



THE AUSTRALIAN EYE & EAR HEALTH SURVEY

**A Nationwide Survey of Eye and
Ear Health, Vision and Hearing
Impairment in Australia**



Summary Report
14 July 2025
Revised 29 Sept 2025

A Summary report of the Australian Eye and Ear Health Survey (AEEHS), prepared by the Centre for Vision Research, Westmead Institute for Medical Research, on behalf of the AEEHS Consortium.

The Full report is available from the Department of Health, Disability and Ageing (www.health.gov.au), Vision 2020 Australia (www.vision2020australia.org.au), or by contacting Prof Paul Mitchell (paul.mitchell@sydney.edu.au).

Report Authors

Richard Kha¹, Gerald Liew¹, Gary Low¹, George Burlutsky^{1,2}, Yasemin Kapucu¹, Colina Waddell⁴, Alemka Davis⁴, Tim Fricke^{3,5}, Oonagh Macken², Eleanor Yang³, Andrew White¹, Bamini Gopinath², Lisa Keay³, Paul Mitchell^{1,2}

1. Centre for Vision Research, Westmead Institute for Medical Research, University of Sydney, Sydney, NSW, Australia
2. Macquarie University Hearing, Macquarie University, Sydney, NSW, Australia
3. School of Optometry and Vision Science, UNSW, Sydney, NSW, Australia
4. Brien Holden Foundation, Sydney, NSW, Australia
5. Australian College of Optometry, Melbourne, VIC, Australia

The AEEHS logo was designed by Indigenous Artist/Graphic Designer Kyara Fernando, a Dunghutti woman from Kempsey on the Mid North Coast of New South Wales. The design that she created incorporates concepts focused on the eye, ear and the outlining of Australia to symbolically represent the vision and hearing within Australia. The hands were designed to represent the identity of the people, all people of Australia. Drawn patterns of leaves show the connection to country and provide an environmental and nature feeling, whilst the lines are a visual representation of sound, vibrations echoing through the land. The Eye and the Ear symbols from the centre of the painting/print formed concepts for the logo.

Table of Contents

Glossary of abbreviations used.....	4
Definitions	5
Foreword to the Australian Eye and Ear Health Survey	7
Vision and Hearing Impairment in Australia.....	9
Overview of the Australian Eye and Ear Health Survey	12
Eye Health Findings	16
Ear Health Findings	27
Conclusions.....	38
References	42
Acknowledgements.....	44
The AEEHS Team	46

Glossary of abbreviations used

ABS	Australian Bureau of Statistics
AEHHS	Australian Eye and Ear Health Survey
ACT	Australian Capital Territory
AMD	Age-related Macular Degeneration
BMES	Blue Mountains Eye Study
CI	Confidence Interval
LogMAR	Logarithm of the Minimum Angle of Resolution
OCT	Optical Coherence Tomography
NEHS	National Eye Health Survey
NHMRC	National Health and Medical Research Council
NIEHS	National Indigenous Eye Health Survey
NSW	New South Wales
NT	Northern Territory
QLD	Queensland
RA	Remoteness Area
SA	South Australia
SA1	Statistical Area Level 1
SA2	Statistical Area Level 2
TAS	Tasmania
VA	Visual Acuity
VIC	Victoria
VIP	[Melbourne] Visual Impairment Project
WA	Western Australia
WHO	World Health Organisation
WIMR	Westmead Institute for Medical Research

Definitions

Age-standardisation	A statistical technique used to allow populations to be compared when the age profiles of the populations differ. Also known as age-adjustment in this context.
Age-related macular degeneration	A degenerative disease that affects the central area of the retina called the macula, causing it to thin and in some cases bleed, causing loss of vision
Auto-refractor	A machine used to provide an objective measurement of a person's refractive error and prescription for correction
Blindness	Presenting distance visual acuity <6/60 in the better eye
Cataract	A cloudy area on the lens of the eye, formed when protein in the lens becomes opaque, limiting the amount and clarity of light passing through the lens to the retina thereby causing poor vision.
Diabetic retinopathy	Diabetic retinopathy is a complication of diabetes that damages blood vessels causing bleeding and swelling in the retina at the back of the eye. It commonly affects both eyes and can lead to vision loss if it is not treated
Glaucoma	A group of eye diseases in which the optic nerve at the back of the eye is slowly damaged. In most people this damage is due to increased pressure inside the eye - a result of blockage of the circulation of aqueous, or its drainage. In other patients the damage may be caused by poor blood supply to the vital optic nerve fibres, a weakness in the structure of the nerve, and/or a problem in the health of the nerve fibres themselves
Hearing impairment	Hearing impairment was determined as the four-frequency pure-tone average of audiometric hearing thresholds at 500, 1000, 2000 and 4000Hz, with hearing impairment defined as hearing thresholds >25dB hearing level (dB HL).
Intraocular pressure	The fluid pressure inside the eye
Mydriatic	Pertaining to or producing pupil dilation
Optical Coherence Tomography	A non-invasive means of scanning the retina and optic disc using infrared imaging, providing high resolution cross-sectional images of these structures

Pure tone audiometry	Standardised hearing test that measures an individual's hearing thresholds across a range of frequencies using pure tones delivered through headphones. It helps determine the softest sounds a person can hear at various pitches, and is commonly used to diagnose the type and severity of hearing loss.
Refractive error	A condition in which light that passes through the front of the eye fails to focus precisely on the retina. It causes long or short sightedness and difficulties changing focus
Stratified sampling	A type of sampling method in which the population is divided into separate groups, called strata, from each of which a sample is selected
Tympanometry	An objective test that evaluates the movement of the eardrum (tympanic membrane) in response to changes in air pressure within the ear canal. It helps assess middle ear function and can identify issues such as fluid behind the eardrum, ear infections, or eustachian tube dysfunction.
Video otoscopy	A procedure that uses a specialised camera (video otoscope) to visually examine and capture images or video of the ear canal and eardrum. It allows for real-time viewing and documentation of ear health.
Vision impairment	Presenting distance visual acuity $<6/12$ in the better eye

Foreword to the Australian Eye and Ear Health Survey

Full and Summary Reports from the Australian Eye and Ear Health Survey, 14 July 2025, are now complete. This Survey owes its origins to the first nationwide eye health survey conducted during 2015 and 2016, the National Eye Health Survey (NEHS).

Vision 2020 Australia had the foresight to call for a second survey to assess whether progress had been made in reducing the frequency and impact of vision impairment.

This survey was funded by the Australian Government Department of Health, Disability and Ageing. We are most grateful for this funding, which has enabled the Eye Survey to proceed to completion. We are also grateful for funding of the hearing component of the survey by the Martin Lee Centre for Innovations in Hearing Health, Macquarie University.

The project team, led by Dr Richard Kha, the first author of these reports, together recently with Ms Mayuri Indrakumar, Ms Michelle Fu and Ms Oonagh Macken recently in the field, worked with extraordinary discipline and enthusiasm, to complete the examination of 4,519 Australians, living at 30 randomly selected sites across the six states and two territories. As well as building on the vision impairment data generated by the NEHS, this new survey added advanced ophthalmic imaging to define eye conditions in much greater detail than possible in the first survey. It has also added assessment of hearing loss, the second key sensory impairment, as the first nationwide survey of this key disability.

Dr Richard Kha, A/Prof Gerald Liew and Dr Gary Low have been the key contributors to the writing of these reports, with help from other principal investigators, Prof Lisa Keay, Prof Bamini Gopinath, Dr Tim Fricke, Ms Colina Waddell, and others including Dr

Yasemin Kapucu, Dr George Burlutsky, Ms Oonagh Macken, Ms Eleanor Yang and A/Prof Andrew White.

Finally, I need to personally thank the 4,519 Australians who voluntarily donated their time and enthusiasm to be questioned and examined in the survey, as well as all the other staff and collaborators, too many to list here individually, who have worked tirelessly on the survey over the last 3 years.

Key scientific reports will be developed from these data for international publication, and it is hoped that these contributions will further grow our knowledge about the eye and ear health of the Australian community.

A handwritten signature in black ink, appearing to read 'Paul Mitchell', with a stylized, cursive script.

Prof Paul Mitchell AO, MBBS, MD, PhD, FRANZCO, FRACS, FRCOphth, FAFPHM

**Westmead Institute for Medical Research,
University of Sydney**

Vision and Hearing Impairment in Australia

Vision and hearing impairment are frequent among older adults and have far-reaching physical, mental and societal impacts.¹⁻¹¹ The prevalence of both vision and hearing impairment increases exponentially with age. According to estimates from the Global Burden of Disease study in 2020, there were 596 million people living with vision impairment worldwide, of whom 43 million were blind.¹²

Four major population-based prevalence studies on vision impairment and blindness have been conducted in Australia.¹³⁻¹⁶ The Blue Mountains Eye Study (BMES) examined 3654 participants aged 49 years and older in Sydney's west in 1992-1994 and found a prevalence of best corrected bilateral vision impairment of 4.7%.¹³ The Melbourne Vision Impairment Project (MVIP) examined 5147 participants aged 40 years and older in Melbourne in 1992-1996, and found a prevalence of presenting bilateral vision impairment of 7.1% in the total study population including nursing home residents,¹⁷ and 4.3% excluding nursing home residents.¹⁶

The National Indigenous Eye Health Survey (NIEHS) was conducted in 2008 and focused on the prevalence and causes of vision impairment in Indigenous Australians. The study recruited 1,694 Indigenous children (5 to 15 years) and 1,189 Indigenous adults (40 years and older) from 30 randomly selected communities across Australia. Among Indigenous adults, the age-standardised prevalences of presenting bilateral vision impairment and blindness were 8.6% and 1.8%, respectively.¹⁵ More recently, the National Eye Health Survey (NEHS)¹⁸ was conducted in 2015-2016 and examined 3,098 non-Indigenous Australians aged 50 years and older, and 1,738 Indigenous

Australians aged 40 years and older, from 30 randomly selected sites across Australia, a total sample of 4,836 older adults. The overall prevalence of presenting bilateral vision impairment from this study was 6.6%,¹⁴ with an almost 3-fold higher age-standardised prevalence among Indigenous Australians (13.6%) compared to non-Indigenous Australians (4.6%).¹⁴ The most frequent cause of bilateral vision impairment was uncorrected refractive error, followed by cataract, age-related macular degeneration (AMD) and diabetic retinopathy.¹⁴

Since the completion of the first NEHS,¹⁸ there has been further ageing of the Australian population, with a likely increase in prevalence of age-related eye diseases. There is also a higher prevalence of diabetes in Australia, with a consequent likely increase in diabetic retinopathy. There is continued emphasis on closing the gap in Indigenous eye care, with initiatives to improve eye health, prevent and treat eye diseases as they occur. Updated contemporary data were needed, and a follow-up study to establish the current prevalence of bilateral vision impairment, blindness and eye diseases among both Indigenous and non-Indigenous Australians was commissioned by the Department of Health, Disability and Ageing.

Hearing impairment is another pervasive sensory organ impairment that increases markedly with age.¹⁹ Despite the major health and functional implications of hearing loss,^{2,6,20,21} data on the prevalence of hearing loss in Australia remain limited, with only the Blue Mountains Hearing Study (BMHS)^{7,21-23} having reported these data to date. The BMHS was conducted from 1997-2000, recruited 2956 non-Indigenous adults aged 55 years and over, and reported prevalence rates of bilateral hearing impairment of 39.1%, 13.4% and 2.2% for mild, moderate and severe to profound bilateral hearing

impairment, respectively. The Hearing Health Sector Committee's Roadmap for Hearing Health²⁴ has recently highlighted the need for action to identify and prevent hearing loss, as well as to close the gap for Indigenous ear and hearing health.²⁴

These initiatives led to the Australian Eye and Ear Health Survey (AEEHS), with a focus on evaluating both eye and ear health in a representative sample of contemporary Australia, which included some 30 sites across all Australian states and Territories.

