

Australian Trachoma Surveillance Report 2023

The Kirby Institute, UNSW Sydney

WHO Collaborating Centre for Neglected Tropical Diseases*

Prepared by the National Trachoma Surveillance and Reporting Unit at the Kirby Institute, UNSW Sydney on behalf of Australian organisations involved in trachoma control activities, under a funding agreement with the Australian Government

* Formerly the WHO Collaborating Centre for Trachoma (2018-2022).

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Preface

This report was prepared by the National Trachoma Surveillance and Reporting Unit (NTSRU) in collaboration with the National Trachoma Surveillance and Control Reference Group (NTSCRG) and jurisdictional health departments funded to undertake trachoma control activities by the Australian Government Department of Health and Aged Care, which also funds the NTSRU.

Trachoma program data for 2023 were provided by the Northern Territory (NT), Queensland (QLD), South Australia (SA) and Western Australia (WA). Program activities, including data collection and analysis, were guided by the Communicable Diseases Network Australia (CDNA) *National guidelines for the public health management of trachoma in Australia*.

Previous reports are available online at <https://kirby.unsw.edu.au/report-type/australian-trachoma-surveillance-reports>

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Technical terms and definitions

At-risk communities

A community is classified as 'at risk' of trachoma by state/territory health departments if at least once within the past five years, prevalence of trachomatous inflammation – follicular and/or trachomatous inflammation – intense is 5% or more in children aged 5-9 years screened.

Clean face

Absence of nasal and ocular discharge on the face.

Community-wide treatment

The antibiotic treatment of all people in the community who weigh more than 3 kg living in houses with children under 15 years of age.

Contacts

Anyone who is living and sleeping in the same house as a child with trachoma. If the child lives or sleeps in multiple households, then all members of each household are regarded as contacts.

Elimination of trachoma as a public health problem

Defined according to the World Health Organization (WHO) as: A prevalence of trachomatous trichiasis “unknown to the health system” of <0.2% in ≥15-year-olds in each formerly endemic district, and a prevalence of trachomatous inflammation—follicular in children aged 1-9 years of <5% maintained for at least two years in the absence of mass drug administration for disease control in each formerly endemic district.ⁱ

Hyperendemic trachoma

Prevalence of observed trachoma of 20% or more in children aged 5-9 years.

Mass drug administration (MDA)

Distribution of medicines to the entire population of an administrative area (for instance, state or region), irrespective of the diagnosis or presence of symptoms of a disease.

Prevalence of trachoma

Defined as:

Observed prevalence: The proportion of cases of trachomatous inflammation – follicular and/or trachomatous inflammation – intense identified in children aged 5-9 years in communities currently classified as at-risk and screened during the current calendar year.

Estimated prevalence: The proportion of cases of trachomatous inflammation – follicular and trachomatous inflammation – intense identified in children aged 5-9 in all communities currently classified as at-risk, according to the most recent screening conducted.

ⁱ Please see Methodology section for how Australia's targets and processes differ from WHO guidelines.

Overall prevalence: The proportion of cases of trachomatous inflammation – follicular and trachomatous inflammation – intense identified in children aged 5-9 years in all communities ever classified as at-risk, according to the most recent screening recorded. This is the measure used for assessing Australia’s progress against elimination targets.

Screening coverage

The proportion of Aboriginal and Torres Strait Islander children aged 5-9 years residing in a community at the time of community screening relative to those who were screened for trachoma relative to those who are residing in the community at the time of community screening.

Trachomatous inflammation – follicular (TF)

The presence of 5 or more follicles in the central part of the upper tarsal conjunctiva, each at least 0.5 mm in diameter, as observed through a magnified loupe.

Trachomatous inflammation – intense (TI)

Pronounced inflammatory thickening of the upper tarsal conjunctiva that obscures more than half of the normal deep tarsal vessels.

Trachomatous trichiasis (TT)

At least one eyelash from the upper eyelid touches the eyeball, or evidence of recent epilation of in-turned eyelashes from the upper eyelid.

Treatment coverage

The proportion of Aboriginal and Torres Strait Islander people in a community who weigh more than 3 kg and live in a house with one or more children aged below 15 years who were treated for trachoma during an episode of community-wide treatment relative to the number of people identified as requiring treatment by the public health team.

Abbreviations

ABS	Australian Bureau of Statistics
APY	Anangu Pitjantjatjara Yankunytjatjara
ACCHO	Aboriginal Community Controlled Health Organisation
AHCSA	Aboriginal Health Council of South Australia
CDC	Centre for Disease Control, NT Department of Health
CDNA	Communicable Diseases Network Australia
EH&CDSSP	Eye Health and Chronic Disease Specialist Support Program
MBS	Medicare Benefits Schedule
NSW	New South Wales
NT	Northern Territory
NTSCRG	National Trachoma Surveillance and Control Reference Group
NTSRU	National Trachoma Surveillance and Reporting Unit
PCR	Polymerase chain reaction
QLD	Queensland
SA	South Australia
SAFE	Surgery, Antibiotics, Facial cleanliness, and Environmental improvement
TF	Trachomatous inflammation – follicular
TI	Trachomatous inflammation – intense
TT	Trachomatous trichiasis
WA	Western Australia
WACHS	WA Country Health Service
WHO	World Health Organization

Executive summary

Australia is the only high-income country with endemic trachoma. It has continued to occur primarily in remote and very remote Indigenous communities in the NT, SA and WA. For each of these jurisdictions, the estimated overall trachoma prevalence in 2023 among children aged 5-9 years residing in communities ever designated as at risk of trachoma was below 5%, the threshold specified in the World Health Organization (WHO)'s definition of "elimination as a public health problem".¹ Within these jurisdictions, 10 out of 12 regions with at risk communities recorded overall prevalences below 5%.

To achieve and sustain the elimination of trachoma as a public health problem, Australia will need to continue to comprehensively implement all aspects of the WHO's SAFE Strategy comprising *Surgery* for trichiasis, *Antibiotics* to treat the chlamydial infections (*Chlamydia trachomatis*) that are the cause of trachoma, promotion of *Facial cleanliness*, and *Environmental improvement* to reduce chlamydia transmission.

Summary of findings

Trachoma program coverage

- In 2023, Australian jurisdictions designated 88 remote Indigenous communities as at risk of trachoma. Of these, 49% of at-risk communities were in the NT (43 communities), 13% in SA (11 communities), and 39% in WA (34 communities) (Table 1.1). Two communities in the NT were removed from the at-risk register in 2023 (data not shown).
- The number of communities that are at risk of trachoma in Australia has steadily declined in all jurisdictions. Between 2010 and 2023, the number of at-risk communities fell by 49% in the NT (84 in 2010 to 43 in 2023), 85% in SA (72 in 2010 to 11 in 2023) and 60% in WA (86 in 2010 to 34 in 2023) (Figure 1.2).
- Of the 88 communities designated by jurisdictions to be at risk of trachoma at the start of 2023, 74 (84%) were determined to require screening according to the CDNA guidelines. The remaining 14 at-risk communities (16%) did not require screening or treatment without screening in 2023 (Table 1.1).
- Of the 74 communities that required screening, 67 of these (91%) received screening, antibiotic distribution or both in line with CDNA guidelines (Table 1.1).

Screening coverage

- Within screened communities, 1300 of an estimated 1436 resident children aged 5-9 years were screened for trachoma in 2023 (91%) (Table 1.2). This is the same national screening coverage rate as 2022.
- Trachoma screening coverage was 91% in the NT, 89% for SA and 91% for WA in 2023 (Table 1.2).

Facial cleanliness

- A total of 1335 children aged 5-9 years in at-risk communities were examined for clean faces (Table 1.2).
- The overall prevalence of clean faces in children screened in 2023 was 74%, with clean face prevalence 74% in the NT, 85% in SA, and 70% in WA (Table 1.2).
- Clean face prevalences in children aged 5-9 years vary widely at the regional level. In regions where at least 10 children were screened, clean face prevalence ranged from 38% in the Katherine region (NT) to 88% in WA's Midwest region (Tables 2.2, 4.2 and 5.2).

Trachoma prevalence

- The overall prevalence of trachoma in 5-9-year-olds among all current and former at-risk communities nationally decreased slightly from 2.0% in 2022 to 1.8% in 2023, led by a decline in overall prevalence in WA (Figure 1.5c, Table 1.2).
- The overall prevalence of trachoma in children aged 5-9 years was 2.3% in the NT, 0% in SA, and 1.6% in WA (Table 1.2).
- The overall prevalence of trachoma in children aged 5-9 years at the regional level within jurisdictions ranged from 0.0% to 6.6% (Tables 2.2, 4.2 & 5.2).
- Among the 67 communities screened in 2023, 19 (28%) reported at least one case of trachoma. Of those 19 communities, 17 (89%) recorded trachoma prevalence at or above 5% in children aged 5 to 9 years (Table 1.3).
- Both the number and proportion of communities with hyperendemic trachoma (observed prevalence at or above 20%) were the lowest recorded since 2014, at 7% (5/67) of all communities screened in 2023 (Table 1.3).

Antibiotic distribution and coverage

- Antibiotic distribution took place in 18 out of 19 communities (95%) that required antibiotic treatment according to the CDNA guidelines (Table 1.4).
- Treatment coverage for cases detected in screening activities was 99% with 73 out of 74 cases receiving azithromycin (Table 1.5).
- Coverage for community members requiring treatment under CDNA Guidelines was 81% (Table 1.5) compared to 95% in 2022.
- Jurisdictional trachoma programs delivered 1677 doses of azithromycin in 2023. As in previous years, the majority of antibiotic distribution took place in the NT (Figure 1.9, Table 1.5).

Trachoma-related trichiasis

- Screening of trichiasis is undertaken by various methods including in communities by trachoma control teams, by visiting regional optometrist service assessments, and opportunistic screening during the annual health assessment for Aboriginal and Torres Strait Islander people.

- A total of 13,219 people aged 15 years and over in 150 communities or services were reported as being screened for trichiasis (Table 1.6).
- Among those screened in 2023, 9 (0.07%) were found to have trichiasis, all in people aged 40 years or older (Table 1.6).
- Surgery for trachoma-related trichiasis in the past 12 months was reported to have been undertaken for 7 adults in 2023 (Table 1.6).

Health promotion and environmental improvement activities

- Narrative information on health promotion activities to promote facial cleanliness and environmental health improvement activities is provided by jurisdictional health departments, community-controlled organisations and non-government partners.
- Approximately 206 separate health promotion activities were undertaken in at-risk and previously at-risk communities in the NT, QLD, SA and WA. These activities primarily focused on encouraging facial cleanliness and general hygiene-related behaviours in children (Tables 2.7, 3.1, 4.6, 5.7).
- Environmental health improvement programs are jurisdictionally specific, although typically involve some combination of the following: routine home assessments and maintenance, procurement and distribution of home health hardware and related supplies, workforce development and policy advice.

