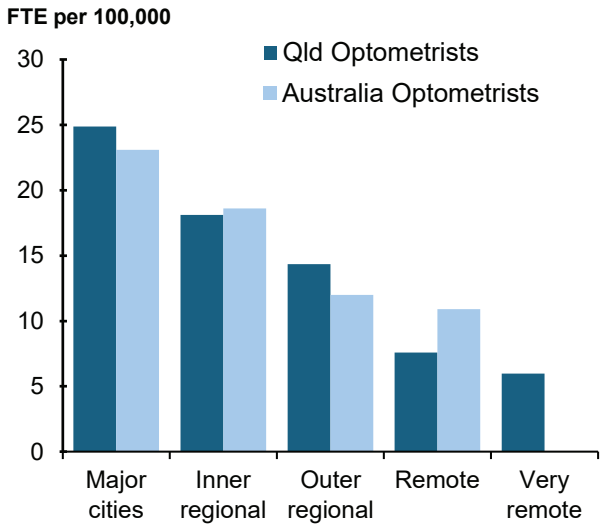
- **optical dispensers** who supply and manage spectacles and contact lenses
- **opticians** who fit glasses and contact lenses
- **ophthalmic nurses** who test vision and provide other eye tests under medical direction
- **orthoptists** who diagnose and manage eye movement disorders

Full-time equivalent (FTE) The FTE is a measure used to present data on the eye health workforce. It is calculated by dividing the total hours worked by employees in an occupation, by the standard hours worked.

Full-time equivalent (FTE) rate (number of FTE practitioners per 100,000 population) is a measure of workforce supply.

There were 1,245 optometrists (21.3 FTE per 100,000 population) employed in 2022 and 180 ophthalmologists (3.6 FTE per 100,000 population) employed in 2023 in Queensland. In 2021 there were 1,292 optical dispensers (14.4 FTE per 100,000 population) employed in Queensland. The FTE rates per 100,000 of optometrists was highest in Queensland and nationally in *Major cities* (Figure 11).

Figure 11: Optometrists, by remoteness, Queensland and Australia, 2022

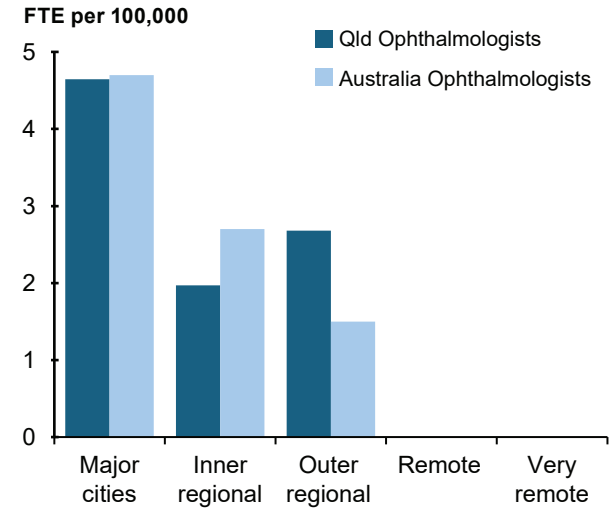


Remoteness	Queensland Optometrists		Australia Optometrists	
	FTE Employed	FTE per 100,000	FTE Em-ployed	FTE per 100,000
Major cities	841.2	24.9	4,297.1	23.1
Inner regional	182.8	18.1	880.6	18.6
Outer regional	100	14.3	255.0	12.0
Remote	5.5	7.6	32.8	10.9
Very remote	3.2	6.0	6.2	n.p.

Notes:
1. Data for optometrists are based on those employed in Australia working in their registered profession.
2. FTE per 100,000 population are based on a 38-hour week.
Sources: AIHW analysis of National Health Workforce Dataset.

The Australian ophthalmology workforce is skewed toward metropolitan areas. In 2023, the FTE rates per 100,000 of ophthalmologists was highest in Queensland and nationally in *Major cities*. There were no ophthalmologists employed full time in *Remote* areas in Queensland and in *Very remote* areas nationally or in Queensland (Figure 12).

Figure 12: Ophthalmologists, by remoteness, Queensland and Australia, 2023



Remoteness	Queensland Ophthalmologists		Australia Ophthalmologists	
	FTE Employed	FTE per 100,000	FTE Employed	FTE per 100,000
Major cities	157.1	4.6	866.9	4.7
Inner regional	19.9	2.0	129.2	2.7
Outer regional	18.7	2.7	32.6	1.5
Remote	0	0.0	3.0	n.p.
Very remote	0	0.0	0.0	n.p.