Overview of the Australian Eye and Ear Health Survey

The Australian Eye and Ear Health Survey (AEEHS) is a nationwide survey of sensory impairment, eye, ear, and general medical health of Australians sampled from 30 selected sites from all six Australian States and two Territories. The survey utilised stratified, multi-stage random cluster sampling to select recruitment sites²⁵ and was conducted between August 2022 and March 2025. These sites covered every State and Territory, a range of Remoteness Areas and geographical areas, and recruited all eligible Indigenous and non-Indigenous persons living in the area aged 50+ years and older. The final 30 sites that were visited are listed in **Table 1** with the total number of Indigenous and non-Indigenous persons who could potentially be targeted from each site. The geographical distribution of the survey sites across the Australian continent is illustrated in **Figure 1**, with further details/maps of each individual site and how they were selected provided in the **Full Report**.

During the survey period, 18,145 homes were door-knocked, with a response rate of 73.7% achieved. The survey recruited a total of 4,519 participants for the eye survey, of whom 617 (13.6%) were Indigenous and 3,902 (86.4%) were non-Indigenous. For the hearing survey, 3,573 of the 4,519 eye study participants were recruited, of whom 461 (12.9%) were Indigenous and 3,112 (87.1%) were non-Indigenous.

Participants underwent a comprehensive eye and ear examination. The eye examination included presenting LogMAR visual acuity, auto-refraction, visual acuity after best-corrected refraction, automated perimetry, intraocular pressure, axial length measurements, plus dilated, ultrawide-field retinal photography, fundus

autofluorescence, optical coherence tomography (OCT), OCT angiography and detailed slit lamp examination.

The ear examination included video otoscopy, pure tone audiometry and tympanometry. A detailed medical, ophthalmic and hearing history was obtained through an interviewer-administered questionnaire, and an additional take-home questionnaire was given to participants to complete online or on a paper copy mailed back to the Westmead Institute for Medical Research.

In line with previous Australian eye surveys and the NEHS, bilateral vision impairment was defined as presenting visual acuity of <6/12 to 6/60 in the better eye. Bilateral blindness was defined as presenting visual acuity of <6/60 in the better eye.

Hearing ability was determined as the four-frequency pure-tone average (PTA) of audiometric hearing thresholds at 500, 1000, 2000 and 4000Hz, with hearing impairment defined using the World Health Organisation (WHO) guidelines as hearing thresholds >25dB hearing level (dB HL). Hearing impairment was stratified as mild (>25 to 40dB HL), moderate (>40 to 60dB HL), severe (>60 to 80dB HL), and profound (>80dB HL).^{23,26,27} Any bilateral hearing impairment was defined as a hearing threshold >25dB HL in the better ear. Moderate or worse bilateral hearing impairment (>40 dB HL, better ear) was considered a useful measure of likely or frequent hearing disability.

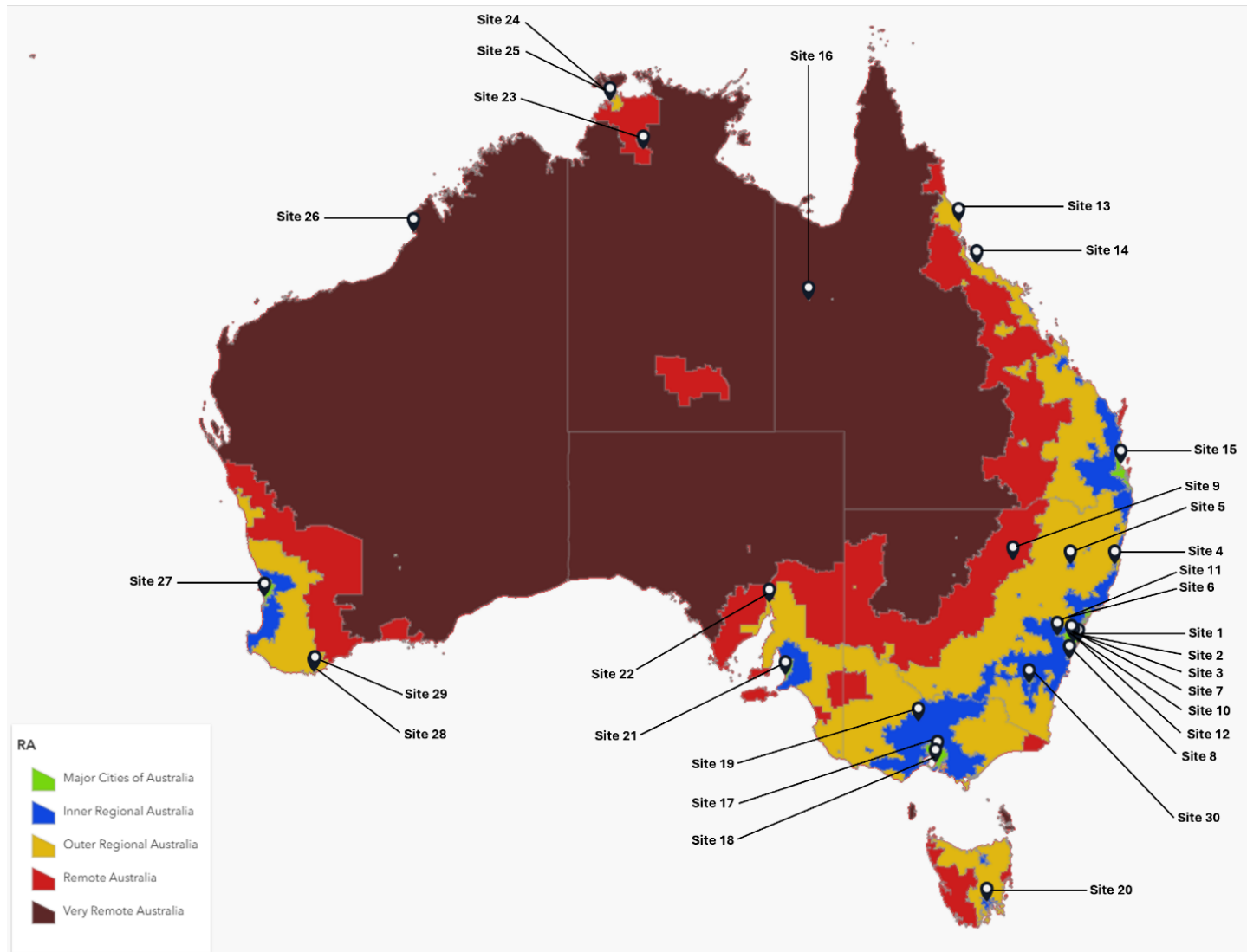
Table 1. Sites visited in the Australian Eye and Ear Health Survey

Site Number	SA2 Name	State	RA	Area (sq/km)	Indigenous n (%)	Non-Indigenous n (%)
1	Malabar-Chifley-La Perouse	NSW	1	11.83	4(0.6)	56(1.4)
2	Toongabbie	NSW	1	7.48	5(0.8)	101(2.6)
3	Seven Hills	NSW	1	11.20	1(0.2)	158(4.1)
4	Kempsey	NSW	2	195	54(8.7)	89(2.3)
5	Tamworth-North	NSW	2	76.04	34(5.5)	107(2.7)
6	Katoomba-Leura	NSW	1	40.87	5(0.8)	270(6.9)
7	Padstow	NSW	1	6.51	1(0.2)	149(3.8)
8	Warilla	NSW	1	9.49	2(0.3)	159(4.1)
9	Coonamble	NSW	4	12142	22(3.6)	1(0.03)
10	Greystanes-Pemulwuy	NSW	1	11.85	0(0.0)	257(6.6)
11	Wentworth Falls	NSW	1	21.04	0(0.0)	137(3.)
12	Revesby	NSW	1	5.09	2(0.3)	143(3.7)
13	Garbutt-West End	QLD	3	17.05	21(3.4)	33(0.8)
14	Innisfail	QLD	3	53.05	38(6.2)	61(1.6)
15	Margate-Woody Point	QLD	1	4.28	0(0.0)	110(2.2)
16	Mount Isa*	QLD	4/5	62.81	73(11.8)	72(1.8)
17	Clarinda-Oakleigh South	VIC	1	6.32	1(0.2)	160(4.1)
18	Mornington	VIC	1	21.09	1(0.2)	115(3.0)
19	East Bendigo-Kennington	VIC	2	17.15	5(0.8)	197(5.1)
20	Montrose-Rosetta	TAS	2	5.73	6(1.0)	151(3.9)
21	Christies Beach	SA	1	7.22	20(3.2)	108(2.8)
22	Port Augusta	SA	3	254	81(13.1)	80(2.1)
23	Katherine Region*	NT	4/5	7417	124(20.1)	105(2.7)
24	Parap	NT	3	1.10	16(2.6)	86(2.2)
25	Jingili	NT	3	1.32	16(2.6)	82(2.1)
26	Broome	WA	4	50.04	65 (10.5)	66 (1.7)
27	Rockingham	WA	1	35.72	0(0.0)	207(5.3)
28	Albany	WA	3	30.50	12 (1.9)	174(4.4)
29	Bayonet Head-Lower King	WA	3	24.87	4 (0.6)	138 (3.5)
30	Monash	ACT	1	3.41	4(0.7)	330(8.5)

RA = Remoteness Area (remoteness classification derived from the 2016 Australian Statistical Geography Standard (ASGS). SA2 = Statistical Area Level 2: medium-sized general-purpose areas built up from whole Statistical Areas Level 1, having average population of ~10,000 persons and represent a community that interacts together socially and economically.

*Katherine region: Recruitment included Mataranka (very remote). Mt Isa is classified as both remote and very remote.

Figure 1. Distribution of AEEHS survey sites across the Australian continent by Remoteness Area (RA)



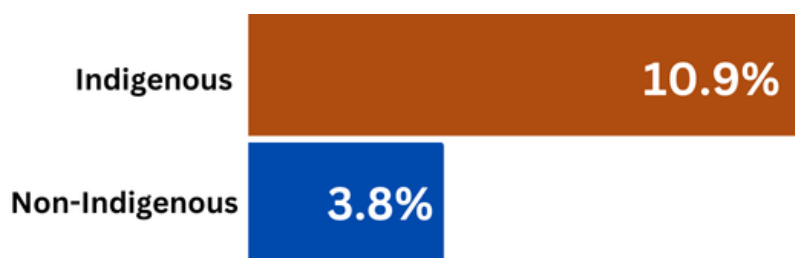
Eye Health Findings

- For most analyses, we have age-standardised the AEEHS prevalences found to the 2021 Australian population (Census 2021) for both Indigenous and non-Indigenous subgroups.
- The AEEHS found an age-standardised prevalence of bilateral vision impairment of 10.9% for Indigenous participants and 3.8 % for non-Indigenous participants. This represents an almost 3-fold higher age-standardised prevalence of bilateral vision impairment for Indigenous participants. The age-standardised prevalence of vision impairment in the total sample was 5.1%.
- These age-standardised prevalences of bilateral vision impairment are lower than those reported from the NEHS^{14,18} of 13.6% in Indigenous and 4.6% in non-Indigenous participants. This suggests there has been a small reduction in the prevalence of bilateral vision impairment among both Indigenous (-2.7%) and non-Indigenous Australians (-0.8%) over the intervening 8-9 years between the two surveys. Despite this absolute reduction in bilateral vision impairment, the gap remained similar, with almost 3-fold higher rates in Indigenous compared to non-Indigenous Australians.
- The age-standardised prevalence of moderate bilateral vision impairment (WHO definition) was 2.4% in Indigenous Australians and 0.4% in non-Indigenous Australians. Compared to the NEHS,^{14,18} this represents an almost 50% reduction in moderate vision impairment prevalence in both Indigenous (from 4.6% to 2.4%) and non-Indigenous (from 1.0% to 0.4%) Australians since the NEHS. Nonetheless,

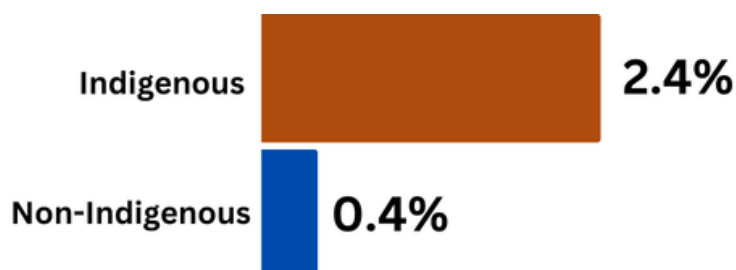
the prevalence of moderate vision impairment was still 6 times greater among Indigenous Australians than in non-Indigenous Australians.