Background

Trachoma is the world's leading infectious cause of preventable blindness, caused by infection with the *Chlamydia trachomatis* (*C. trachomatis*) bacteria, particularly serovars A-C.^{2, 3} Repeated infections with *C. trachomatis*, especially during childhood, may lead to scarring of the eyelid, causing it to contract and distort, leading to the upper eyelashes turning inwards - a phenomenon called trichiasis - and scratching of the outer surface of the cornea. The resulting damage to the cornea by trichiasis is the main pathway by which trachoma leads to vision loss and blindness.^{4, 5} Trichiasis scarring is irreversible but if early signs of in-turned eyelashes are found, surgery to the eyelid is usually effective in preventing further damage to the cornea. As of April 2023, trachoma remains endemic in at least 40 countries, with an estimated 1.5 million persons experiencing the most severe forms of vision impairment related to the disease.²

Transmission of ocular *C. trachomatis* occurs through close facial contact, hand-to-eye contact, via contamination of personal items (such as towels, clothing, and bedding) and possibly by flies.^{6, 7} Trachoma generally occurs in dry, dusty environments and is strongly associated with poor living conditions and sanitation. Crowding in households, limited water supply for bathing and general hygiene and poor waste disposal systems have all been associated with trachoma prevalence.⁸ Children have more frequent and longer-lasting episodes of infection than adults and are generally believed to be the main community reservoirs of infection.⁹

WHO, through the Global Alliance for the Elimination of Trachoma by 2020 (GET 2020), advocates the SAFE strategy for trachoma control.¹¹ The SAFE acronym highlights the key components of the strategy, which are *Surgery* for trichiasis, *Antibiotic* treatment regimens with azithromycin at the individual, household or community levels, and the promotion of *Facial cleanliness and Environmental* improvement. The strategy is designed to be implemented within a community health setting to ensure consistency and continuity of approach in the required screening, control measures, data collection and reporting, as well as building community capacity.^{10, 12}

WHO has set a new global deadline for the elimination of trachoma as a public health problem as described in the roadmap *Ending the neglect to attain the Sustainable Development Goals: a road map for neglected tropical diseases 2021–2030*.¹³ Under this roadmap, the requirements of the elimination of trachoma as a public health problem remain unchanged. Elimination as a public health problem is defined as (i) a prevalence of trachomatous trichiasis 'unknown to the health system' of less than 0.2% in persons 15 years old or older in each formerly endemic district; (ii) a prevalence of trachomatous inflammation—follicular of less than 5% in children aged 1-9 years maintained for at least two years in each formerly endemic district; and (iii) written evidence that the health system can identify and manage incident cases of trachomatous trichiasis, using defined strategies, with evidence of appropriate financial resources to implement those strategies. Formal endorsement of elimination as a public health problem is sought from WHO through the preparation of a validation dossier.¹⁴

Trachoma control in Australia

The National Trachoma Management Program was initiated in 2006. From 2009 until 2024-25, the Australian Government has committed \$72.4 million towards eliminating trachoma as a public health problem through the continuation, enhancement and development of trachoma control, health promotion and environmental improvement initiatives in jurisdictions with endemic trachoma.

Trachoma in Australia occurs primarily in remote and very remote Indigenous communities in the NT, SA and WA. In 2008, cases were also found in NSW and QLD, where trachoma was thought to have been eliminated. NSW and QLD were declared non-endemic in 2017 and 2022 respectively. People with trichiasis are present in all jurisdictions.¹⁵

The National Trachoma Surveillance and Reporting Unit

The Australian Government funds the National Trachoma Surveillance and Reporting Unit (NTSRU) to provide a national mechanism for monitoring and evaluating trachoma control.

¹⁶ The NTSRU is responsible for data collection, analysis and reporting related to the ongoing evaluation of trachoma control strategies in Australia. The Kirby Institute, UNSW Sydney has managed the NTSRU since 2010,¹⁷⁻²⁹ with the Centre for Eye Research Australia³⁰⁻³² and the Centre for Molecular, Environmental, Genetic and Analytic Epidemiology at the University of Melbourne³³ responsible for earlier years.

Methodology

The surveillance and management of trachoma is guided by the CDNA 2014 *National guidelines for the public health management of trachoma in Australia* (the Guidelines)³⁴. The guidelines were developed in the context of the WHO SAFE strategy and make recommendations for control strategies, data collection, reporting and analysis.

The primary source of the data presented in this report is programmatic reporting from Australian jurisdictions (states/territories) which undertook screening and antibiotic distribution for trachoma in 2023. Data is collected at the community level, using forms developed by the NTSRU based on CDNA Guidelines. Completed forms are forwarded each calendar year by jurisdictional coordinators to the NTSRU for analysis. Information provided includes:

- Number of Indigenous children aged 5-9 years screened for clean faces and the number with clean faces, by age group.
- Number of Indigenous children aged 5-9 years screened for trachoma and the number with trachoma, by age group.
- Number of episodes of treatment for trachoma, household contacts and other community members, by age group.
- Number of Indigenous adults screened for trichiasis, number with trichiasis, and the number who had surgery for trichiasis.
- Community-level implementation of health promotion activities.

Trachoma control activities focus on communities designated at risk. When the National Trachoma Management Program was initiated in 2006, the NT, SA and WA identified communities determined to be at risk of trachoma based on historical prevalence data and other sources of knowledge. Over time, additional communities have been classified as being at risk, while some others have been reclassified as no longer at risk. A small number of other communities designated as not at risk have also been included in screening activities based on annual risk assessment, generally when anecdotal information suggests the presence of trachoma, or where there is close geographic or cultural proximity to at-risk communities. Mapping to establish if trachoma was a public health problem was also undertaken in NSW and QLD and results were published in previous surveillance reports. The update to the CDNA guidelines in 2014 provides the option not to screen all endemic communities every year, with jurisdictions instead able to allocate resources for antibiotic distribution and health promotion activities.

WHO elimination criteria relate to trachoma (TF) prevalence in children aged 1-9 years. However, the target group for screening activities in Australia since 2006 has been children aged 5-9 years. This narrower age group was chosen because of ready accessibility through schools, the feasibility of eye examination and a presumption that prevalence in 5-9-year-olds would be similar to the prevalence in 1-4-year-olds. In 2018, in anticipation of the WHO dossier preparation, a concerted effort was made to achieve high screening coverage in the 1-4-year age group, to check the assumption that prevalence in this lower age group was similar to that in 5-9-year-olds. The results, summarised in Appendix 1, showed that there was no evidence of higher prevalence in the younger age group and this finding was

generally consistent between jurisdictions. Furthermore, the finding of similar prevalence in the two age groups was observed both in communities that achieved high levels of screening in 1-4-year-olds, and those that did not. Based on these results, it was decided that screening in future could continue to focus on the 5-9-year age group. In 2023, opportunistic rather than systematic screening has continued for children aged 1-4 years and 10-14 years.

WHO simplified trachoma grading criteria¹⁰ form the basis of identification of cases of trachoma in Australia. Trachoma is defined by the NT, SA, and WA as the presence of trachomatous inflammation – follicular (TF) and/or trachomatous inflammation – intense (TI). In QLD, trachoma diagnosis was based upon the clinical advice of an experienced ophthalmologist who performed a detailed examination beyond that required by the WHO simplified grading system, and laboratory confirmation of *C. trachomatis* infection biomarkers.

Trachoma control programs in Australia in the NT, SA, WA and QLD undertake trachoma grader training based on the Tropical Data training system endorsed by the International Coalition for Trachoma Control, to ensure rigorous and accurate trachoma grading. Ongoing training of health staff in trachoma assessment is essential to ensure program integrity, and particularly important in communities where prevalence is decreasing, with fewer children affected, and a consequent increased likelihood of false-positive findings. In addition, options for laboratory-based surveillance are currently being investigated for suitability in a low prevalence post-elimination setting. In December 2023, Western Australia Country Health Services, Queensland Health, Ngaanyatjarra Health, and the Kirby Institute, UNSW Sydney partnered to conduct a dry blood spot study to test for antibodies to the *C. trachomatis* plasmid-encoded Pgp3 protein (anti-Pgp3) across eight communities in the Ngaanyatjarra Lands. When available, results will help inform planning for future screening and similar studies.

WHO guidelines recommend that trachoma is treated with a single dose of the antibiotic azithromycin. When prevalence exceeds 5% in children aged 1-9 years, these guidelines recommend mass drug administration to the entire community on a regional or district basis. Australian guidelines differ slightly from WHO's recommendations in that Australia uses the trachoma prevalence of the 5-9-year age group as a basis for treatment. Where community prevalence is less than 5%, treatment is provided to the active case/s and their household only. If community prevalence is greater than or equal to 5%, treatment may be provided at the household or the community level, depending on the extent of case clustering. Australia defines community treatment coverage based on the treatment of households with at least one child aged 15 years or under.³⁴

Data analysis notes

A community is defined as a geographic location where people reside and there is at least one school. Data is aggregated to the regional level in order to protect privacy in very small remote communities. Regions are aligned with state/territory health department public health administration zones.

Trachoma screening coverage is the proportion of resident children aged 5-9 years who were screened. Data on resident population numbers in each community are derived by each jurisdiction using enrolment lists from schools and health clinics, supplemented by

local advice on movement into and out of communities. This method has been used since 2012. For 2007 to 2011 estimates were based on projections from the 2006 Australian census using the Australian Bureau of Statistics (ABS) standard estimates of annual population increase (1.6%, 1.8% and 2.1% in the NT, WA and SA respectively).

Data from 2006 is excluded from the assessments of time trends as collection methods in this first year of the control program differed substantially from those subsequently adopted.

Calculations for trachoma prevalence

Three methods are used to calculate trachoma prevalence. The *observed prevalence* of trachoma was calculated using only the data from screening activities undertaken during the reporting year. Since the implementation of the 2014 Guidelines, annual screening has not been required for at-risk communities. Therefore, an *estimated prevalence* of trachoma was calculated by carrying forward the most recent prevalence data for at-risk communities not screened in 2023, following a method endorsed by the NTSCRG. This method may result in an over-estimation of current prevalence, particularly for communities receiving community-wide treatment with antibiotics. Finally, the *overall prevalence* of trachoma was calculated by combining prevalence from at-risk communities screened during 2023, the most recent prevalence carried forward from at-risk communities that were not screened in 2023 (estimated prevalence) and the most recent prevalence carried forward from all communities previously classified as at-risk but judged by jurisdictions to have eliminated trachoma and therefore removed from the at-risk register. Community-specific data for communities subsequently amalgamated for reporting purposes were used (or carried forward) until the year of amalgamation.

Trichiasis

Trichiasis may emerge as a long-term sequela of repeated *C. trachomatis* infections, particularly during childhood. Australia has set a more ambitious target for elimination as a prevalence of trichiasis of $\geq 0.1\%$ in the Aboriginal and Torres Strait Islander adult population.³⁴ Trichiasis prevalence is reported as a proportion of population screened in the three jurisdictions currently undertaking trachoma surveillance. Due to population movement over time (such as from remote communities to regional towns or cities) cases of trichiasis have historically been detected in jurisdictions not considered as at risk of trachoma.³⁵ It is not possible to identify an accurate population denominator for persons with childhood risk exposure. As data from ophthalmological services (such as 715 health checks in other states or services within the private health system) provided for trichiasis screening and surgery nation-wide is at present not included in analysis, rates presented here are likely to over-estimate true prevalence.

New South Wales

There were no communities designated at-risk of trachoma in NSW in 2023. Historically data has been provided by NSW Health, which focused on screening in potentially at-risk communities in northwestern and far western NSW regions, with the most recent screening conducted in 2015.

Northern Territory

There are currently four regions in the Northern Territory considered at-risk of trachoma. From 2013, the NT has followed the screening and treatment schedule recommended in the updated CDNA Guidelines. Trachoma screening and management in the NT are a collaboration between the NT Department of Health (Centre for Disease Control and Primary Health Care - Outreach/Remote); NT Department of Education (Remote Schools) and Aboriginal Community Controlled Health Services. Trachoma screening is generally a stand-alone activity of the NT Health Trachoma Program, with support from local primary healthcare centres or community-controlled services. The NT uses school enrolment lists, electronic health records and local knowledge to determine the number of children aged 5-9 years present in the community at the time of screening. Following screening, treatment delivery is undertaken by the trachoma team and program partners with support from primary healthcare services.

In 2023, screening for trichiasis was undertaken opportunistically, primarily by clinicians during the annual health assessment for Aboriginal and Torres Strait Islander people (also called the 715 health check) or optometrists and ophthalmologists based with regional eye health services.

Queensland

There were no communities designated at-risk of trachoma in Queensland in 2023, and no communities screened. Health promotion activities were undertaken in one community in North-West Queensland to prevent recrudescence.

Mapping exercises have previously identified two regions in Queensland with communities at risk of trachoma. In November 2019, cumulative data from the Torres Strait Islands that showed no ocular *C. trachomatis* detection by PCR from 2016-2019^{36, 37} was presented to the NTSCRG, which confirmed that these communities should no longer be designated at-risk of trachoma. Further data from the North-West region collected between 2019-2021 that identified no or very low rates of ocular *C. trachomatis* or serological detection of anti-Pgp3³⁸ was reviewed by the NTSCRG in 2022, which also endorsed the removal of this region from areas considered as at risk of trachoma.