Notes:
1. Data for ophthalmologists are based on those employed in Australia working in their registered profession.
2. FTE per 100,000 population are based on a 38-hour week.
Sources: AIHW analysis of National Health Workforce Dataset.

Outreach and other programs

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. For example, CheckUP's outreach programs facilitate visits by health professionals to rural and remote Queensland communities by reducing financial disincentives to service provision. The program reimburses professionals for travel, meals, accommodation, and administrative expenses (CheckUP 2024).

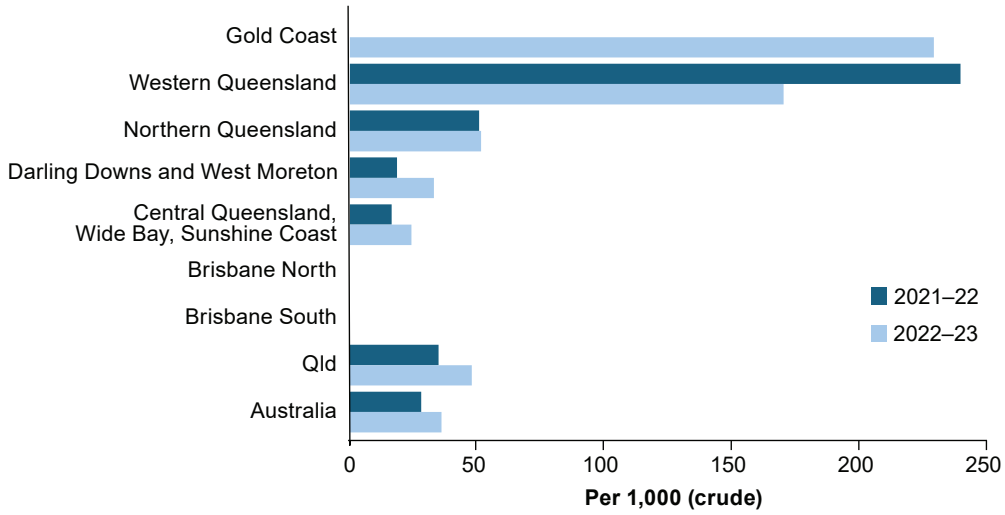
In addition, several programs provide specialist eye health services, primarily in regional and remote areas of Australia. The outreach programs include the Visiting Optometrists Scheme (VOS), the Rural Health Outreach Fund (RHOF), the Medical Outreach Indigenous Chronic Diseases Program (MOICDP), the Eye and Ear Surgical Support Service (EESSS), and the Coordination of Indigenous Eye Health.

This section focusses on eye health services provided through the VOS in Queensland. Data on the other outreach programs are available in Eye Health measures for Aboriginal and Torres Strait Islander people 2024.

Organisations supported through outreach programs are referred to as fundholders. Fundholders make effective use of available funding to identify and meet community needs. The jurisdictional fundholders liaise regularly to monitor and evaluate workforce needs and service delivery to make best-practice improvements (RWAV 2017). There are seven jurisdictional fundholders for the Australian Government's eye health outreach programs. In Queensland this is CheckUP.

In 2022–23 there were 11,594 (45.4 per 1,000 population) VOS occasions of service provided to First Nations patients in Queensland. This was an increase from 2021–22, where there were 8,752 (35 per 1,000 population) VOS occasions of service. In 2022–23, the number of services was highest in Northern Queensland Primary Health Network (PHN) (4,324, 52 per 1,000 population) while the rate was highest on the Gold Coast (2,737, 184 per 1,000 population) (Figure 13).

Figure 13: VOS occasions of service, by Primary Health Network, Queensland and Australia, First Nations people



PHN	2021–22		2022–23	
	Occasions of service	Rate per 1,000	Occasions of service	Rate per 1,000
Gold Coast	0	0.0	2,737	184.0
Western Queensland	3,241	240.4	2,314	170.8
Northern Queensland	4,180	50.9	4,324	51.7
Darling Downs and West Moreton	651	18.6	1,193	33.1
Central Queensland, Wide Bay, Sunshine Coast	680	16.5	1,026	24.3
Brisbane North	0	0.0	0	0.0
Brisbane South	0	0.0	0	0.0
Qld	8,752	35.0	11,594	45.4
Australia	24,992	28.2	32,001	35.4

Source: AIHW analysis of Department of Health and Aged Care data (unpublished).