- The age-standardised prevalence of bilateral blindness was slightly higher in the AEEHS among Indigenous Australians (0.4%) compared to non-Indigenous Australians (0.2%). This has remained similar compared to the NEHS^{14,18} (0.4% for Indigenous, 0.1% for non-Indigenous Australians).

There has been a small reduction in rates of vision impairment among both Indigenous and non-Indigenous Australians, but a substantial gap remains*

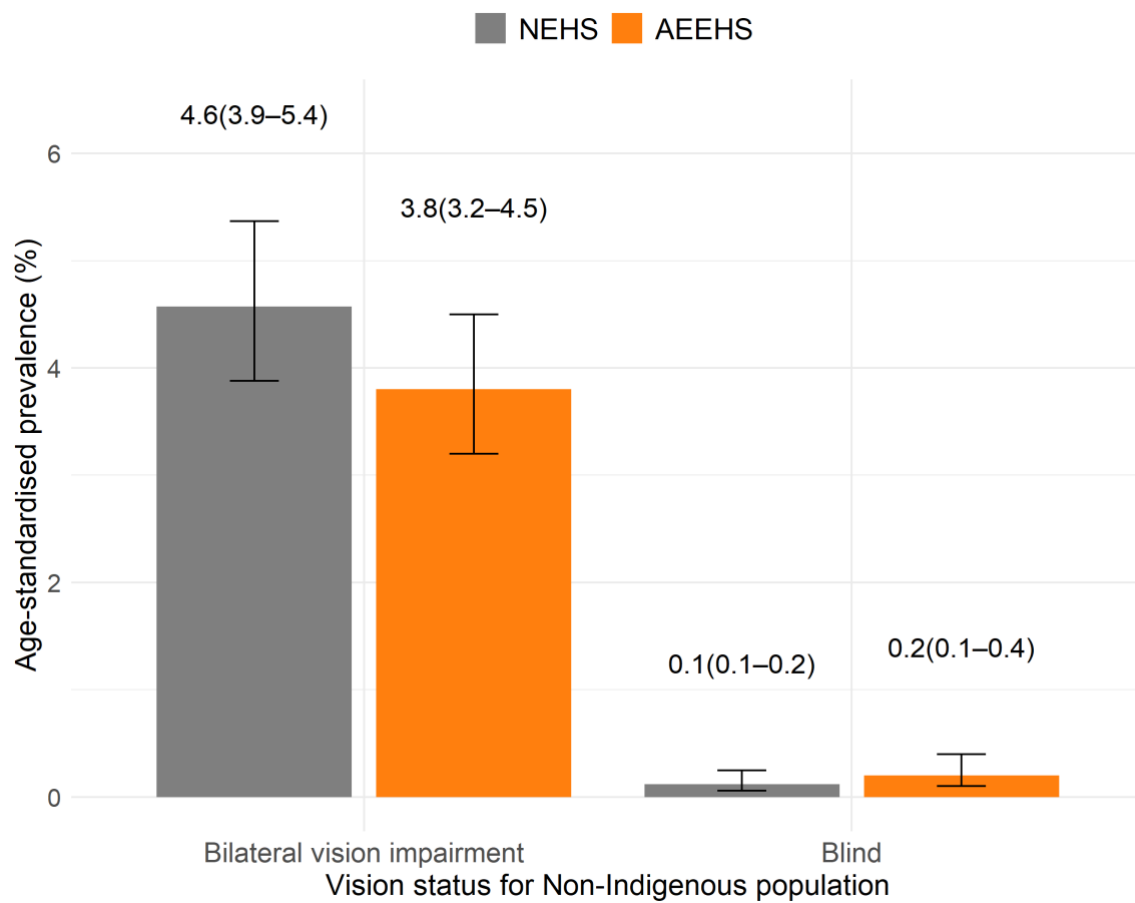
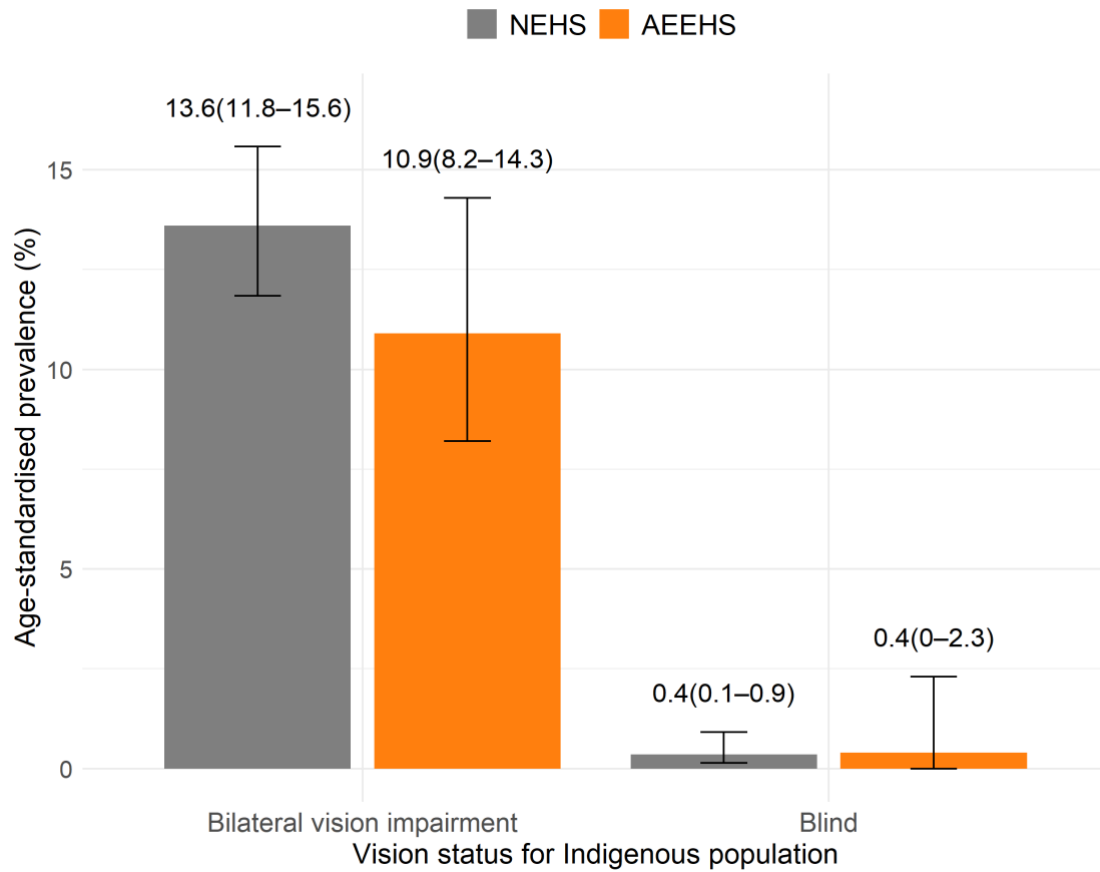


The prevalence of vision impairment is **3x** higher in Indigenous Australians compared to non-Indigenous Australians

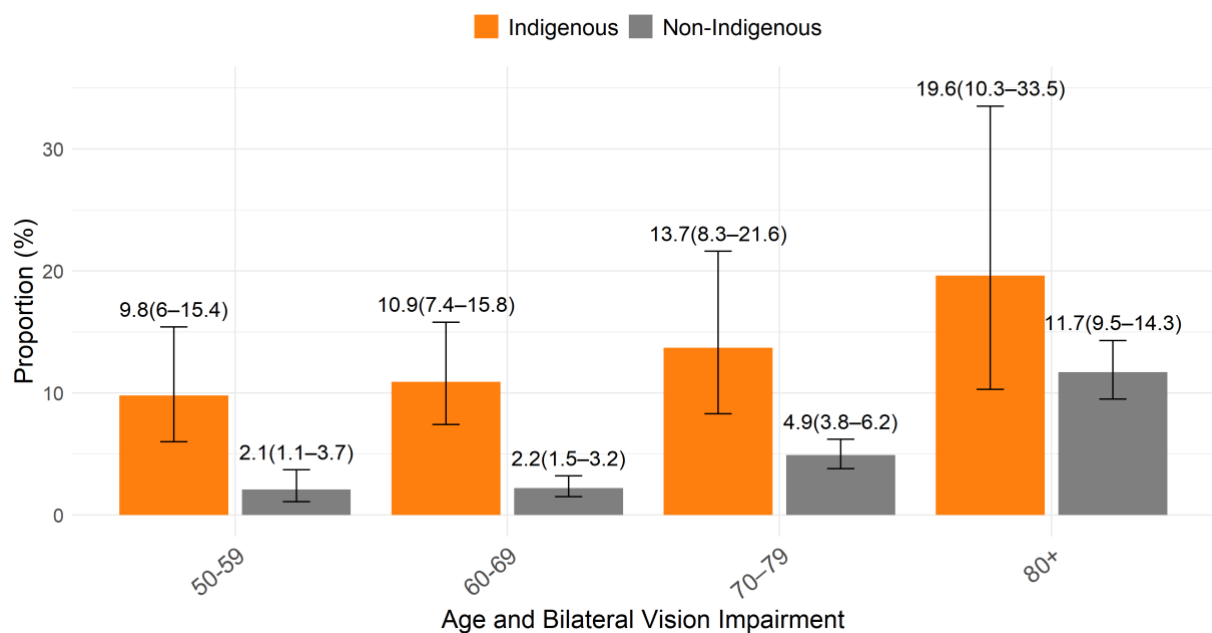


The prevalence of moderate vision impairment is **6x** higher in Indigenous Australians compared to non-Indigenous Australians

***Among Indigenous and non-Indigenous Australians aged 50 years and over**



- Bilateral vision impairment was highly age-dependent, with a prevalence of 9.8% (Indigenous) and 2.1% (non-Indigenous) in those aged 50-59 years and increased linearly with age to 19.6% (Indigenous) and 11.7% (non-Indigenous) for those aged 80+ years.