South Australia

The Trachoma Elimination Program is implemented by the Eyre and Far North Local Health Network on behalf of the SA Government. The program is overseen by the SA Trachoma Elimination Strategy Committee, jointly chaired by the Aboriginal Health Council of South Australia (AHCSA) and the Eyre and Far North Local Health Network. It has clinical and non-clinical members who are charged under the committee's terms of reference with identifying, developing, and overseeing strategies to improve trachoma control, including the quality of service delivery.

A combination of opportunistic, community-wide, and routine screening is undertaken by individual Aboriginal community-controlled health organisations. The Eye Health and Chronic Disease Specialist Support Program coordinated by AHCSA provides opportunistic screening by visiting optometrists and ophthalmologists. AHCSA also delivers community-wide screening in schools as well as routine screening through adult and child health checks.

There are currently two regions in South Australia with communities considered as at-risk of trachoma, although data for the APY Lands in the Eyre and Far North Region is reported separately for historical reasons. Since 2014, trachoma control activities in the nine communities of the Anangu Pitjantjatjara Yankunytjatjara (APY) Lands have been reported as a single unit for the purpose of trachoma surveillance, due to the small populations of each community and the close linkages between them. These reporting changes need to be considered in the interpretation of time trends for SA reports.

Western Australia

Trachoma screening and management in WA are the responsibility of the WA Country Health Service (WACHS) population health units in the four regions (Kimberley, Goldfields, Pilbara and Midwest) with communities considered at-risk of trachoma. The State Trachoma Reference Group provides program oversight and has established operational principles which guide the trachoma program and provide consistency in practice across the four endemic regions. In WA, trachoma screening teams are required to complete the Remote Area Health Corps trachoma and trichiasis grading modules annually as well as have an expert trachoma grader present in each community when trachoma screening is undertaken.

In collaboration with local primary healthcare providers, the WACHS population health units screen communities in each region within a four-week period in August and September. People identified with trachoma are treated at the time of screening, together with their household contacts. In conjunction with screening, an environmental assessment was carried out and, for some communities, supplemented by health promotion activities.

In 2011, WACHS combined programmatic data from 10 communities in the Goldfields region for the purposes of trachoma surveillance reporting due to small populations and high inter-community mobility. In 2023, seven of these communities were screened for trachoma, the remainder did not have any communities in the target age bracket. From 2016, data from four communities in the Pilbara region have been similarly reported as an aggregate. These reporting changes need to be considered in the interpretation of time trends for WA.

The priority target group for trichiasis screening in WA is Aboriginal and Torres Strait Islander adults aged 40 years and over. Jurisdictional programs identify communities at-risk of trichiasis based on current and historical trachoma prevalence data. Screening for trichiasis by regional population health units occurs at different times of the year and is integrated into other community and public health programs such as the annual influenza vaccination program. Additional data on trichiasis screening and case numbers in the four regions is supplemented by information from Aboriginal Medical Services (715 adult health check) and information from the Visiting Optometrist Service.

Findings and interpretation

Trachoma is considered endemic if the overall prevalence is at or above 5% at the jurisdictional level (state/territory). In 2022, Australia reached elimination as a public health problem targets of overall trachoma prevalence below 5% in children aged 5-9 years in each jurisdiction with formerly endemic levels of trachoma, which are the evaluating units for defining trachoma elimination as a public health problem. As this report shows, in 2023 overall trachoma prevalence continues to remain below endemicity levels. For formal recognition by WHO that Australia has eliminated trachoma as a public health problem, Australia must maintain these levels of overall trachoma prevalence until 2025. Furthermore, Australia must demonstrate that the prevalence of previously undiagnosed trachomatous trichiasis is below 0.2% in people aged 15 years and over and provide evidence of a health care system that can recognise and manage future trichiasis cases that might arise.

While trachoma has reached elimination thresholds at the jurisdictional levels, endemic and hyperendemic levels of trachoma remain in several communities. This highlights that in a post-elimination context Australia will require ongoing screening, and treatment and related activities for trachoma control. Sustaining elimination of trachoma as a public health problem requires strengthening health promotion and environmental improvements, including improving the provision of appropriate housing in remote areas and ongoing maintenance of water and sanitation hardware. Such changes require a multi-sectoral effort, involving communities and agencies beyond the public health units and teams that traditionally have been assigned responsibility for trachoma control activities.

Screening coverage

Under CDNA guidelines, not all at-risk communities require annual screening. Communities still considered at risk but with trachoma prevalence less than 5% can undertake bi-annual rather than annual screening. Jurisdictions can also choose to forgo annual screening and dedicate resources to antibiotic distribution in high prevalence communities.³⁴ In 2023, 91% (67/74) of communities that required screening under CDNA guidelines received this service, compared to 100% (79/79) in 2022. Reasons for not undertaking screening include community movements and staff/resourcing pressures.

CDNA guidelines have a target of 85% of children aged 5-9 years examined for trachoma in each community screened. Of the 67 communities screened in 2023, 60 (90%) achieved this target (data not shown). Children not screened have either not consented for screening (via parents/carers) or were not available at school or outside school on the day of screening.

Facial cleanliness

Clean faces reduce the sharing of infected ocular and nasal secretions between children, thereby interrupting transmission of chlamydial infection.¹² From 2022 to 2023, the prevalence of clean faces increased in both SA (74% to 85%) and WA (54% to 70%) but declined in the NT (86% to 74%). CDNA guidelines have a target of 85% of children aged 5-9 years with clean faces at the time of screening. In 2023, 51% (34/67) of screened communities reached this target (data not shown).

Since 2007, there has been considerable variation in the prevalence of facial cleanliness within jurisdictions and regions. This may reflect the complexity of facilitating sustainable behavioural change and indicates the importance of reducing environmental barriers to facial cleanliness, through improved access to safe and functional washing facilities, prompt repair and systemic maintenance of housing hardware and reduced crowding in homes.

Trachoma prevalence

Between 2022 and 2023 the overall prevalence of trachoma in children aged 5-9 years has remained at 0.0% in SA, declined in WA (from 2.9% in 2022 to 1.6% in 2023) and risen slightly in the NT (from 2.1% in 2022 to 2.3% in 2023). Overall trachoma prevalence in all current and formerly endemic jurisdictions remains below the threshold of 5% defined for elimination as a public health problem.

At least one case of trachoma was reported among children aged 5-9 years in 28% (19/67) of communities screened in 2023. Both the absolute number and proportion of screened communities reporting any trachoma has been declining since 2020, when trachoma was reported in 68% (65/96) of communities screened. A similar pattern of decline has been seen in screened communities reporting endemic levels of trachoma ($\geq 5\%$), notably in the NT and WA. However, a small number of communities screened in 2023 (7% or 5/67) continue to report hyperendemic trachoma (over 20% prevalence).

Antibiotic distribution and coverage

Antibiotic treatment with azithromycin was indicated under CDNA Guidelines¹ for 2,044 people in 2023, with 1,677 doses distributed (82%). While dosage distribution numbers had been declining in Australia since 2016, 2023 represents a reversal of this pattern, with just over twice the number of doses administered compared to 828 doses in 2022. These results may reflect year-to-year variation in the proportion of areas undertaking community-wide treatment versus treatment of immediate contacts only (recommended according to the level of case clustering). In 2023, community-wide treatment was undertaken in 28% (5/18) of communities, compared to 9% in 2022 (3/35).

Treatment coverage is defined as the proportion of active cases plus household/community contacts requiring treatment who received azithromycin. Treatment coverage across regions varied from 68% to 100%. Low levels of treatment coverage are likely due to a combination of factors, including refusal, population movements, and reports of treatment fatigue after many years of community-wide distribution. The implications of reduced uptake of antibiotics for trachoma control in a peri-elimination context are not well understood. Nevertheless, these results further emphasise the importance of housing and other environmental improvements in combination with effective health promotion programs to ensure sustainable elimination of trachoma as a public health problem.

Trachoma-related trichiasis

A total of 13 219 people aged 15 years and older were reported to have been screened for trichiasis in the NT, SA and WA in 2023, compared to 10 806 in 2022. The national prevalence of trichiasis in screened people aged 15 years and older was 0.07% and in those aged 40 years and older was 0.11%. This is similar to 2022 prevalences at 0.07% and 0.12% respectively. Jurisdictional prevalence in screened populations aged 15 years and older in

2023 was 0.01% in the NT, 0% in SA, 0.2% in WA. In 2023, seven people from the three jurisdictions were reported to have had trichiasis surgery.

Health promotion activities

Jurisdictional health departments and community health organisations continue to deliver a wide range of health promotion activities to support facial cleanliness and related hygiene behaviours. Health promotion activities target diverse groups in the community to improve uptake, including children, young people, parents/caregivers, other community members and local service providers. Knowledge and skills building activities are delivered via interactive school programs, teacher and community health worker training, social/mass media campaigns and at local community events. Programs incorporate the distribution of hygiene resources (e.g. soap, towels) and home cleaning supplies to translate knowledge into action.

Health promotion messages and materials are culturally tailored and developed in partnership with targeted communities. Facial cleanliness messages have been integrated in education curriculum in some remote schools, as well as in other family programs (e.g. the Northern Territory's Families as First Teachers program) and early learning settings to sustain messaging outside of screening and treatment programs. Content includes broader hygiene information relevant to the prevention of other environmentally-related diseases (e.g. ear and skin health) to support a multi-disease focus and cross-program collaboration.

Environmental improvement activities

- Improving integration to enhance environmental health is a key priority of the National Trachoma Surveillance and Control Reference Group (NTSCRG). In 2023, the NTSCRG organised an inaugural two-day workshop bringing together representatives from First Nations organisations, federal and state/territory housing departments, environmental health, and trachoma control programs from across Australia. Outcomes of the workshop included building cross-sectoral connections, sharing learnings from innovative programs, and identifying new opportunities for collaborative ventures.
- Information available on environmental improvement activities is based on narrative reporting of program activities by jurisdictions and local partners. There is currently no agreed national/international monitoring and evaluation framework to support a more systematic approach to reporting of environmental health and housing conditions, interventions and improvements at the community, regional and national levels. Jurisdictional-level trachoma programs collaborate with environmental and housing programs but are not in position to comprehensively monitor their activities.

Reported activities undertaken to improve environmental infrastructure and home health hardware in 2023 have included:

- Routine property inspections of health hardware by environmental health workers in remote communities (also known as 'Healthy Homes assessments'), with

distribution of hygiene resources, housing maintenance (plumbing, electrical and carpentry) and pest management activities carried out or referred for additional services as required. Several areas have implemented a model known as a 'blitz' in which housing and health staff partner to conduct community-wide Healthy Homes assessments with qualified trades persons in attendance (or deployed as soon as possible) for more complex repairs.

- Collaboration with trachoma control programs and non-government organisations to deliver health promotion activities, including during school screening programs and Healthy Homes assessments.
- Installation and refurbishment of hygiene equipment in local schools in trachoma affected regions.

In addition, environmental health policy advice, strategic planning, guidance and resource development is provided by the Expert Reference Panel on Aboriginal and Torres Strait Islander Environmental Health under the Environmental Health Standing Committee of the Australian Health Protection Principal Committee, as well as by other state and regionally based committees.