Box 1

Main eye health conditions affecting First Nations people

Refractive error refers to problems with the focusing of light and causes long- or short- sightedness. It can generally be corrected with spectacles, contact lenses or laser surgery (National Eye Institute 2010)

Cataract is a degenerative condition when the lens of the eye clouds over obstructing the passage of light to the retina and causing vision impairment or eventually blindness

Diabetic retinopathy is a complication of diabetes and involves damage to the blood vessels of the retina. All diabetics can eventually develop diabetic retinopathy, even with good diabetic control, and suffer visual disturbance and vision loss, if diabetes is poorly managed, diabetic retinopathy can result in blindness (Healthinfonet 2016)

Trachoma is an infectious disease of the eye caused by the bacterium Chlamydia trachomatis. Repeated episodes of infection can eventually cause loss of vision and blindness.

Box 2

Area classifications

Data for some measures are reported for smaller geographic areas, including PHNs and Roadmap regions:

Primary Health Networks (PHNs) are 31 geographic areas covering Australia, with boundaries defined by the Department of Health and Aged Care. They vary in relation to the size of the Aboriginal and Torres Strait Islander populations that live there and by the proportion of the total population that is Aboriginal and Torres Strait Islander. Data relate to the services provided to those living in these areas, and not to whether the PHNs provided the services. There are seven PHN's in Queensland: Brisbane North, Brisbane South, Gold Coast, Darling Downs and West Moreton, Western Queensland, Central Queensland Wide Bay Sunshine Coast, Northern Queensland. A map and list of PHN areas are available in Appendix A.

Roadmap to close the gap for vision regions evolved out of the University of Melbourne's Indigenous Eye Health Unit (IEHU) Roadmap to Close the Gap for Vision project to review health service provision for Aboriginal and Torres Strait Islander people and to develop a model to improve their eye care. There are 64 regions in which local collaborations to improve eye care pathways for Aboriginal and Torres Strait Islander patients have been initiated most of which have a 'surgical hub' or hospital where cataract surgery can be performed and a network of stakeholders, mostly centred around Aboriginal Community Controlled Health Services, who contribute to improved pathways of care and outcomes. There are 11 Roadmap Regions in Queensland: Torres Strait, Cape York, North West Queensland, Cairns, Townsville/ Palm Island, Mackay, Central West Queensland, Central Queensland, South West Queensland, Darling Downs and South East Queensland. A map and list of Roadmap regions are available in Appendix B.

Box 3

Data gaps and limitations

Prevalence

Eye health prevalence Data on self-reported eye or sight problems come from 10,579 Aboriginal and Torres Strait people in Australia included in the 2018–19 NATSIHS (ABS 2019). Self-reported data on various health conditions, including diseases of the eye/adnexa – referred to as 'eye or sight problems' in this report were collected. As data are self-reported they have not necessarily been diagnosed by a health professional and do not include eye conditions that respondents are unaware that they have. Survey results are subject to sampling errors as only a proportion of the population is used to produce estimates that represent the whole population.

Eye health diagnosis and screening

Eye examinations by an eye care specialist (optometrist or ophthalmologist) MBS data reflect billing practices, and not necessarily all services received. For example, MBS data do not generally capture equivalent services provided by jurisdiction-funded primary health care, GP's, nurses, health workers or by public hospitals – for example, eye examinations undertaken by salaried ophthalmologists in public hospitals. Equivalent or similar care may also be billed as a different MBS item (such as a standard consultation).

Screening for diabetic retinopathy Screening for diabetic retinopathy can be provided in several ways, including direct observations by a health professional during eye examinations or by using a retinal camera. MBS data reflect billing practices and not necessarily all services received. For example, the MBS data for this sub-measure do not capture equivalent services provided by eye care practitioners, optometrists and ophthalmologists, jurisdiction-funded primary health care, public hospitals or where retinal cameras are used without billing MBS.