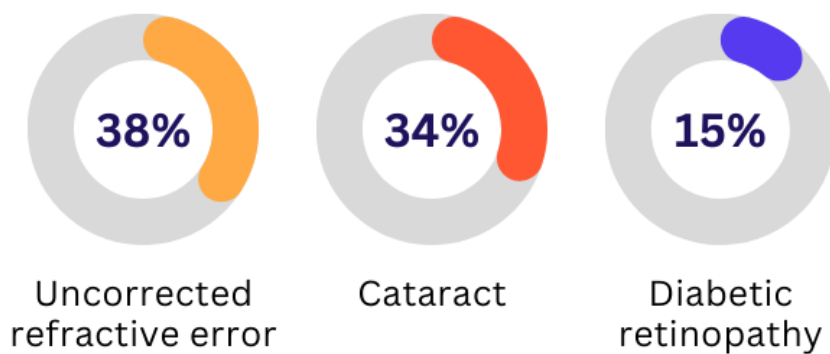


In every age group, the prevalence of bilateral vision impairment was

2-5x higher in Indigenous Australians compared to non-Indigenous Australians

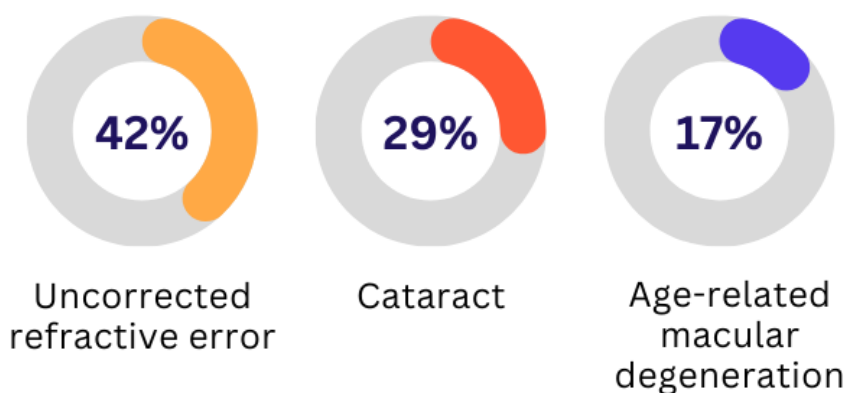
- The main causes of presenting bilateral vision impairment were similar for Indigenous and non-Indigenous Australians. The relative importance of each cause was similar as well, except for diabetic retinopathy, which was more prevalent as a cause of vision impairment among Indigenous Australians, and age-related macular degeneration (AMD), which was more prevalent among non-Indigenous Australians. This was likely due in part to the relatively younger age and higher diabetes prevalence of the Indigenous participants.

Indigenous Australians aged 50+



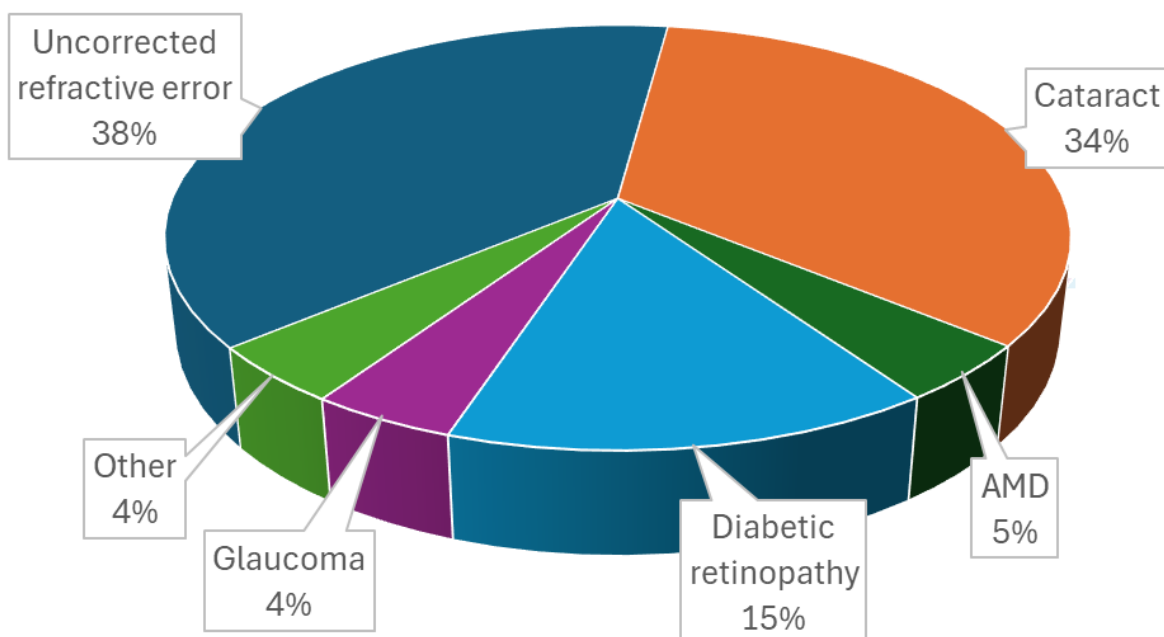
The leading causes of bilateral vision impairment in Indigenous Australians were: (1) uncorrected refractive error, (2) cataract and (3) diabetic retinopathy

Non-Indigenous Australians aged 50+

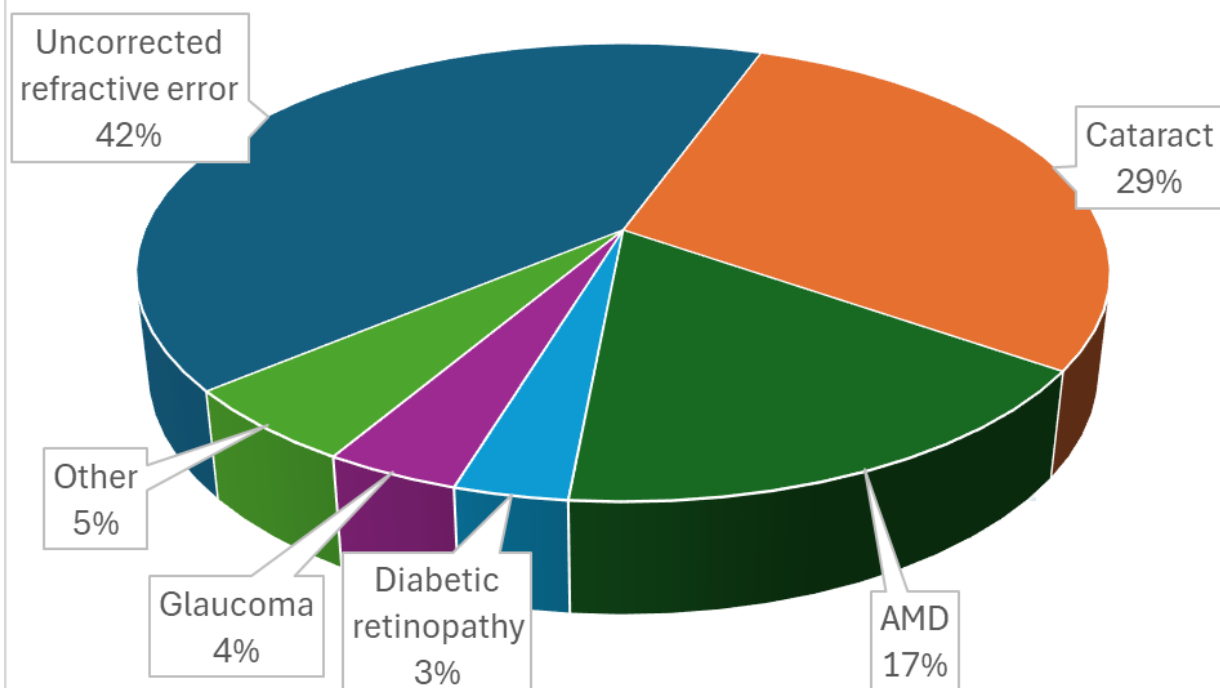


The leading causes of bilateral vision impairment in Non-Indigenous Australians were: (1) uncorrected refractive error, (2) cataract and (3) age-related macular degeneration

Causes of bilateral vision impairment in Indigenous Australians



Non-Indigenous Australians



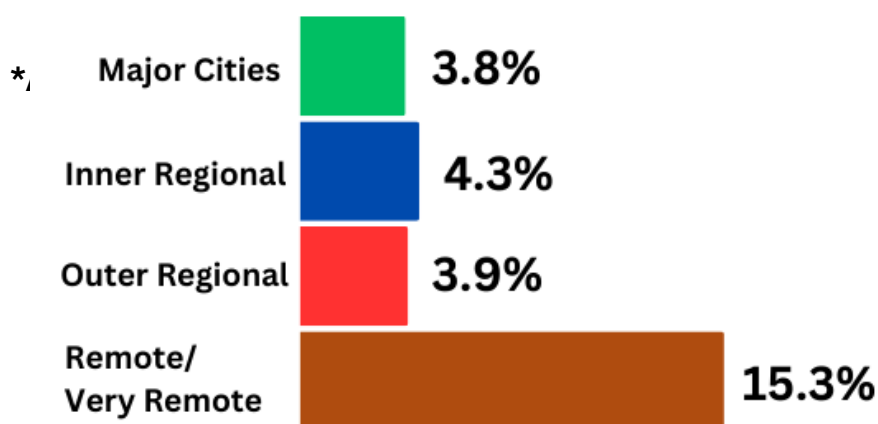
***Among Australians aged 50 years and over**

- Most bilateral vision impairment/ blindness in both Indigenous and non-Indigenous Australians aged 50 years or older was found in Remote geographical settings (age-standardised prevalence 15.8% and 11.4% respectively, total 15.3% for whole sample), while the lowest rates were found in Outer Regional areas for Indigenous Australians (6.3%), and in Inner Regional areas for non-Indigenous Australians (1.8%).

\

- The age-standardised prevalence of unilateral vision impairment and blindness was 6.7% and 1.1% among Indigenous Australians, and 4.9% and 1.5% in non-Indigenous Australians aged 50 years or older, respectively. These rates of unilateral vision impairment and blindness were similar among both Indigenous and non-Indigenous Australians.

The highest proportion of bilateral vision impairment in both Indigenous and Non-Indigenous Australians was found in Remote/Very Remote areas



The total prevalence of bilateral vision impairment was 4x higher in remote/very remote areas compared to other geographical areas

- The total prevalence of any vision loss (bilateral or unilateral vision impairment or blindness) was 14.5% among Indigenous and 10.3% among non-Indigenous Australians aged 50 years and over. This points to the considerable impact of vision impairment in the Australian population, with 1 in 7 Indigenous and 1 in 10 non-Indigenous older Australians affected and requiring some sort of vision remedial therapy.