National results

Figures and Tables

Figure 1.1 Overall trachoma prevalence in children aged 5-9 years by jurisdiction, Australia, 2023

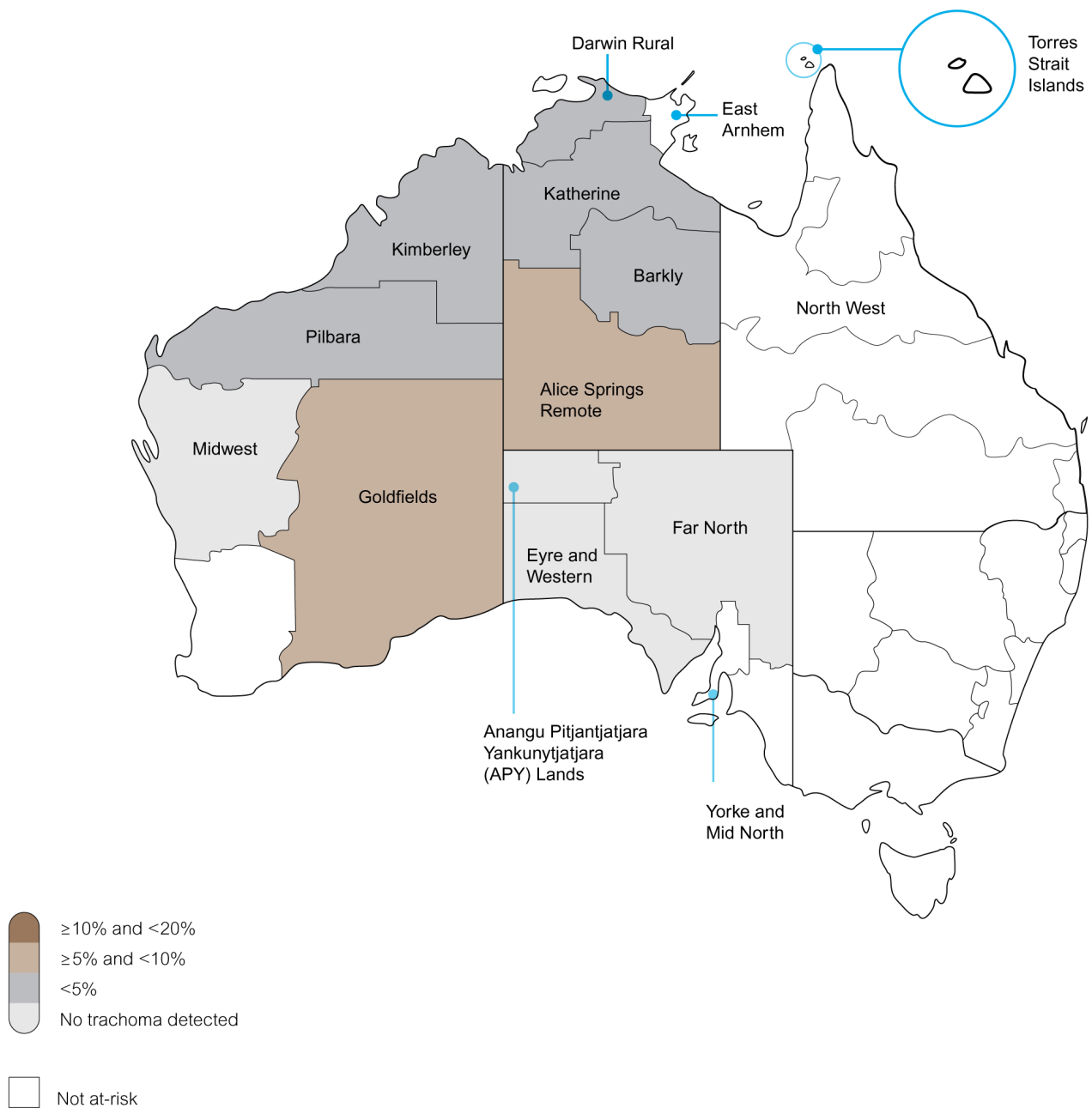


Figure 1.2 Number of at-risk communities by jurisdiction, Australia, 2007 – 2023

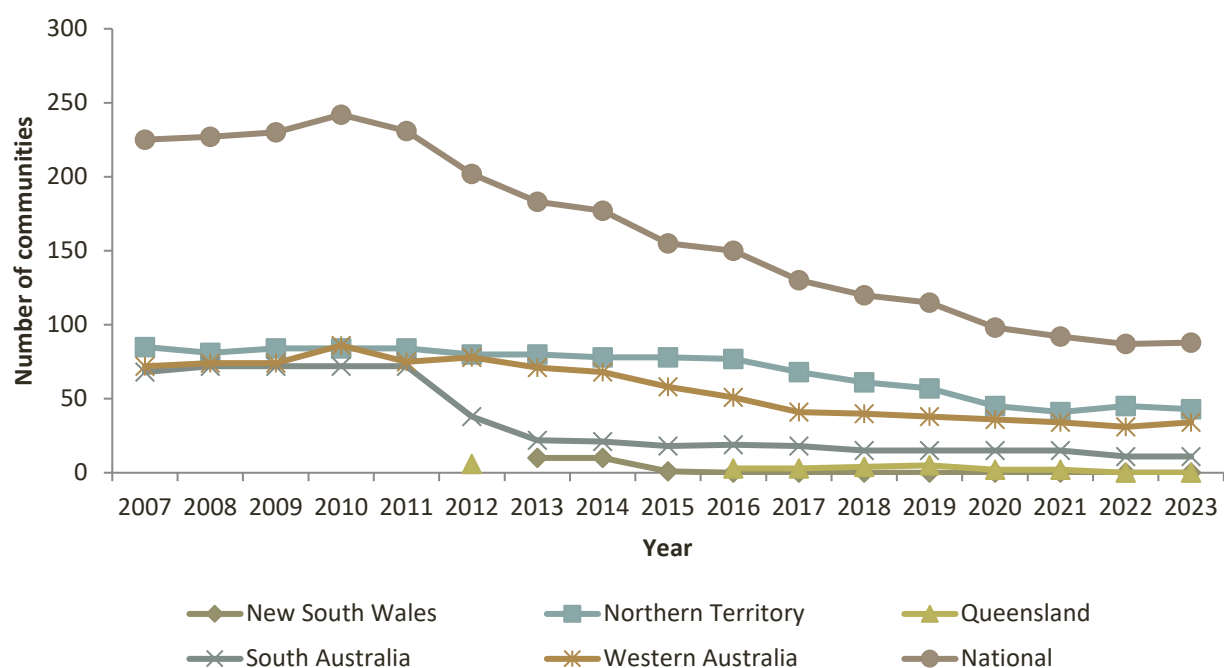


Figure 1.3 Number of at-risk communities according to trachoma control strategy implemented by jurisdiction, Australia, 2023

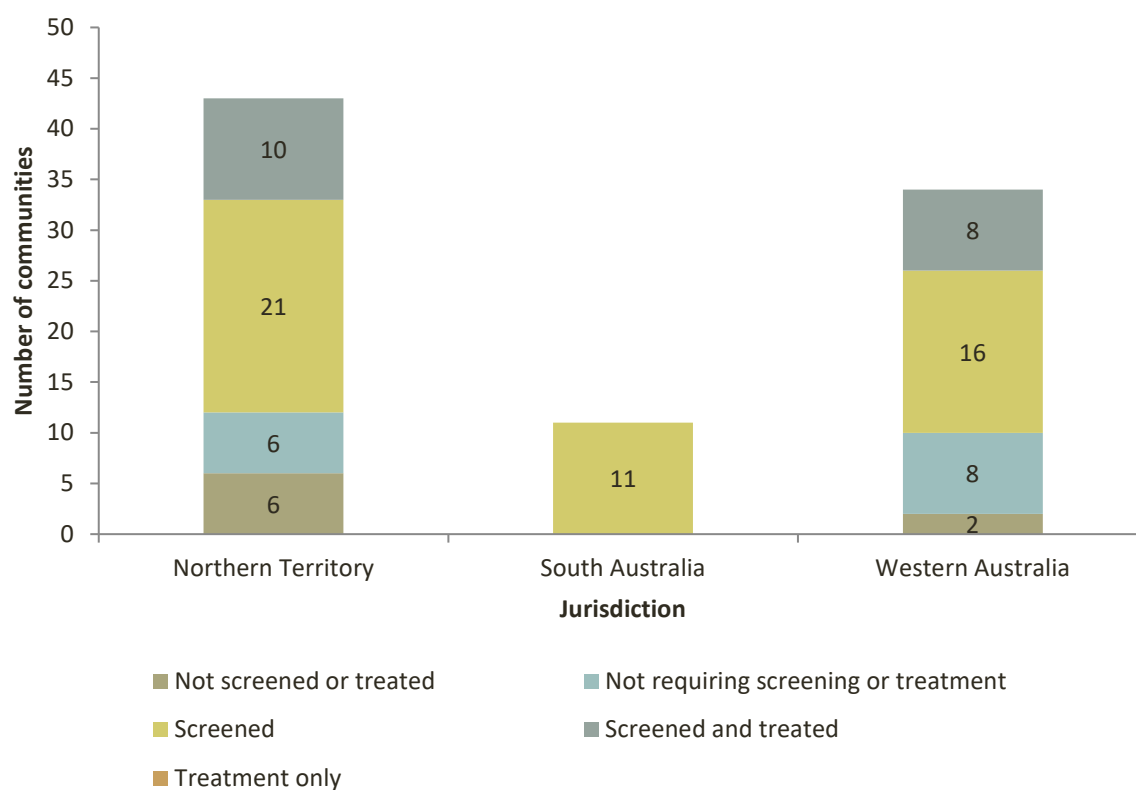


Figure 1.4 Proportion of screened children aged 5-9 years who had a clean face by jurisdiction, Australia 2007-2023

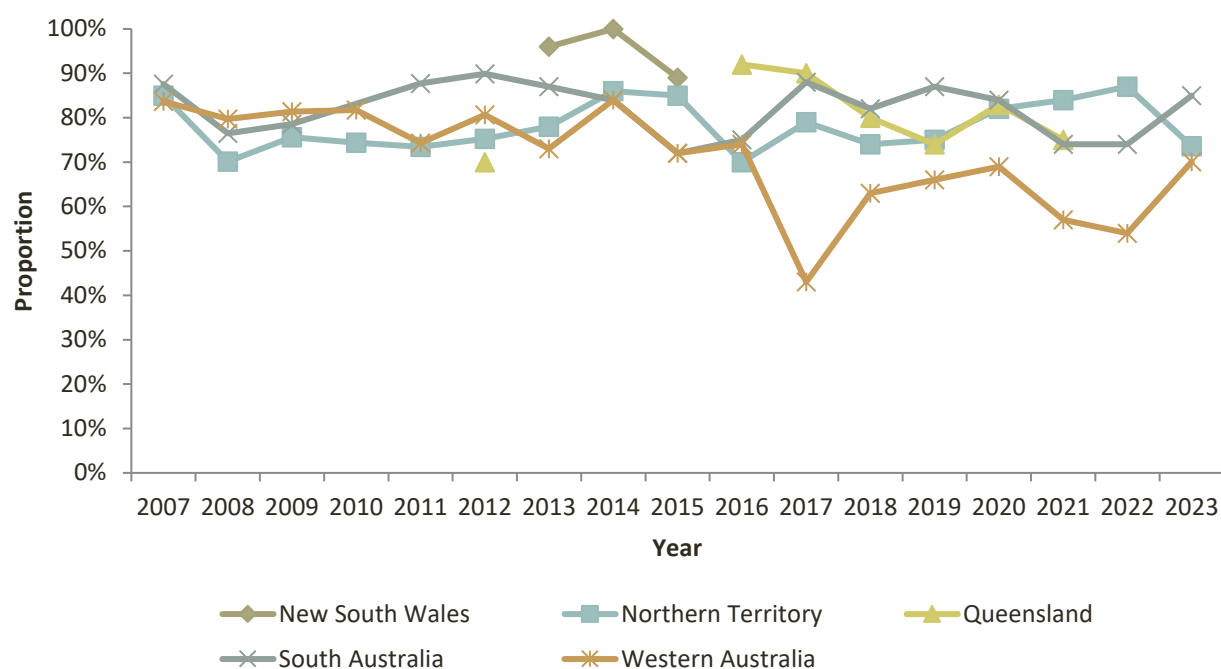


Figure 1.5a Observed prevalence of clinical findings consistent with trachomatous inflammation – follicular/intense among screened children aged 5-9 years by jurisdiction, Australia, 2007 – 2023