Treatment

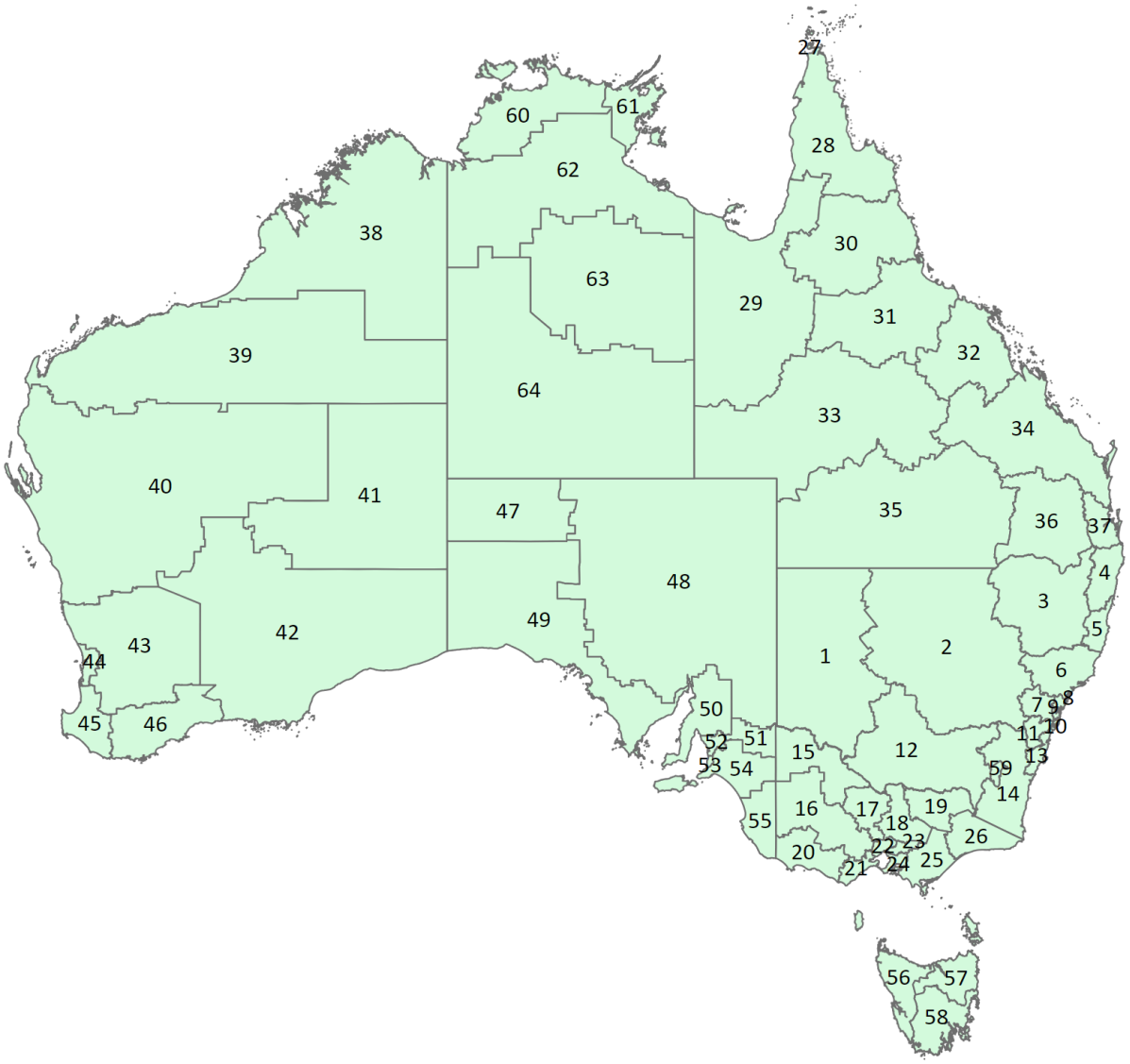
Hospitalisation data The data may underestimate the number of eye specialist clinical work provided, as it does not include those undertaken on an outpatient basis. This may also mean the percentage of need for cataract surgery that was met may also be an underestimate.

Trachoma and trichiasis Treatment strategies depend on the prevalence and extent of case clustering, such as treatment of active cases and contacts versus community-wide treatment. Screening coverage estimates are a guide only. Screening of Aboriginal and Torres Strait Islander adults for trichiasis may be undertaken opportunistically, such as during annual health assessments, and may not be included in the data. Data may also include multiple patient screenings. Coverage is derived from ABS census data and is linked to current trachoma endemic regions. Estimates do not consider changing endemic regions over time and transiency between regions. Trichiasis surgery cases may include cases identified in previous years.

Appendix A: PHN regions

No.	State	PHN	No.	State	PHN
1	NSW	Central and Eastern Sydney	17	QLD	Brisbane North
2	NSW	Northern Sydney	18	QLD	Brisbane South
3	NSW	Western Sydney	19	QLD	Gold Coast
4	NSW	Nepean Blue Mountains	20	QLD	Darling Downs and West Moreton
5	NSW	South Western Sydney	21	QLD	Western Queensland
6	NSW	South Eastern NSW	22	QLD	Central Queensland, Wide Bay, Sunshine Coast
7	NSW	Western NSW	23	QLD	Northern Queensland
8	NSW	Hunter New England and Central Coast	24	WA	Perth North
9	NSW	North Coast	25	WA	Perth South
10	NSW	Murrumbidgee	26	WA	Country WA
11	VIC	North Western Melbourne	27	SA	Adelaide
12	VIC	Eastern Melbourne	28	SA	Country SA
13	VIC	South Eastern Melbourne	29	Tas	Tasmania
14	VIC	Gippsland	30	ACT	Australian Capital Territory
15	VIC	Murray	31	NT	Northern Territory
16	VIC	Western Victoria			