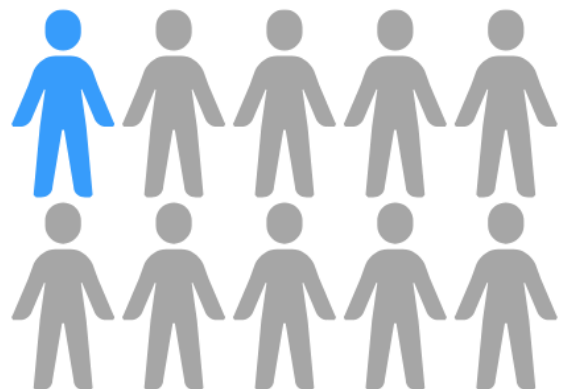
1 IN 7

Indigenous Australians have
some form of vision loss



1 IN 10

Non-Indigenous Australians
have some form of vision loss



***Among Australians aged 50 years and over**

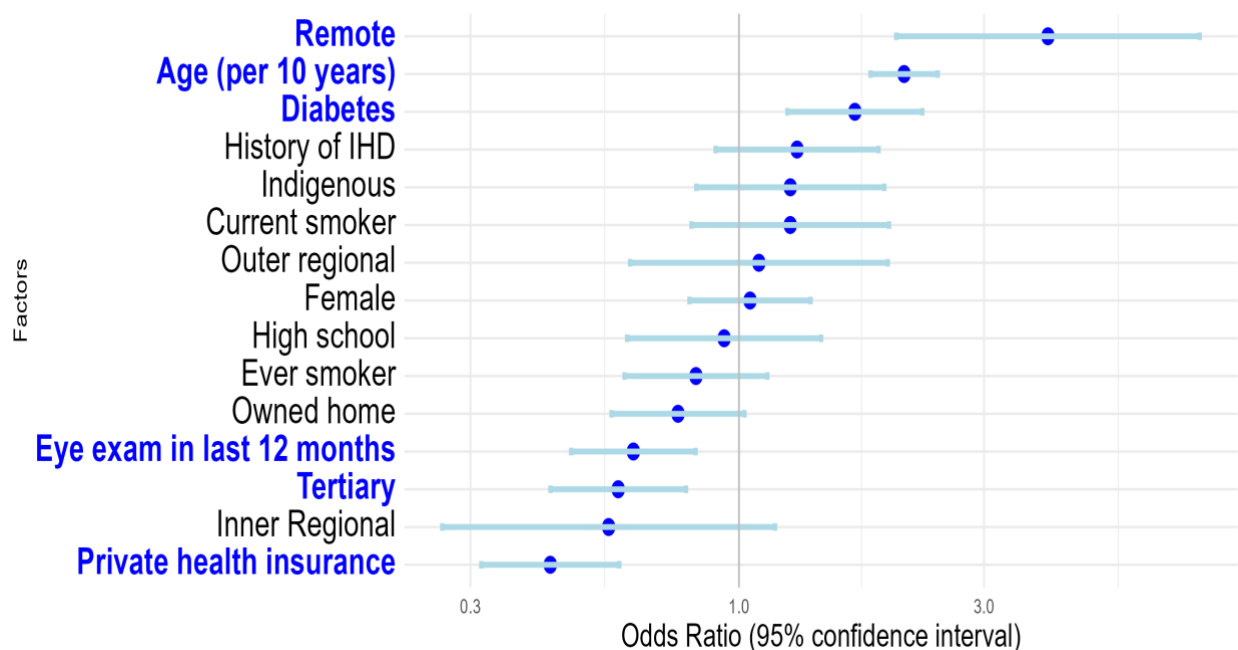
- Compared to the NEHS,^{14,18} there has been a considerable reduction in the proportion of bilateral vision impairment in both Indigenous and non-Indigenous Australians attributable to uncorrected refractive error, from 63.4% and 61.7%, respectively, in the NEHS, down to 38.2% and 41.6% in the AEEHS, respectively. There was a corresponding increase in the proportion of bilateral vision impairment attributable to cataract, age-related macular degeneration, diabetic retinopathy and glaucoma in both Indigenous and non-Indigenous Australians.
- The cataract surgery coverage rate was 87.6% in Indigenous and 95.8% in non-Indigenous Australians. This represents a considerable improvement in cataract surgery coverage for both groups since the NEHS,¹⁸ (61.5% for Indigenous and 87.6% for non-Indigenous Australians, respectively) as well as a substantial closing of the cataract surgery coverage gap between the two groups from 26.1% in NEHS to 8.2% in AEEHS. Similarly, there has been an improvement in refractive error coverage in both Indigenous (83.3% to 90.3%) and non-Indigenous (93.7% to 96.8%) Australians, which may help explain the reduced vision impairment and changes in the relative importance of uncorrected refractive error.
- The total effective cataract surgery coverage rate was 85.3%. The effective cataract surgery coverage rate was greater for non-Indigenous (87.4%) compared to Indigenous participants (70.5%). The total effective refractive error coverage rate was 94.4%. The effective refractive error coverage rate was greater for non-Indigenous participants (95.2%) compared to Indigenous participants (87.0%).

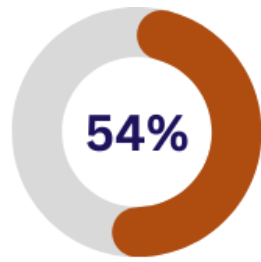
There has been a reduction in the proportion of vision impairment among persons aged 50 years or older due to uncorrected refractive error, and a corresponding increase in the proportion due to cataract, diabetic retinopathy, AMD, and glaucoma. This change has occurred in both Indigenous and non-Indigenous Australians.

- The National Health and Medical Research Council (NHMRC) guidelines recommend a minimum of yearly diabetic eye checks for Indigenous persons with diabetes, and two yearly for non-Indigenous persons. The AEEHS found 54% of Indigenous participants complied with this recommendation, compared with 65% of non-Indigenous participants. These rates are lower than those found in the NEHS (64% for Indigenous, 78% for non-Indigenous) and may partly reflect the effect of the COVID-19 pandemic, which prevented and delayed in-person health screening.
- In multivariable regression analyses, living in remote or very remote areas, increasing age and the presence of diabetes were identified as major risk factors for bilateral vision impairment or blindness. Remoteness was the strongest risk factor, affecting both Indigenous and non-Indigenous participants. Having an eye exam in the last year, higher education levels and private health insurance predicted a lower likelihood of vision impairment or blindness.
- Many of these risk or protective factors are modifiable, suggesting areas where health promotion initiatives could be better targeted.

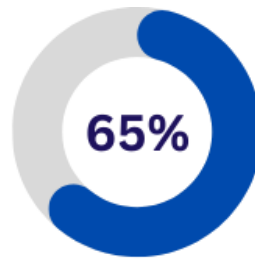
- After adjusting for these factors, the risk of bilateral vision impairment or blindness associated with Indigenous status attenuated considerably, suggesting that better addressing remoteness, diabetes and socio-economic disadvantage could significantly contribute to closing the gap.

Multivariable adjusted risk factors for bilateral vision impairment or blindness, in all participants. Factors with odds ratios and 95% confidence intervals that are fully over 1.0 are associated with an increased risk, while those fully below 1.0 are associated with a reduced risk; those that include 1.0 are not significant.





Indigenous



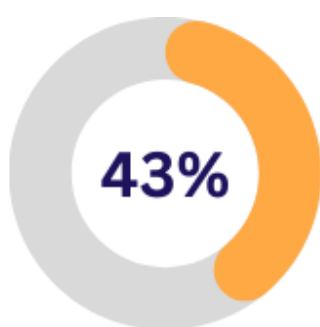
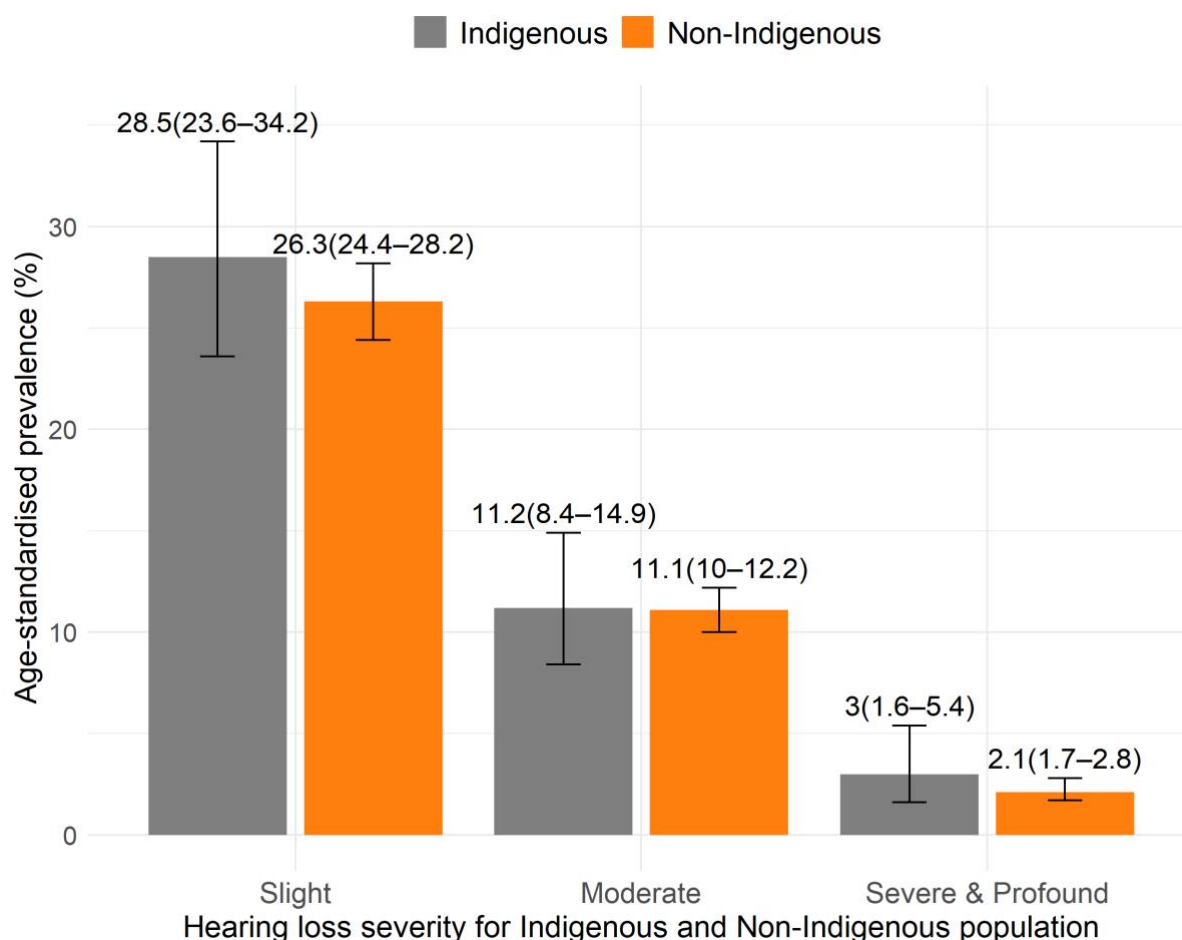
Non-Indigenous

54% of Indigenous participants and 65% of Non-Indigenous participants complied with the NHMRC recommendations for eye examinations (every year for Indigenous; every 2 years for non-Indigenous)

***Among Australians aged 50 years and over**

Ear Health Findings

- The crude prevalence of any bilateral hearing impairment (hearing impairment >25 dB HL in the better ear, over a 4-frequency average) in the AEEHS was 50.6% and was similar among Indigenous (49.0%) and non-Indigenous (50.8%) Australians. After age-standardisation to the Australian population (2021), the age-standardised prevalence of any bilateral hearing impairment decreased to 42.8% for Indigenous participants and decreased to 39.4% for non-Indigenous participants ($p=0.337$), suggesting a similar age-standardised prevalence of bilateral hearing impairment among Indigenous and non-Indigenous participants aged 50+ years.
- When stratified by the level of hearing impairment as determined by the 4-frequency average of the better ear, 28.5% of Indigenous participants had mild (>25 to 40 dB HL) bilateral hearing impairment, 11.2% had moderate (>40 to 60 dB HL) bilateral hearing impairment, and 3.0% had severe or profound (>60 dB HL) bilateral hearing impairment. By comparison, among non-Indigenous participants, 26.3% had mild, 11.1% moderate, and 2.1% had severe bilateral hearing impairment. These rates do not differ statistically.
- The age-standardised prevalence of moderate or worse bilateral hearing impairment was only marginally greater among Indigenous participants (14.3%) than in non-Indigenous participants (13.2%), in persons aged 50 years or older, overall 14.2%. This difference was not significant.



Indigenous



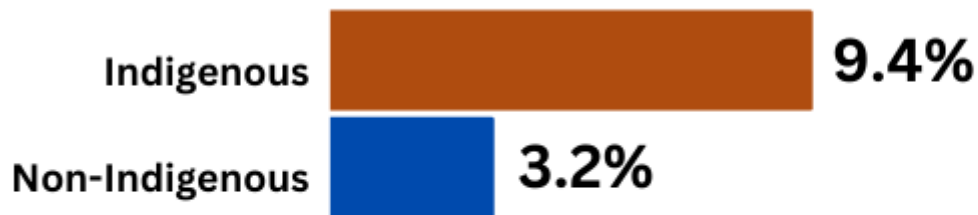
Non-Indigenous

Around 40% of Australians have some form of bilateral hearing impairment. The age-standardised prevalence of all levels of hearing loss was similar among Indigenous and non-Indigenous Australians.