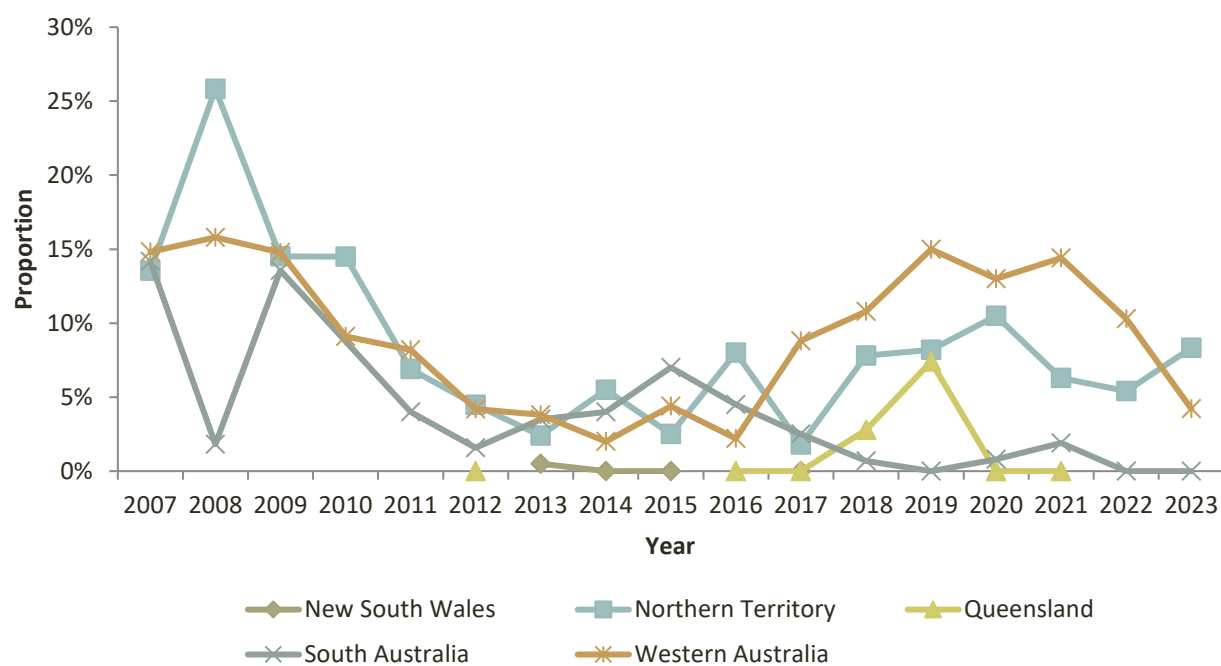
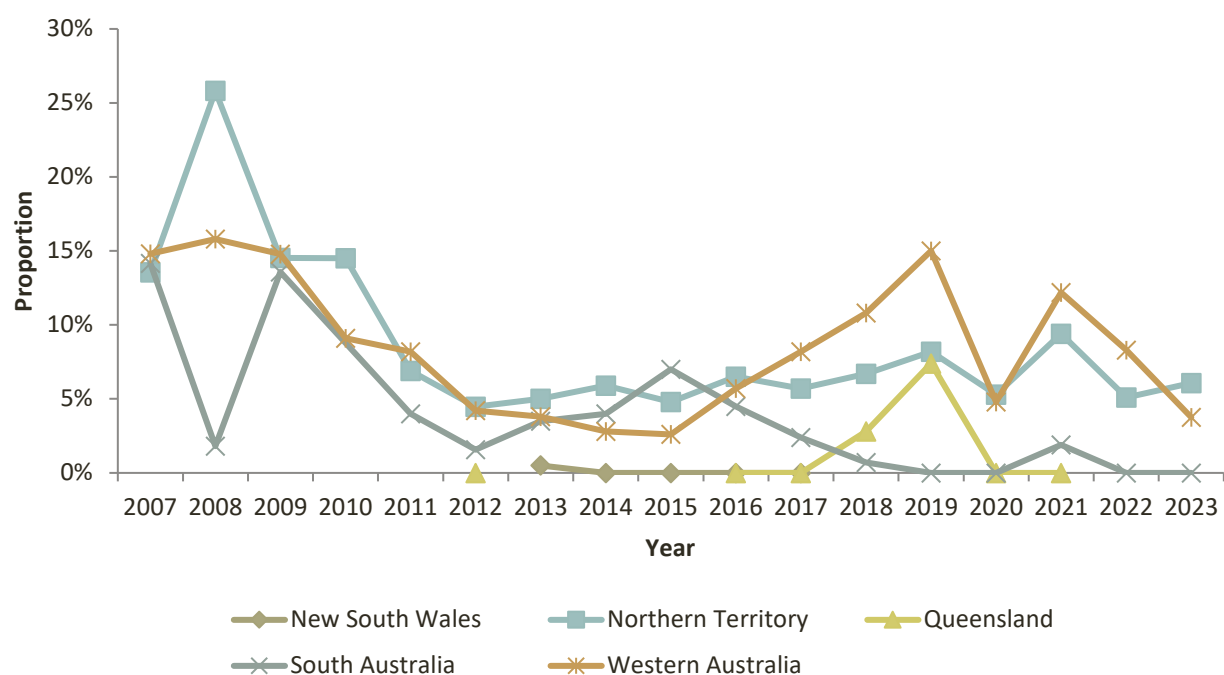
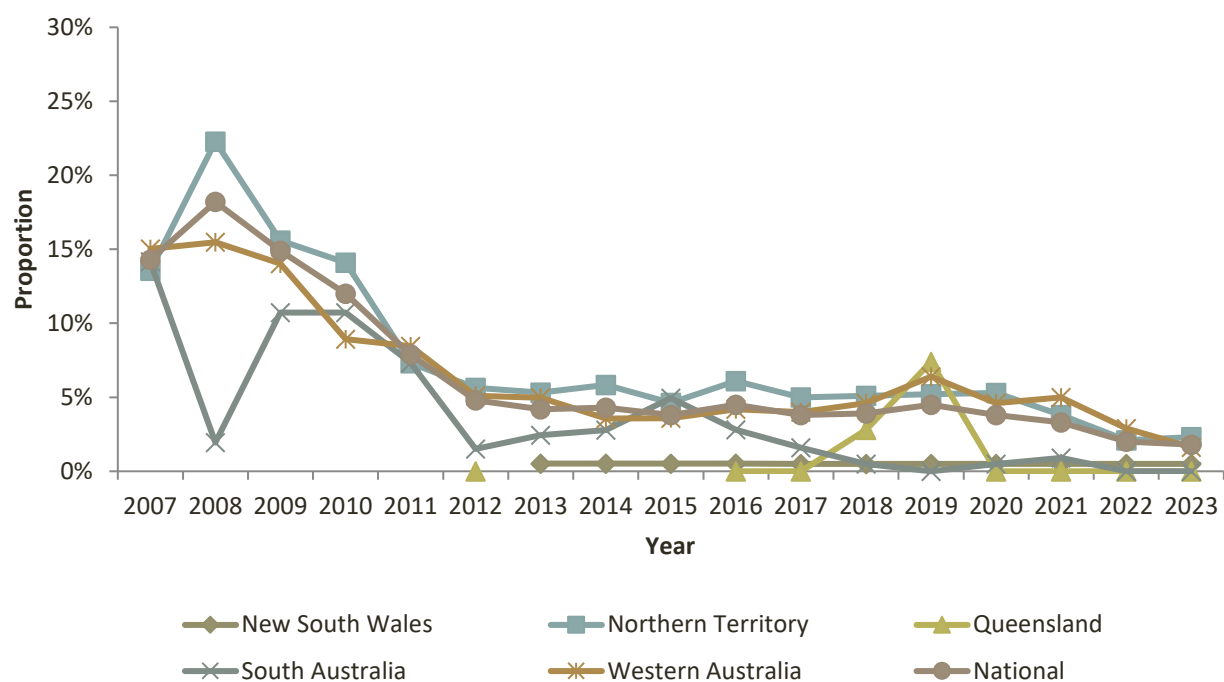


Figure 1.5b Estimated prevalence of trachoma among children aged 5-9 years in all at-risk communities* by jurisdiction, Australia, 2007 – 2023



* Most recent estimates carried forward in at-risk communities that did not screen in 2023

Figure 1.5a Overall prevalence of trachoma among children aged 5-9 years in all communities* by jurisdiction, Australia, 2007 – 2023



* Most recent estimates carried forward in all communities that were considered at-risk since 2007

Figure 1.6 Number of at-risk communities according to the level of observed trachoma prevalence in children aged 5-9 years by jurisdiction, Australia, 2023

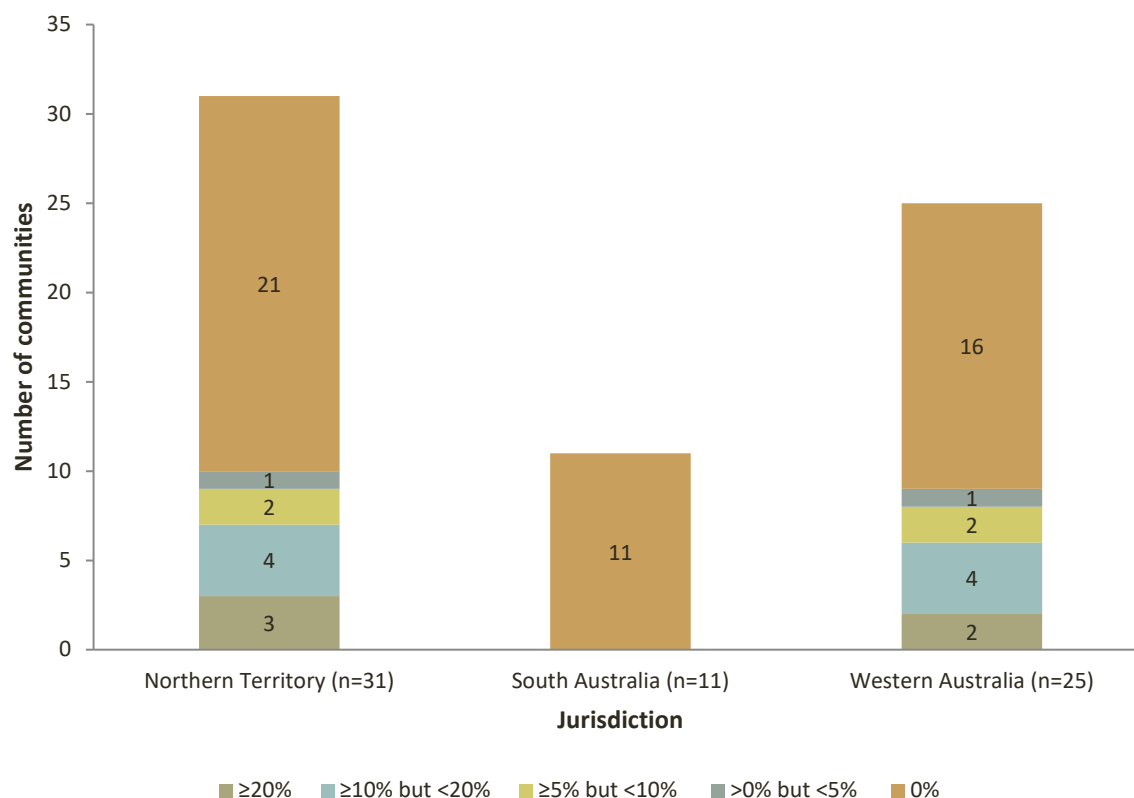


Figure 1.7 Proportion of at-risk communities with zero prevalence of trachoma by jurisdiction, Australia, 2007-2023