Appendix B: Roadmap regions



No.	State	Roadmap region	No.	State	Roadmap region	No.	State	Roadmap region
1	NSW	Far West NSW	23	VIC	Eastern Metropolitan Melbourne	45	WA	South West
2	NSW	Western NSW	24	VIC	South East Metropolitan Melbourne	46	WA	Great Southern
3	NSW	Central Tablelands	25	VIC	Central Gippsland	47	SA	APY Lands
4	NSW	North Coast	26	VIC	East Gippsland	48	SA	Flinders and Upper North
5	NSW	Mid North Coast	27	QLD	Torres Strait	49	SA	Eyre and Far North (ex APY)
6	NSW	Hunter	28	QLD	Cape York	50	SA	Yorke and Northern
7	NSW	Western Metropolitan Sydney	29	QLD	North West Queensland	51	SA	Riverland
8	NSW	Central Coast	30	QLD	Cairns	52	SA	Adelaide Central North West
9	NSW	Northern Metropolitan Sydney	31	QLD	Townsville / Palm Island	53	SA	Adelaide South
10	NSW	Eastern Metropolitan Sydney	32	QLD	Mackay	54	SA	Murray Mallee Hills and Fleurieu
11	NSW	South West Metropolitan Sydney	33	QLD	Central West Queensland	55	SA	Limestone Coast
12	NSW	Riverina (Murrumbidgee)	34	QLD	Central Queensland	56	Tas	North West
13	NSW	South Coast	35	QLD	South West Queensland	57	Tas	North
14	NSW	Far South Coast	36	QLD	Darling Downs	58	Tas	South
15	VIC	Mallee	37	QLD	South East Queensland	59	ACT	Australian Capital Territory
16	VIC	Grampians	38	WA	Kimberley	60	NT	Greater Darwin
17	VIC	Loddon	39	WA	Pilbara	61	NT	East Arnhem
18	VIC	Hume West	40	WA	Mid West	62	NT	Katherine
19	VIC	Hume East	41	WA	NG Lands	63	NT	Barkly
20	VIC	Great South Coast	42	WA	Goldfields	64	NT	Central Australia
21	VIC	Geelong	43	WA	Wheatbelt			
22	VIC	North and West Metropolitan Melbourne	44	WA	Perth			

Glossary

Aboriginal and Torres Strait Islander: A person of Aboriginal and/or Torres Strait Islander descent who identifies as an Aboriginal and/or Torres Strait Islander. See also First Nations Australians.

age adjustment/age-standardisation: A set of statistical techniques used to remove, as far as possible, the effects of differences in age when comparing 2 or more populations.

at-risk community (trachoma): Communities classified by jurisdictions as being at higher risk of trachoma based on:

(1) no recent data, but historical evidence of endemicity

(2) data of active trachoma prevalence of 5% or more in children aged 5–9 in the last 5 years, or

(3) data of less than 5% active trachoma prevalence but with a recorded prevalence of active trachoma of 5% or above in the past 5 years.

blindness: Presenting visual acuity of <3/60 in the better eye.

crude rate: A rate derived from the number of events recorded in a population during a specified time period, without adjustments for other factors such as age.

First Nations Australians: Used interchangeably with Aboriginal and Torres Strait Islander people in this report.

hospitalisation (separation): An episode of care for an admitted patient that 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 care type (for example, from acute care to palliative care).

non-Indigenous Australians: People who indicated that they are not of Aboriginal or Torres Strait Islander descent. Compare with other Australians.

other Australians: Includes both non-Indigenous people and those whose First Nations status is not known. Compare with non-Indigenous Australians.

periocular area is the area surrounding the eyeball but within the orbit.

periorbital is a term that describes the tissue around the eye.

separation: See hospitalisation.

trachoma treatment coverage: The proportion of active cases and household and/or community contacts requiring azithromycin treatment according to CDNA National Guidelines for the public health management of trachoma (CDNA, 2014).

trachomatous trichiasis (trichiasis): at least one eyelash from the upper eyelid touches the eyeball, or evidence of recent epilation of in-turned eyelashes from the upper eyelid (World Health Organization, 2019).

vision impairment: Presenting distance visual acuity of <6/12 in the better eye.

vision loss: Vision impairment plus blindness.

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For more information, see Eye Health measures for Aboriginal and Torres Strait Islander people 2024.