***Among Australians aged 50 years and over**

- The prevalence of bilateral hearing impairment was highly age-dependent, with the highest rates in older Australians. Among Indigenous Australians, the prevalence of any (>25 dB HL) bilateral hearing impairment increased substantially ($p<0.0001$) from 31.7% in those aged 50-59 years, to 45.6% (60-69 years), 65.3% (70-79 years) and 83.3% (80+ years). Among non-Indigenous Australians, the prevalence of any bilateral hearing impairment also increased exponentially ($p<0.0001$) from 15.6% in those aged 50-59 years, to 35.3% (60-69 years), 58.5% (70-79 years) and 84.0% (80+ years). The prevalence of bilateral hearing impairment was higher by 12%-100% among Indigenous participants compared with non-Indigenous participants in every age group except those aged 80+ years, where the prevalence was similar.
- The prevalence of any bilateral hearing impairment was considerably higher in males than females, for both Indigenous (58.5% vs 39.7%) and non-Indigenous participants (55.9% vs 46.9%).
- The prevalence of combined moderate, severe and profound hearing impairment (>40 dB HL in the better ear), among 'younger' Indigenous participants was 3x higher than in similarly aged non-Indigenous participants (9.4% vs 3.2% among those aged 50-59 years). This difference narrowed to 2x higher in the next older age group (14.3% vs 6.9% for those aged 60-69 years) and continued to narrow to 20% higher in those aged 70-79 years (22.4% vs 18.5%) but was similar in the oldest age group (47.6% vs 47.8% in those aged 80+).

50-59 YEAR OLD AUSTRALIANS



60-69 YEAR OLD AUSTRALIANS



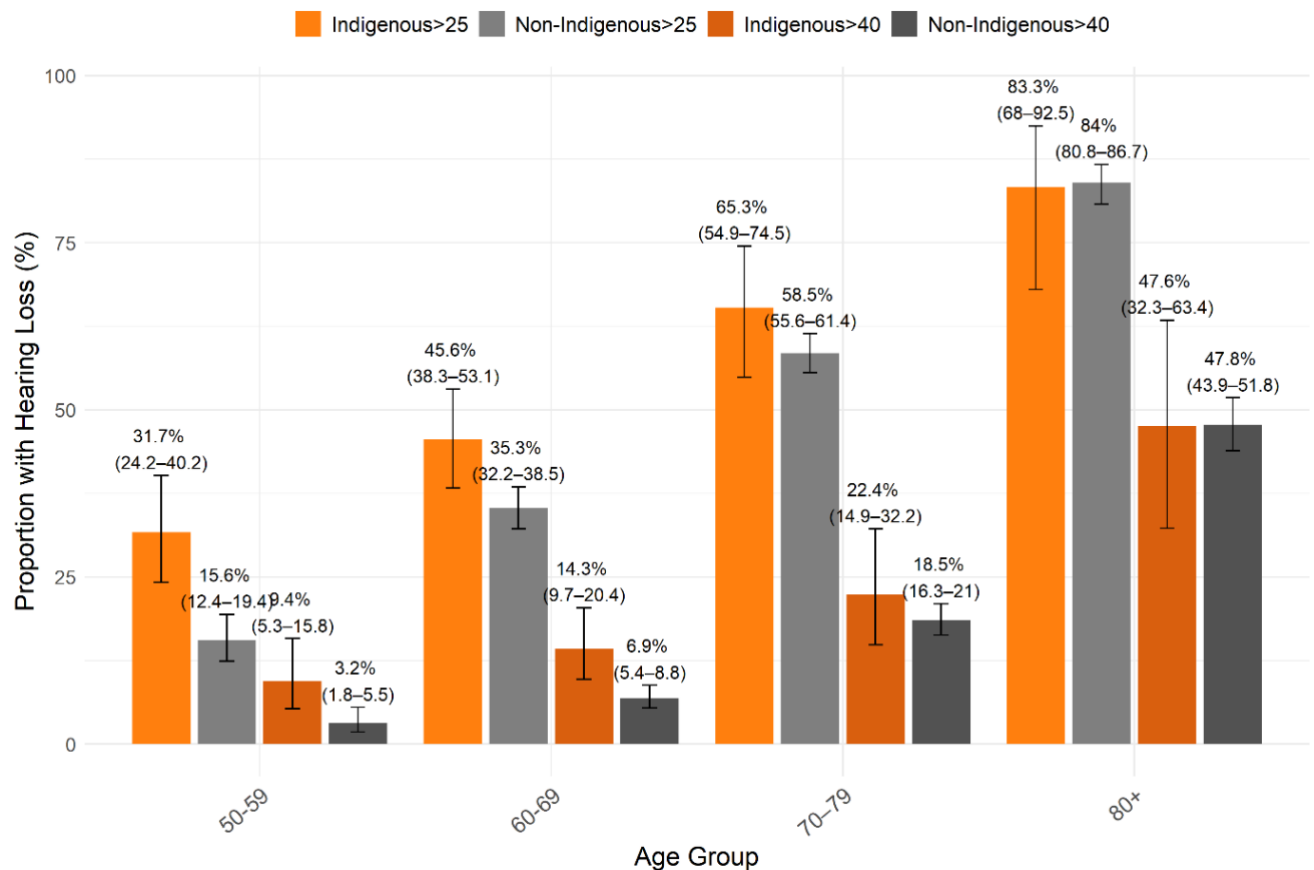
70-79 YEAR OLD AUSTRALIANS



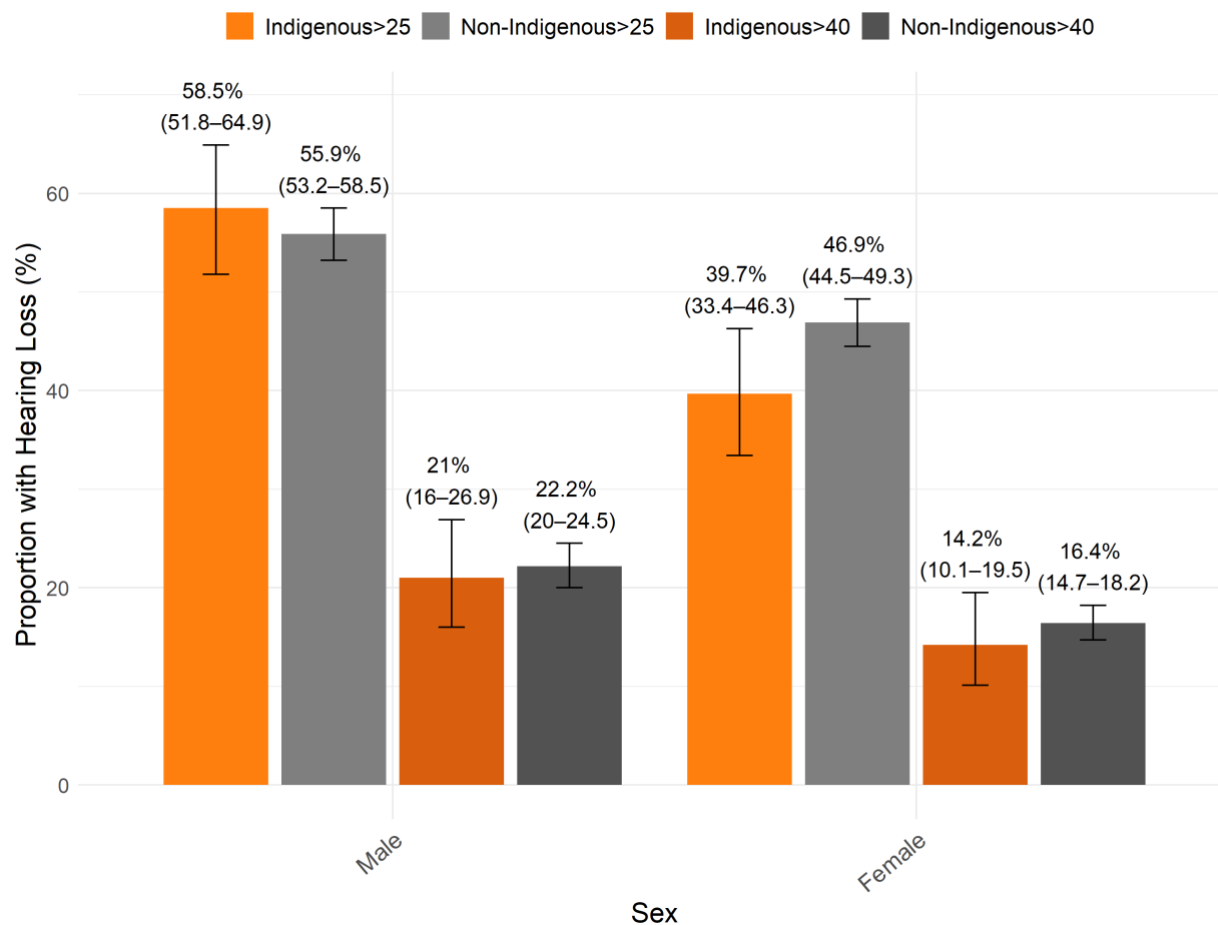
80+ YEAR OLD AUSTRALIANS



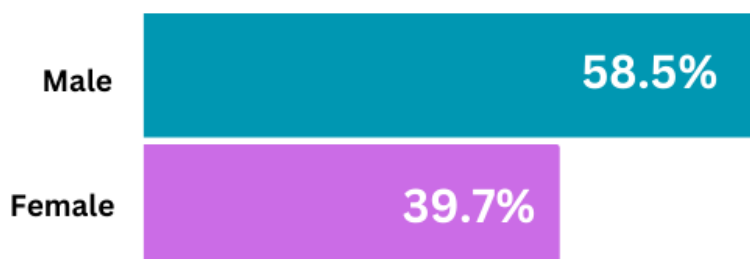
The prevalence of combined moderate, severe and profound hearing impairment disproportionately affects younger Indigenous Australians compared to non-Indigenous Australians



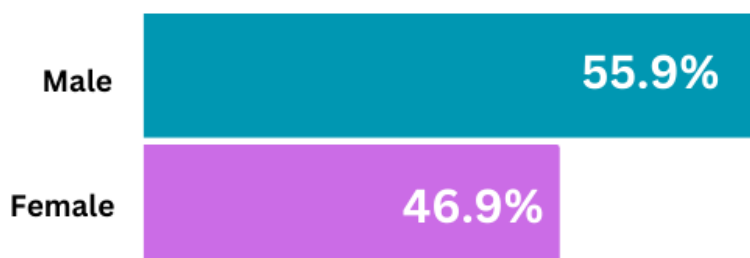
In every age group except those 80+ years, the prevalence of bilateral hearing loss was higher among Indigenous, compared with non-Indigenous Australians.



INDIGENOUS AUSTRALIANS



NON-INDIGENOUS AUSTRALIANS



The prevalence of any bilateral hearing impairment was higher in males than in females, in both Indigenous and non-Indigenous Australians aged 50 years and older

- Despite frequent hearing impairment, the uptake of hearing devices remains relatively low, including by many who were clinically eligible for them. Only 69% of persons with moderate or worse bilateral hearing impairment had used a hearing aid. This suggests a potential gap between clinical need and device use, even among those who met the Australian criteria for subsidised hearing aid eligibility as outlined in the Australian Government Hearing Services Program (64% of all participants). This likely gap between need and use highlights a major concern about unaddressed hearing loss in the older Australian population.