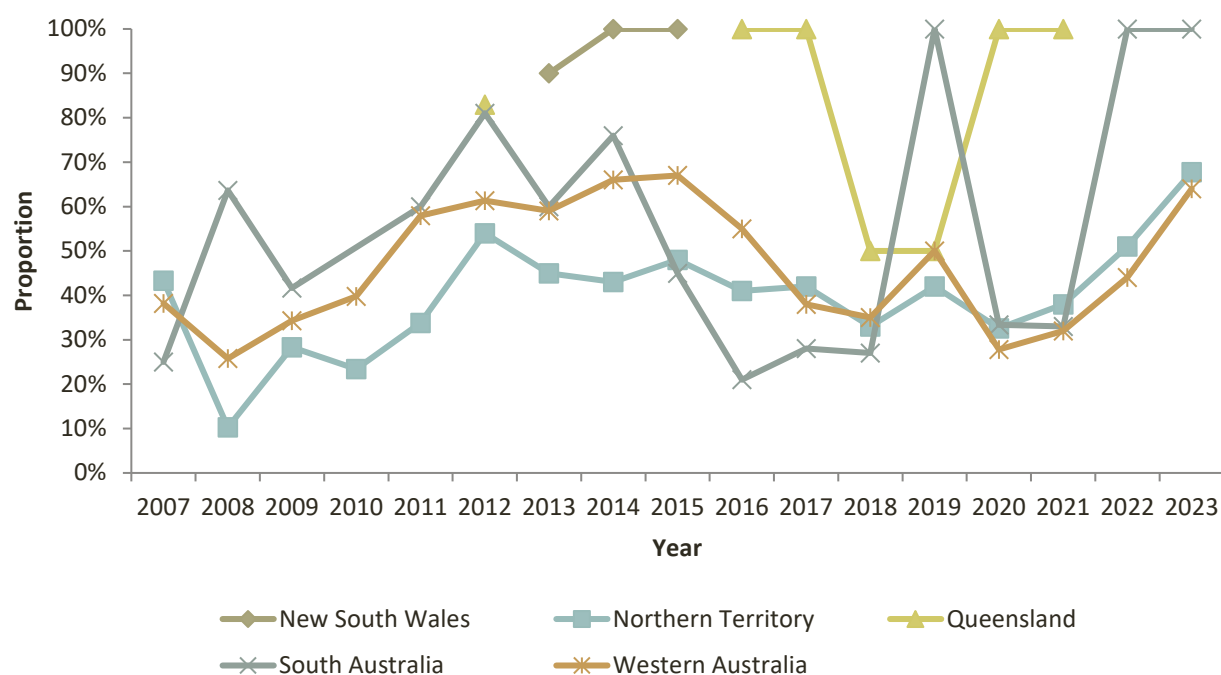


Figure 1.8 Proportion of at-risk communities with endemic levels of trachoma (> 5%) by jurisdiction, Australia, 2007-2023

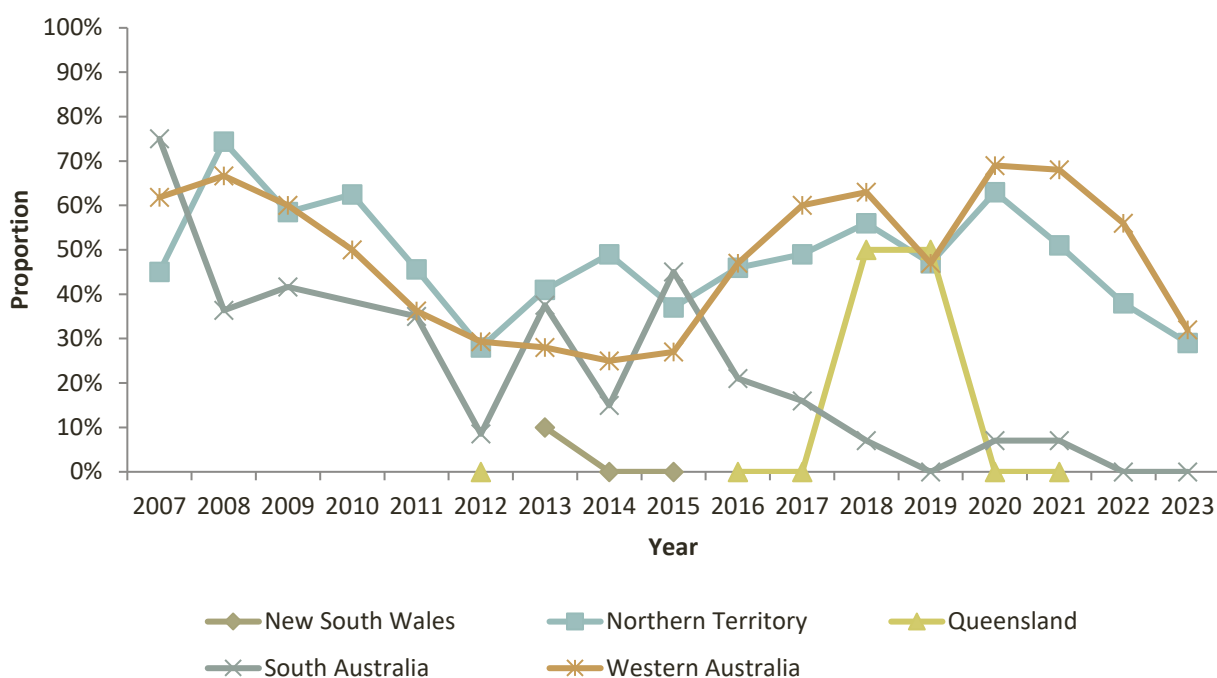


Figure 1.9 Number of doses of azithromycin administered for the treatment of trachoma by jurisdiction, Australia, 2007-2023

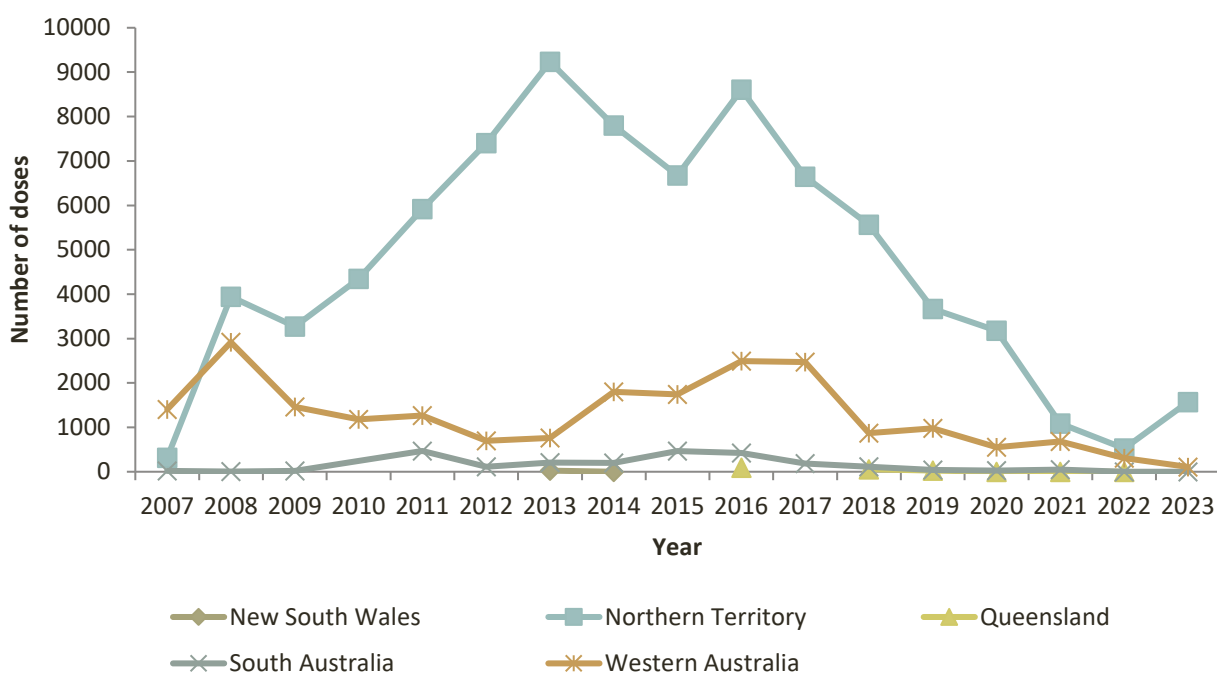


Table 1.1 Trachoma control delivery in at-risk communities* by jurisdiction, Australia, 2023

Number of communities	Northern Territory	South Australia	Western Australia	Total
At risk (A)	43	11	34	88
Requiring screening for trachoma (B)	37	11	26	74
Screened for trachoma (C)	31	11	25	67
Requiring treatment without screening† (D)	0	0	0	0
Received treatment without screening (E)	0	0	0	0
Screened and/or treated for trachoma (F=C+E)	31	11	25	67
Requiring neither screening nor treatment for trachoma (G=A-B-D)	6	0	8	14

* As defined by each jurisdiction

† As per CDNA Guidelines

Table 1.2 Trachoma screening coverage, trachoma prevalence and clean face prevalence in children aged 5-9 years by jurisdiction, Australia, 2023

	Northern Territory	South Australia	Western Australia	Total
Number of communities screened	31	11	25	67
Estimated number* of Aboriginal children in communities	753	240	443	1436
Children examined for clean face	711	213	411	1335
Children with clean face	523	181	288	992
Clean face prevalence (%)	74	85	70	74
Children screened for trachoma	684	213	403	1300
Trachoma screening coverage (%)	91	89	91	91
Children with active trachoma	57	0	17	74
Observed prevalence of active trachoma [†] (%)	8.3	0.0	4.2	5.7
Estimated prevalence of active trachoma [‡] (%)	6.1	0.0	3.8	4.7
Overall prevalence of active trachoma (%)	2.3	0.0	1.6	1.8

* Jurisdictional estimate

[†] Communities that were screened for trachoma in 2023

[‡] Methods of calculating prevalence rates are described in the Methodology section

Table 1.3 Number and proportion of at-risk communities according to the level of observed trachoma prevalence in children aged 5-9 years, Australia, 2014-2023

	2014		2015		2016		2017		2018		2019		2020		2021	
Communities at-risk *	177		157		150		130		120		115		98		94	
Communities not screened †	0		8		8		1		8		4		2		13	
Number of communities ‡	177		149		142		129		112		111		96		82	
Trachoma prevalence rate	n	Proportion	n	Proportion	n	Proportion	n	Proportion	n	Proportion	n	Proportion	n	Proportion	n	Proportion
≥20%	17	10%	16	11%	15	11%	17	13%	13	12%	24	22%	16	17%	9	11%
≥10% but <20%	36	20%	27	18%	29	20%	30	23%	34	30%	13	12%	27	28%	18	22%
≥5% but <10%	12	7%	16	11%	12	8%	13	10%	16	14%	8	7%	10	10%	12	15%
>0% but <5%	13	7%	16	11%	21	15%	19	15%	15	13%	8	7%	12	13%	13	16%
0%	99	56%	74	50%	65	46%	50	39%	34	30%	58	52%	31	32%	30	37%

* As defined annually by each jurisdiction

† Or treated as required per Guidelines

‡ Screened or receiving ongoing annual treatment as per CDNA Guidelines

Table 1.4 Treatment strategies by jurisdiction, Australia, 2023

Number of communities	Northern Territory	South Australia	Western Australia	Total
Required treatment for trachoma	10	0	9	19
Treated for trachoma	10	0	8	18
Screened and treated	10	0	8	18
Received treatment only	0	0	0	0
Received 6-monthly treatment	0	0	0	0
Did not require treatment	21	11	16	48
Treated active trachoma and households	5	0	8	13
Community-wide treatment	5	0	0	5
Not treated according to CDNA Guidelines*	0	0	1	1

*Includes communities where required treatment could not be undertaken due to loss to follow up.

Table 1.5 Trachoma treatment coverage by jurisdiction, Australia, 2023

	Northern Territory					Western Australia					Total				
Age group (years)	0-4	5-9	10-14	15+	All	0-4	5-9	10-14	15+	All	0-4	5-9	10-14	15+	All
Requiring treatment for active trachoma	0	57	0		57	0	17	0		17	0	74	0		74
Received treatment for active trachoma	0	57	0		57	0	16	0		16	0	73	0		73
Received treatment for active trachoma (%)	N/A	100	N/A		100	N/A	94	N/A		94	N/A	99	N/A		99
Estimated community members* requiring treatment	182	201	193	1258	1834	8	14	21	93	136	190	215	214	1351	1970
Number of community members who received treatment	150	175	162	1024	1511	6	9	16	62	93	156	184	178	1086	1604
Estimated community members who received treatment (%)	82	87	84	81	82	75	64	76	67	68	82	86	83	80	81
Number of community members that refused treatment	21	11	16	129	177	1	3	1	7	12	22	14	17	136	189
Total number of doses of azithromycin delivered	150	232	162	1024	1568	6	25	16	62	109	156	257	178	1086	1677

Estimated overall treatment coverage (%)	82	90	84	81	83	75	81	76	67	71	82	89	83	80	82
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* Estimated as per CDNA Guidelines

Table 1.6 Trachoma-related trichiasis screening coverage, prevalence and surgery among Indigenous persons by jurisdiction, Australia, 2023

	Northern Territory		South Australia		Western Australia		Total		
Number of communities screened for trichiasis	68		11		71		150		
Age group (years)	15-39	40+	15-39	40+	15-39	40+	15-39	40+	15+
Adults examined*	4743	4071	490	485	91	3339	5324	7895	13219
With trichiasis	0	1	0	0	0	8	0	9	9
With trichiasis (%)	0.00	0.02	0.00	0.00	0.00	0.24	0.00	0.11	0.07
Surgery in past 12 months†	0	2	0	1	0	4	0	7	7

* This number may not account for all adults who may be examined in routine adult health checks and may also include multiple patient screenings. Screening is linked to trachoma endemic regions and does not consider changing endemic regions over time and transiency between regions.

† Surgery cases may include cases identified in previous years

Jurisdictional-specific results

Northern Territory results

Trachoma program coverage

- In 2023, the NT identified 43 communities across three regions as being at-risk of trachoma (Figure 2.2, Table 2.1).
- Of these at-risk communities, 37 communities required screening for trachoma according to the current CDNA guidelines (Figure 2.3, Table 2.1).
- A further seven communities did not require screening as per guidelines.

Trachoma screening coverage

- Of the 37 at-risk communities requiring screening for trachoma in 2023, 31 of these were screened (84%) (Table 2.1).
- The proportion of children aged 5-9 years screened for trachoma in these communities was 91%. There was little variation in trachoma screening coverage between regions (Table 2.2).

Facial cleanliness

- Clean face prevalence was assessed in all communities that were screened in 2023 (data not shown).
- The prevalence of clean faces among children aged 5-9 years in the communities assessed across the NT in total was 74%. Clean face prevalence ranged from 38% in the Katherine region to 84% in the Barkly region (Figure 2.4, Table 2.2).

Trachoma prevalence

- The observed prevalence of trachoma in those aged 5-9 years in the 31 communities that were screened in 2023 was 8.3% (57/684). Prevalence in these communities ranged from 12.7% in the Katherine region to 1.5% in the Barkly region (Figure 2.5a, Table 2.2).
- No trachoma was reported in 68% (21/31) of the screened at-risk communities (Figure 2.6, Table 2.3).
- Endemic levels of trachoma ($\geq 5\%$) were reported in 29% (9/31) of the screened at-risk communities (Figure 2.6, Table 2.3)
- Hyperendemic levels of trachoma ($\geq 20\%$) were reported in 10% (3/31) of the screened at-risk communities (Figure 2.6, Table 2.3).
- The overall prevalence of trachoma (which includes data from all communities ever considered at risk of trachoma) in those aged 5-9 years was 2.3% in 2023. Overall prevalence ranged from 0.0% in the East Arnhem region to 6.6% in the Alice Springs remote region (Figure 2.5c, Table 2.2).

Treatment delivery and coverage

- Trachoma treatment was required and provided in 10 communities (Table 2.4).
- Treatment was delivered to trachoma cases and household contacts in five communities, and treatment was undertaken community-wide in five communities as per CDNA guidelines (Table 2.4).
- Total treatment coverage in all regions requiring treatment was 83% with 1568 doses of azithromycin delivered (Figure 2.7, Table 2.5).

Trichiasis

- Trichiasis screening was undertaken in 68 communities, with 8,814 persons aged 15 years and older reported to be screened (Table 2.6).
- There was one new case of trichiasis detected among those screened in 2023 (Table 2.6).
- Surgery for trichiasis was reported to be undertaken for two persons aged 15 years or over (Table 2.6).

Health promotion and environmental health

The NT Health Trachoma Program conducts health promotion and environmental improvement activities in partnership with Melbourne University's Indigenous Eye Health Unit (IEHU) and Aboriginal Medical Services Alliance Northern Territory (AMSANT), or supports local providers, such as Anyinginyi Health Aboriginal Corporation, Central Australian Aboriginal Congress and Katherine West Health Board to deliver these activities. Key initiatives are described below.

Health promotion

Health promotion activities are provided throughout the year including during screening and treatment visits to maximise reach. The trachoma mascot, Milpa the Goanna and the Clean Face, Strong Eyes program continued to be promoted throughout remote Aboriginal communities in 2023. Milpa and his message were widely recognised and reinforced through a range of methods, including one-on-one education, presentation to groups and interactive group activities using videos and songs.

Health promotion activities are delivered in a variety of settings including councils, schools, early learning settings, local health care services, stores and art centres, in order to reach a broad range of individuals and groups in communities. Hygiene packages with toothbrush, toothpaste, shampoo and body wash were provided to children screened for trachoma and families in need to reinforce health messages.

In support of the NT Department of Education's Eye and Ear health programme, the IEHU also worked on curriculum-based lesson plans and activities with the Families as First Teachers program in NT schools. The NT Trachoma Program also works in partnership with the NT Department of Education to incorporate the Milpa's Six Steps to Stop Germs hygiene routine in schools. This activity positively reinforces the importance of clean faces prior to the start of the school day.

Social marketing and community events

The Milpa's Six Steps to Stop Germs App continues to be used by the IEHU and the NT Trachoma Program. This app was developed by in 2021 with the aim of making the already developed 6-step resources more interactive for and appealing to school children and educators. The NT Trachoma Program and the IEHU also organised a range of health promotion activities around the AFL match in July 2023.

Environmental Health

Aboriginal Medical Services Alliance Northern Territory Aboriginal Corporation (AMSANT) Partnership Project

In partnership with AMSANT, the NT Trachoma Program is developing a co-designed pilot project for community-based public health and/or environmental health officers. The project is planned in two phases:

Phase 1: April – July 2022 (completed)

- Mapping of community-based services currently delivered in communities including, health, housing, education, and local government.
- Mapping of federal and territory policies that support the project.
- Engagement of a consultant for planning activities and to prepare a funding submission for Phase 2.

Phase 2: August 2022-June 2025 (commenced)

- Employ a project manager to lead the project through to the development of a fully developed pilot proposal and cabinet submission for funding.

Katherine Healthy Homes Workshop

Katherine West Health Board, IEHU and Environmental Health Trachoma Project WA delivered a two day *Healthy Homes Workshop* in Katherine NT on 31 October and 1 November. The event targeted people working with families in remote communities, with the aim to enhance understanding of disease risk factors and diseases linked to health hardware in homes and environmental health, provide opportunities to share health promotion tools and learnings, and improve referral pathways between health and housing sectors. Thirty participants attended including child and family support staff, Aboriginal health practitioners, remote nurses, environmental health practitioners, housing officers, and nutritionists.

Healthy Housing Officer program

Healthy Housing Officer positions have been rolled out in Central Australia and Katherine regions. Officers visit community homes and undertake a comprehensive audit of home health hardware. Community requests for repairs/maintenance are electronically forwarded to the relevant local/territory authority for joint communication and follow-up. Visits are conducted in partnership with non-government services including IEHU for simultaneous provision of house audit and health promotion discussion/resources. Between July-December 2023 audits approximately 63 audits had been conducted across both regions.

Coordination

NT Trachoma Group has a Central Australian focus and is run by the NT Trachoma Program. It meets monthly and brings together all the main organisations working in trachoma control, providing a platform for information sharing and coordination of remote trips and resources.

Central Australia Environmental Health Working Group is based in Central Australia and Barkly, with coordination provided by IEHU. The group aims to support environmental improvements in remote communities to eliminate trachoma, including through identifying local needs, community awareness-raising, supporting referral relationships. Members include the NT Health, NT Department of Education, NT Department of Territory Families, Housing and Communities, AMSANT and its local affiliate members, Outback Stores, Health Habitat, Fred Hollows Foundation, Rotary and regional councils.

NT Department of Education, IEHU and Central Australia – Clean Faces, Strong Eyes Group meets monthly. This group coordinates efforts across schools in terms of links to curriculum, hygiene routines in schools and Families as First Teachers programs. The group also supports the screening and treatment visits to schools.

Northern Territory Health Promotion Network Meeting is based in Darwin. Attendees include NT Health (including environmental health representatives), Children's Ground, NT Department of Education, Menzies School of Health Research, Katherine West Health Board, IEHU, Heart Foundation, and Mitwatj Health Aboriginal Corporation. This group meets to discuss a range of health promotion activities, including trachoma.

Figures and Tables – Northern Territory

Figure 2.1 Overall trachoma prevalence in children aged 5-9 years by region, Northern Territory, 2023

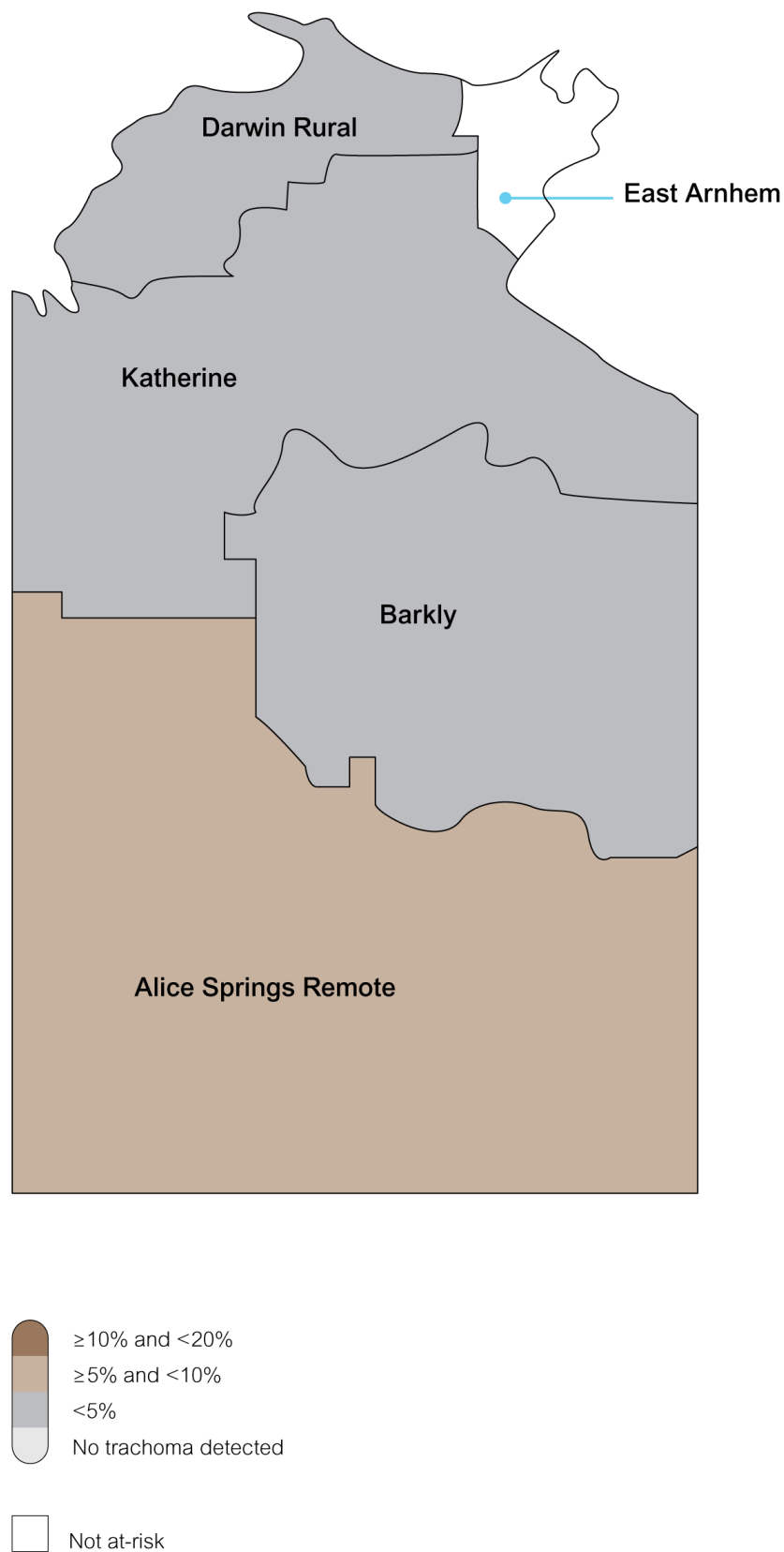


Figure 2.2 Number of at-risk communities by region, Northern Territory, 2007-2023