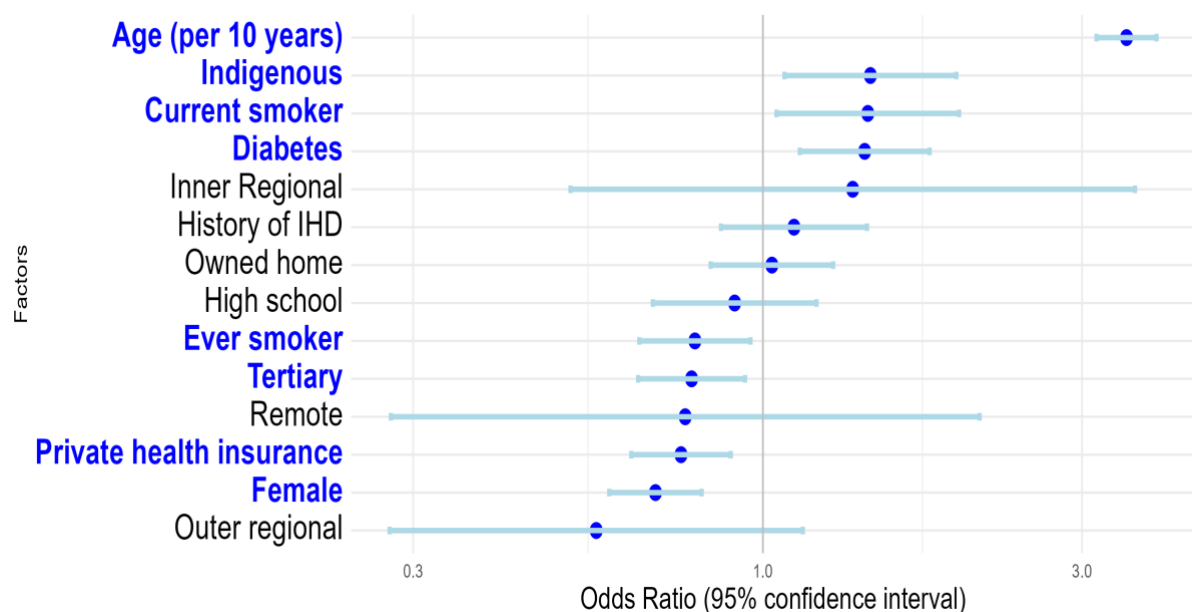
69% of Australians with moderate or worse bilateral hearing impairment used a hearing aid

***Among Australians aged 50 years and over**

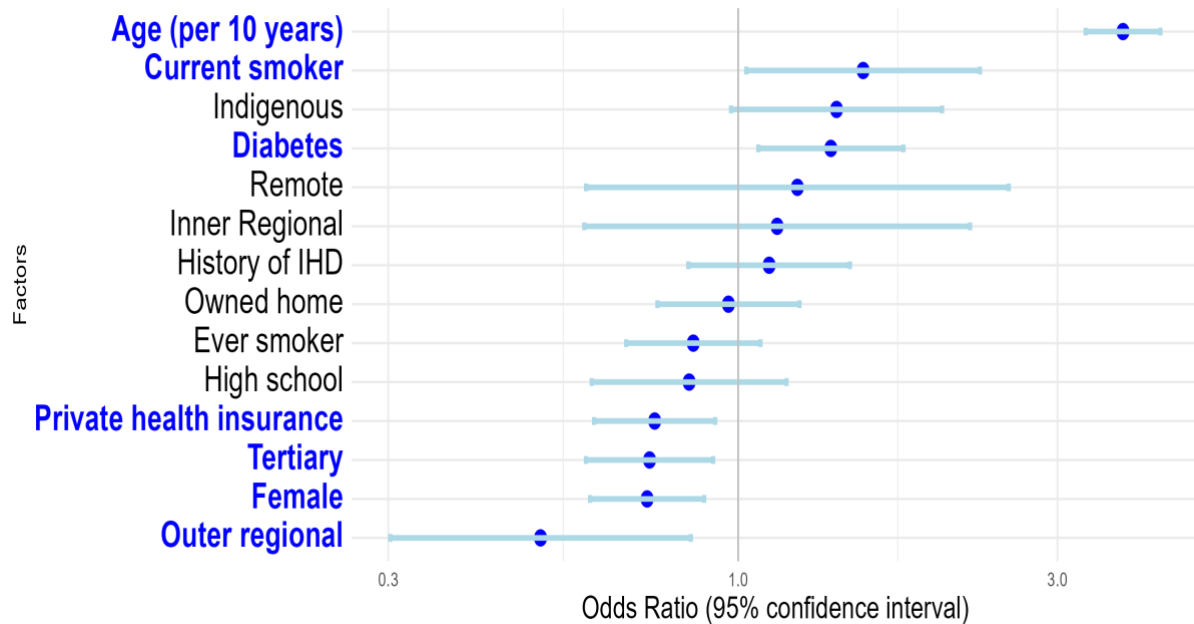
- The crude prevalence of hearing aid usage was 14.1% in Indigenous participants and 17.3% in non-Indigenous participants. After age-standardisation, the prevalence reduced and was relatively similar among Indigenous (11.3%) and non-Indigenous (11.9%) participants. 0.2% of participants reported using a cochlear implant.
- Indigenous participants were more likely than non-Indigenous to self-report having hearing problems for >10 years, and less likely to consult a hearing professional.

- In multivariable regression analyses, **increasing age, current smoking and presence of diabetes were associated with increased risk of any and moderate to severe hearing impairment**, while **higher education level, having private health insurance and female sex were associated with reduced risk of hearing impairment**. After adjusting for these risk factors, the greater risk of moderate to severe hearing impairment associated with Indigenous status attenuated to an extent, suggesting addressing these factors could contribute to closing the gap. **For the multivariable model of any hearing impairment, Indigenous status remained a significant risk factor.**

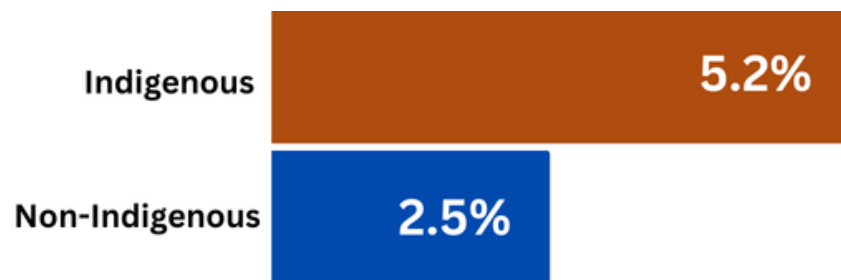
Multivariable adjusted risk factors for any hearing loss (>25 dBHL, better ear), in all participants. Factors with odds ratios and 95% confidence intervals that are fully over 1.0 are associated with an increased risk, while those fully below 1.0 are associated with a reduced risk; those that include 1.0 are not significant.



Multivariable adjusted risk factors for moderate or worse hearing loss (>40 dBHL, better ear), in all participants. Factors with odds ratios and 95% confidence intervals that are fully over 1.0 are associated with an increased risk, while those fully below 1.0 are associated with a reduced risk; those that include 1.0 are not significant.



- Dual sensory impairment (DSI, both vision and hearing impairment) had an overall age-standardised prevalence of 2.5% for any hearing impairment, and 1.3% for moderate or worse hearing impairment. Dual sensory impairment was strongly age-related and significantly more frequent among Indigenous (5.2%) than non-Indigenous participants (2.8%) for any hearing impairment ($p < 0.047$).



The prevalence of dual sensory impairment was
2x higher in Indigenous Australians
compared to non-Indigenous Australians

***Among Australians aged 50 years and over**

Conclusions

The AEEHS has found that the prevalence of bilateral vision impairment in both Indigenous and non-Indigenous Australians aged 50+ years has reduced over the last 8-9 years since the NEHS.¹⁸ This has likely been driven by improvements in eye health initiatives such as higher refractive error and cataract surgery coverage rates, which have also improved considerably over the intervening period. Rates of bilateral blindness remain low in both Indigenous and non-Indigenous Australians and have not changed over this period.

Despite these improvements, the gap in vision impairment between Indigenous Australians and their non-Indigenous fellow Australians remains unchanged, with 3-fold higher rates among Indigenous Australians. For moderate vision impairment, the gap is even larger, at 6-fold higher rates in Indigenous Australians. Higher rates of vision impairment in Indigenous Australians persist in every age group.

The main causes of vision impairment remain the same, with uncorrected refractive error, cataract, and diabetic retinopathy (Indigenous) or age-related macular degeneration (non-Indigenous) being the top causes. Bilateral and/or unilateral vision impairment and blindness together have considerable impact on Australian society, with 1 in 7 Indigenous and 1 in 10 non-Indigenous Australians aged 50+ years affected.

The AEEHS has provided the first nationwide data on the prevalence of hearing impairment in Indigenous and non-Indigenous Australians. Around 40% of Indigenous and non-Indigenous Australians aged 50+ years have some form of bilateral hearing impairment after age standardisation, although the majority of this is mild hearing impairment. Some 14% of Australians aged 50+ years (around 1 in 7) have moderate or worse bilateral hearing impairment, a level likely to reflect frequent hearing disability.

The age-standardised prevalence of hearing impairment overall is similar among Indigenous and non-Indigenous Australians aged 50 years or older. However, hearing impairment appears to occur at an earlier age and is much more prevalent in the 'younger' group of Indigenous Australians aged 50 years or older compared to non-Indigenous Australians. This finding suggests that there may be factors that disproportionately affect younger Indigenous Australians that lead to earlier onset of hearing impairment that persists into older age. Hearing impairment is more frequent and severe in males than in females for both Indigenous and non-Indigenous Australians.

Hearing aid usage was similar among Indigenous and non-Indigenous Australians, but only approximately 2/3 of Australians with moderate or worse bilateral hearing impairment reported use of hearing aids. Indigenous Australians were more likely to report having hearing problems for longer periods and less likely to consult a hearing professional. These findings suggest there may be considerable unmet need in addressing hearing impairment in older Australians generally, and particularly among the 'younger' group of Indigenous Australians aged 50 years or older.

The AEEHS has identified several risk factors for vision and hearing impairment, including diabetes for both impairments, and current smoking for hearing.

Remoteness was strongly associated with a higher risk of vision impairment, but not for hearing. Factors associated with a reduced risk (protective) included higher

education level and having private health insurance (protective for both impairments).

For vision, these suggest the possibility of earlier diagnosis and treatment, whereas for hearing, they could represent a proxy for occupations that do not include major noise exposure.

Importantly, many of the risk factors are modifiable, suggesting areas where health promotion initiatives could be better targeted to improve both eye and ear health.

Vision impairment among Indigenous persons is particularly worsened by geographical remoteness and distance from major cities and health resources. Existing initiatives to mitigate geographical barriers to eyecare include programs to bring eyecare services to Indigenous peoples where they live such the Visiting Optometrists Scheme,²⁸ Victorian Aboriginal Spectacles Subsidy Scheme,²⁹ the Rural Health Outreach Fund,²⁸ Indigenous and Remote Eye Health Service (IRIS)²⁸ and the Eye and Ear Surgery Support Program,³⁰ all of which deliver eye care and surgery³¹ directly to communities in remote and rural Australia. Substantial benefits could accrue from the development of additional programs to address remoteness.

These have likely contributed to the reduction in prevalence of vision impairment in remote and rural communities. Protective factors such as access to private health insurance and improved educational opportunities for disadvantaged families could further reduce these health inequities. After adjusting for the risk and protective factors

in the multivariate models, the risk of vision impairment, and to a lesser extent hearing impairment, associated with Indigenous status reduced considerably, suggesting that addressing these factors could contribute significantly to closing the gap.

For vision impairment and blindness, our risk factor analysis suggests that a proportion of the increased risk among Indigenous persons is related to their remoteness, their greater diabetes prevalence and socio-economic disadvantage.

References

1. Global, regional, and national burden of stroke and its risk factors, 1990-2021: a systematic analysis for the Global Burden of Disease Study 2021. *Lancet Neurol* 2024;23(10):973-1003. (In eng). DOI: 10.1016/s1474-4422(24)00369-7.
2. Gopinath B, Liew G, Burlutsky G, McMahon CM, Mitchell P. Association between vision and hearing impairment and successful aging over five years. *Maturitas* 2021;143:203-208. (In eng). DOI: 10.1016/j.maturitas.2020.10.015.
3. Hong T, Mitchell P, Burlutsky G, Gopinath B, Liew G, Wang JJ. Visual impairment and depressive symptoms in an older Australian cohort: longitudinal findings from the Blue Mountains Eye Study. *Br J Ophthalmol* 2015;99(8):1017-21. (In eng). DOI: 10.1136/bjophthalmol-2014-306308.
4. Hong T, Mitchell P, Burlutsky G, Samarawickrama C, Wang JJ. Visual impairment and the incidence of falls and fractures among older people: longitudinal findings from the Blue Mountains Eye Study. *Invest Ophthalmol Vis Sci* 2014;55(11):7589-93. (In eng). DOI: 10.1167/iovs.14-14262.
5. Hong T, Mitchell P, Burlutsky G, Fong CS, Rochtchina E, Wang JJ. Visual impairment and subsequent use of support services among older people: longitudinal findings from the Blue Mountains Eye Study. *Am J Ophthalmol* 2013;156(2):393-399.e1. (In eng). DOI: 10.1016/j.ajo.2013.04.002.
6. Gopinath B, Schneider J, McMahon CM, Burlutsky G, Leeder SR, Mitchell P. Dual sensory impairment in older adults increases the risk of mortality: a population-based study. *PLoS One* 2013;8(3):e55054. (In eng). DOI: 10.1371/journal.pone.0055054.
7. Gopinath B, Schneider J, McMahon CM, Teber E, Leeder SR, Mitchell P. Severity of age-related hearing loss is associated with impaired activities of daily living. *Age Ageing* 2012;41(2):195-200. (In eng). DOI: 10.1093/ageing/afr155.
8. Schneider JM, Gopinath B, McMahon CM, Leeder SR, Mitchell P, Wang JJ. Dual sensory impairment in older age. *J Aging Health* 2011;23(8):1309-24. (In eng). DOI: 10.1177/0898264311408418.
9. Chia EM, Wang JJ, Rochtchina E, Smith W, Cumming RR, Mitchell P. Impact of bilateral visual impairment on health-related quality of life: the Blue Mountains Eye Study. *Invest Ophthalmol Vis Sci* 2004;45(1):71-6. (In eng). DOI: 10.1167/iovs.03-0661.
10. Chia EM, Mitchell P, Rochtchina E, Foran S, Wang JJ. Unilateral visual impairment and health related quality of life: the Blue Mountains Eye Study. *Br J Ophthalmol* 2003;87(4):392-5. (In eng). DOI: 10.1136/bjo.87.4.392.
11. Wang JJ, Mitchell P, Smith W, Cumming RG, Attebo K. Impact of visual impairment on use of community support services by elderly persons: the Blue Mountains Eye Study. *Invest Ophthalmol Vis Sci* 1999;40(1):12-9. (In eng).
12. Trends in prevalence of blindness and distance and near vision impairment over 30 years: an analysis for the Global Burden of Disease Study. *Lancet Glob Health* 2021;9(2):e130-e143. (In eng). DOI: 10.1016/s2214-109x(20)30425-3.
13. Attebo K, Mitchell P, Smith W. Visual acuity and the causes of visual loss in Australia. The Blue Mountains Eye Study. *Ophthalmology* 1996;103(3):357-64. (In eng). DOI: 10.1016/s0161-6420(96)30684-2.
14. Foreman J, Xie J, Keel S, et al. The Prevalence and Causes of Vision Loss in Indigenous and Non-Indigenous Australians: The National Eye Health Survey. *Ophthalmology* 2017;124(12):1743-1752. (In eng). DOI: 10.1016/j.ophtha.2017.06.001.
15. Taylor HR, Xie J, Fox S, Dunn RA, Arnold AL, Keeffe JE. The prevalence and causes of vision loss in Indigenous Australians: the National Indigenous Eye Health Survey. *Med J Aust* 2010;192(6):312-8. (In eng). DOI: 10.5694/j.1326-5377.2010.tb03529.x.

16. Van Newkirk MR, Weih L, McCarty CA, Taylor HR. Cause-specific prevalence of bilateral visual impairment in Victoria, Australia: the Visual Impairment Project. *Ophthalmology* 2001;108(5):960-7. (In eng). DOI: 10.1016/s0161-6420(01)00554-1.
17. Taylor HR, Keeffe JE, Vu HT, et al. Vision loss in Australia. *Med J Aust* 2005;182(11):565-8. (In eng). DOI: 10.5694/j.1326-5377.2005.tb06815.x.
18. Vision2020. The National Eye Health Survey.
(<https://www.vision2020australia.org.au/resources/national-eye-health-survey-report/>).
19. Bowl MR, Dawson SJ. Age-Related Hearing Loss. *Cold Spring Harb Perspect Med* 2019;9(8) (In eng). DOI: 10.1101/cshperspect.a033217.
20. Gopinath B, Hickson L, Schneider J, et al. Hearing-impaired adults are at increased risk of experiencing emotional distress and social engagement restrictions five years later. *Age Ageing* 2012;41(5):618-23. (In eng). DOI: 10.1093/ageing/afs058.
21. Schneider J, Gopinath B, Karpa MJ, et al. Hearing loss impacts on the use of community and informal supports. *Age Ageing* 2010;39(4):458-64. (In eng). DOI: 10.1093/ageing/afq051.
22. Karpa MJ, Gopinath B, Beath K, et al. Associations between hearing impairment and mortality risk in older persons: the Blue Mountains Hearing Study. *Ann Epidemiol* 2010;20(6):452-9. (In eng). DOI: 10.1016/j.annepidem.2010.03.011.
23. Gopinath B, Rochtchina E, Wang JJ, Schneider J, Leeder SR, Mitchell P. Prevalence of age-related hearing loss in older adults: Blue Mountains Study. *Arch Intern Med* 2009;169(4):415-6. (In eng). DOI: 10.1001/archinternmed.2008.597.
24. Hearing Health Sector Committee. Roadmap for Hearing Health. Department of Health and Aged Care.
(<https://www.health.gov.au/sites/default/files/documents/2021/10/roadmap-for-hearing-health.pdf>).
25. Kha R, Macken O, Mitchell P, et al. The Australian Eye and Ear Health Survey (AEEHS): Study protocol for a population-based cross-sectional study. *PLoS One* 2024;19(5):e0301846. (In eng). DOI: 10.1371/journal.pone.0301846.
26. Goman AM, Lin FR. Prevalence of Hearing Loss by Severity in the United States. *Am J Public Health* 2016;106(10):1820-2. (In eng). DOI: 10.2105/ajph.2016.303299.
27. Roth TN, Hanebuth D, Probst R. Prevalence of age-related hearing loss in Europe: a review. *Eur Arch Otorhinolaryngol* 2011;268(8):1101-1107. (In eng). DOI: 10.1007/s00405-011-1597-8.
28. Department of Health Ageing and Disability.
(<https://www.health.gov.au/topics/aboriginal-and-torres-strait-islander-health/eye-health-and-vision-support#outreach-services>).
29. Fricke TR, Brand C, Lovett L, Turner NW, Anjou MD, Bentley SA. Lessons learned from a subsidised spectacles scheme aiming to improve eye health in Aboriginal people in Victoria, Australia. *Aust Health Rev* 2021;45(2):194-198. (In eng). DOI: 10.1071/ah20023.
30. Checkup. (<https://checkup.org.au/what-we-do/health-services/eye-and-ear-surgery-support/>).
31. Randall DA, Reinten T, Maher L, et al. Disparities in cataract surgery between Aboriginal and non-Aboriginal people in New South Wales, Australia. *Clin Exp Ophthalmol* 2014;42(7):629-36. (In eng). DOI: 10.1111/ceo.12274.

Acknowledgements

The Westmead Institute for Medical Research (WIMR), University of Sydney, would like to acknowledge and thank all individuals and organisations involved in the planning, execution and completion of the Australian Eye and Ear Health Survey (AEEHS). This survey was funded by the Australian Government, sponsored by Vision 2020 Australia, with additional in-kind support from the University of Sydney, University of New South Wales, Macquarie University (including The Martin Lee Centre for Innovations in Hearing Health), The George Institute, Zeiss Australia, the Brien Holden Vision Institute, Lions Outback Vision, the Australian Institute of Aboriginal and Torres Strait Islander Studies, and the National Aboriginal Community Controlled Health Organisation (NACCHO).

We also express our gratitude for the guidance provided by the AEEHS Steering Committee. Special thanks go to the dedicated core research team at WIMR, the invaluable support from Indigenous and non-Indigenous groups, and the efforts of all the volunteers and workers who contributed to the success of this project.

The AEEHS logo was designed by Aboriginal Artist/Graphic Designer Kyara Fernando, a Dunghutti woman from Kempsey on the Mid North Coast of New South Wales. The design that she created incorporated concepts focused on the eye, ear and the outlining of Australia to symbolically represent the vision and hearing within Australia. The hands were designed to represent the identity of the people, all people of Australia. Drawn patterns of leaves showed the connection to country and provide an

environmental and nature feeling, whilst the lines were a visual representation of sound, vibrations echoing through the land. The Eye and the Ear symbols from the centre of the painting/print formed concepts for the logo.

The AEEHS Team

The AEEHS project team comprised a broad consortium with representation from major stakeholders in Australian eye and ear health. The project was governed by a Steering Committee consisting of members from the Westmead Institute for Medical Research (Executing Research Body), University of Sydney, University of New South Wales, Macquarie University, Brien Holden Foundation, The George Institute for Global Health, Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS) and National Aboriginal Community Controlled Health Organisation (NACCHO). The Project Advisory Group provided expert advice on appropriate community consultation, participation, research/clinical processes and capacity building at all stages of the project. Research planning, data collection, analysis and report writing were managed by the Project Manager, Dr Richard Kha and his research team with support from the Steering Committee.

Executing Research Body

Westmead Institute for Medical Research

Steering Committee

Professor Paul Mitchell

Associate Professor Gerald Liew

Professor Bamini Gopinath

Professor Lisa Keay

Ms Colina Waddell

Dr Tim Fricke

Project Advisory Group

Australian Government Department of Health, Disability and Ageing

Aboriginal and Torres Strait Islander Representatives

Diabetes Australia

Glaucoma Australia

Macular Disease Foundation Australia

Optometry Australia

Royal Australian and New Zealand College of Ophthalmologists (RANZCO)

Vision 2020 Australia

Major Contributing Partner

Australian Government – Department of Health, Disability and Aged Care

The Martin Lee Centre for Innovations in Hearing Health, Macquarie University

Principal Research Field Team

Richard Kha (project manager & non-Indigenous recruitment coordinator)

Mayuri Indrakumar (research orthoptist/clinical and recruitment officer)

Oonagh Macken (research audiologist/clinical and recruitment officer)

Serena Arur (research orthoptist/clinical officer)

Eleanor Yang (research optometrist/pathology and referrals)

Michelle Fu (research optometrist/clinical and recruitment officer)

Alemka Davis (Indigenous vision clinical and recruitment coordinator)

Jarian Lake (Indigenous hearing clinical and recruitment coordinator)

Gary Low (senior biostatistician)

George Burlutsky (senior biostatistician)

Vu Do (database construction/biostatistician/sampling manager)

Collaborating Research Teams

Professor Angus Turner, Lions Outback Vision

Dr Emma Douglas, Lions Outback Vision

Dr Jose Estevez Bordon, Flinders University

Associate Professor Andrew White, Westmead Institute for Medical Research

Professor Chameen Samarawickrama, Westmead Institute for Medical Research

Professor Adrian Fung, Westmead Hospital

Dr Hamish Dunn, University of Sydney

Wurli Wurlinjang Health Service

Danila Dilba Health Service

Townsville Aboriginal Medical Service

Gidgee Healing Mount Isa

Pika Wiya Health Service

Aboriginal Family Clinic Noarlunga

Tamworth Aboriginal Medical Service

Durri Aboriginal Corporation Medical Service

Greater Western Aboriginal Health Service

Broome Regional Aboriginal Medical Service

Great Southern Aboriginal Health Service

The Westmead Institute for Medical Research

176 Hawkesbury Road
Westmead NSW 2145

Telephone: +61 2 9843 9000

Email: info@wimr.org.au

Website: www.wimr.org.au

The Australian Eye and Ear Health Survey was supported by funding from the Australian Government Department of Health, Disability and Ageing and The Martin Lee Centre for Innovations in Hearing Health, Macquarie University



**Brien Holden
FOUNDATION**

AUSTRALIAN EYE AND EAR HEALTH SURVEY