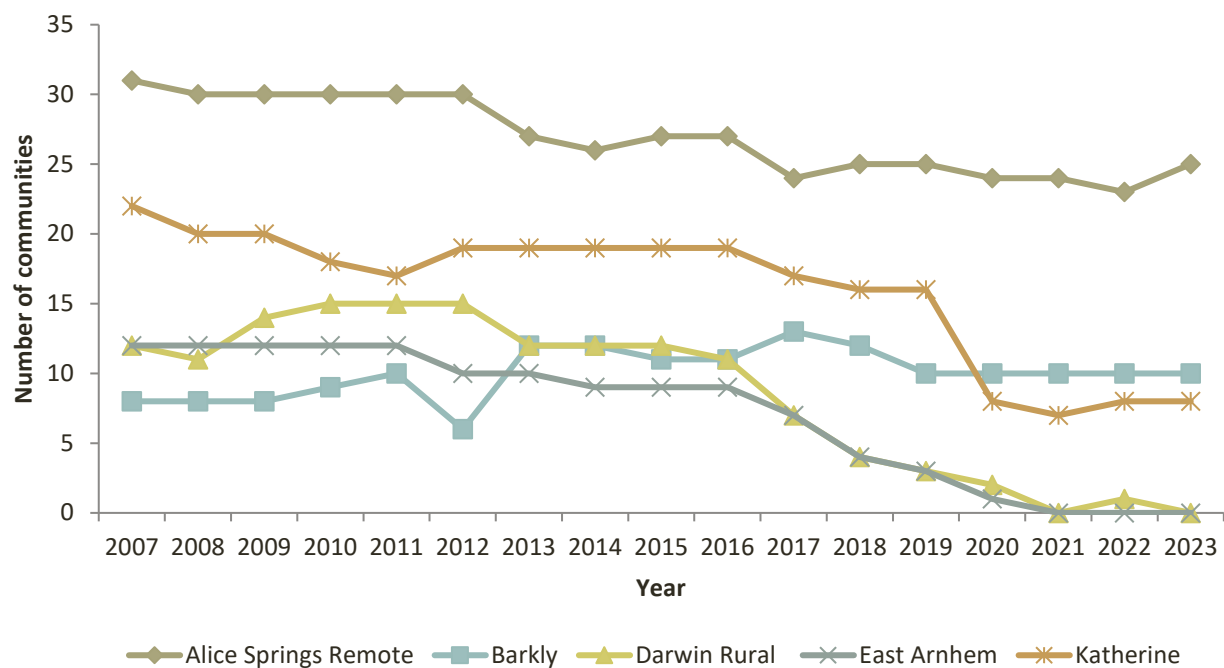


Figure 2.3 Number of at-risk communities according to trachoma control strategy implemented by region, Northern Territory, 2023

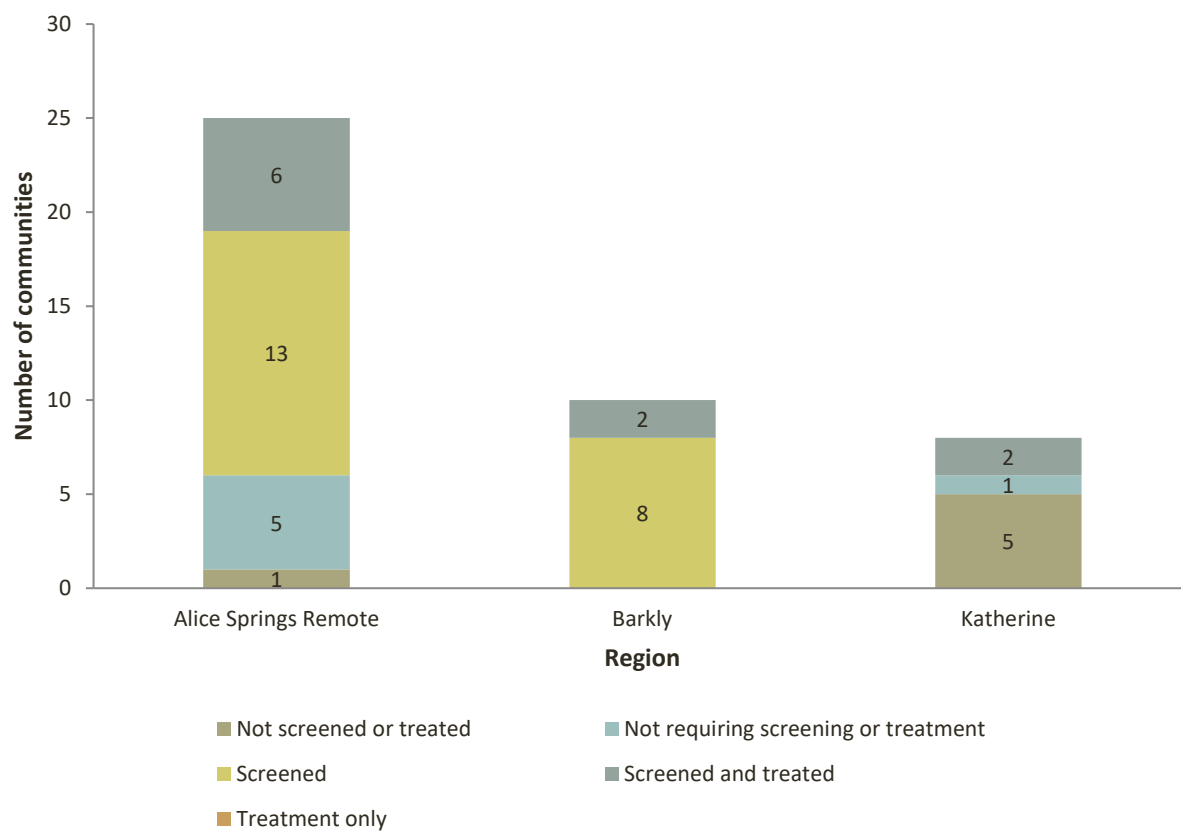


Figure 2.4 Proportion of screened children aged 5-9 years who had a clean face by region, Northern Territory, 2007- 2023

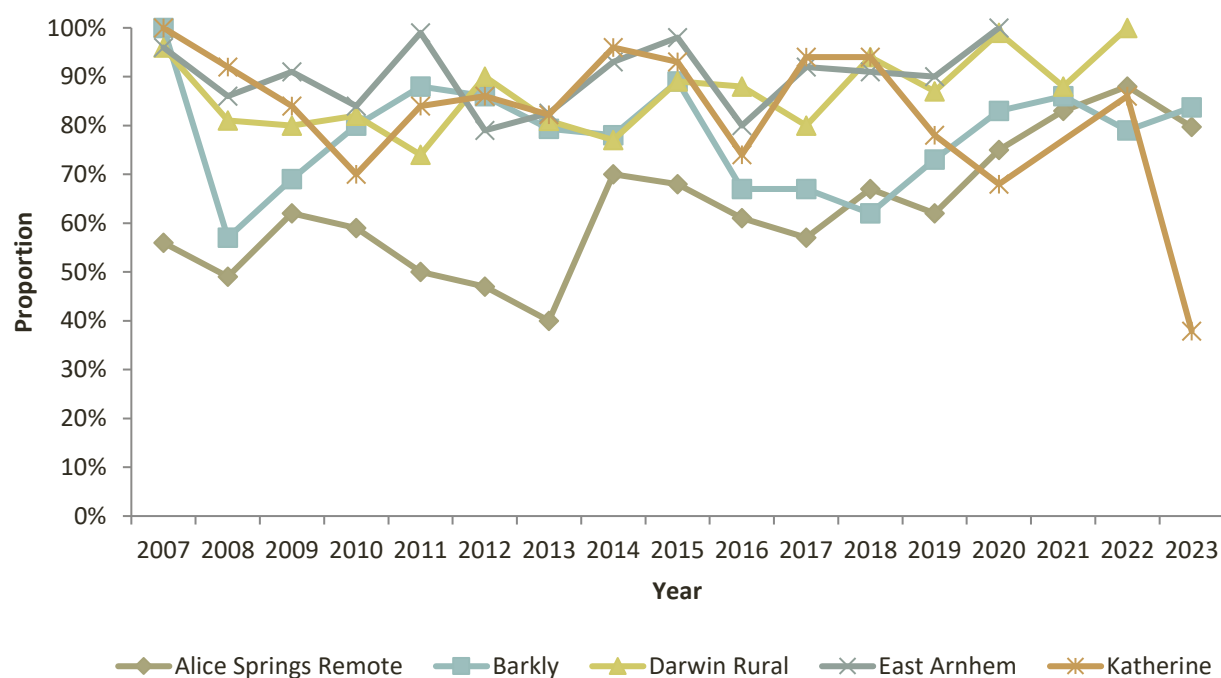


Figure 2.5a Observed prevalence of clinical findings consistent with trachomatous inflammation – follicular/intense among screened children aged 5-9 years by region, Northern Territory, 2007-2023

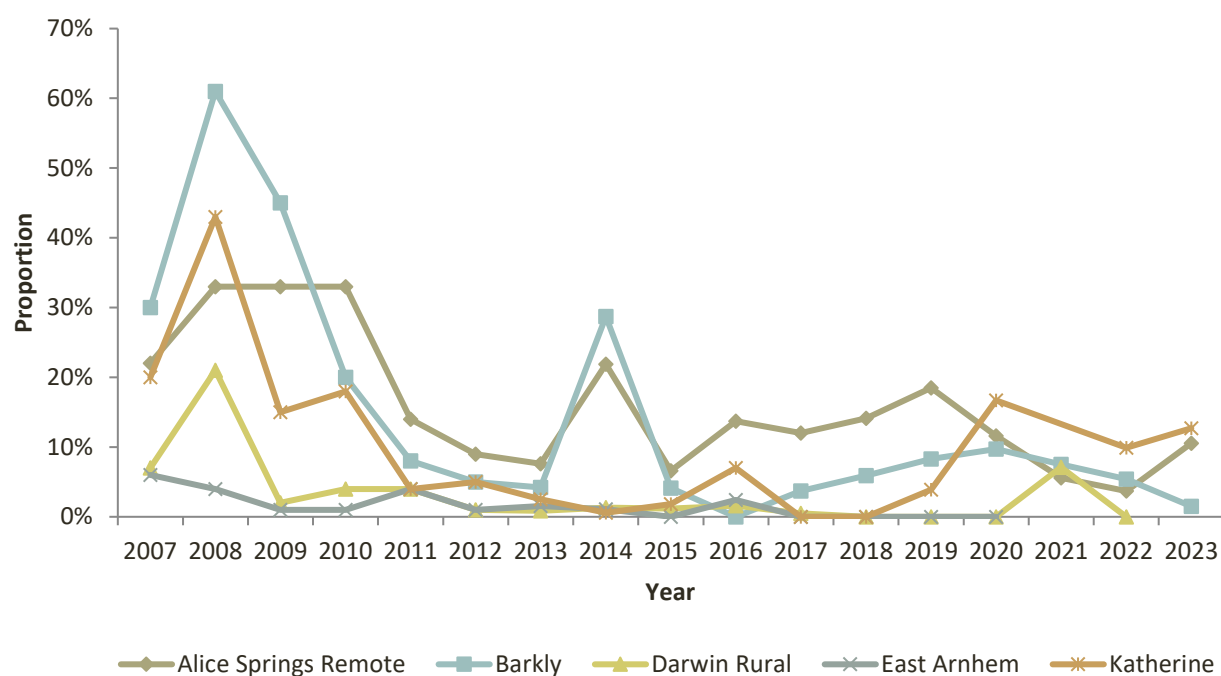
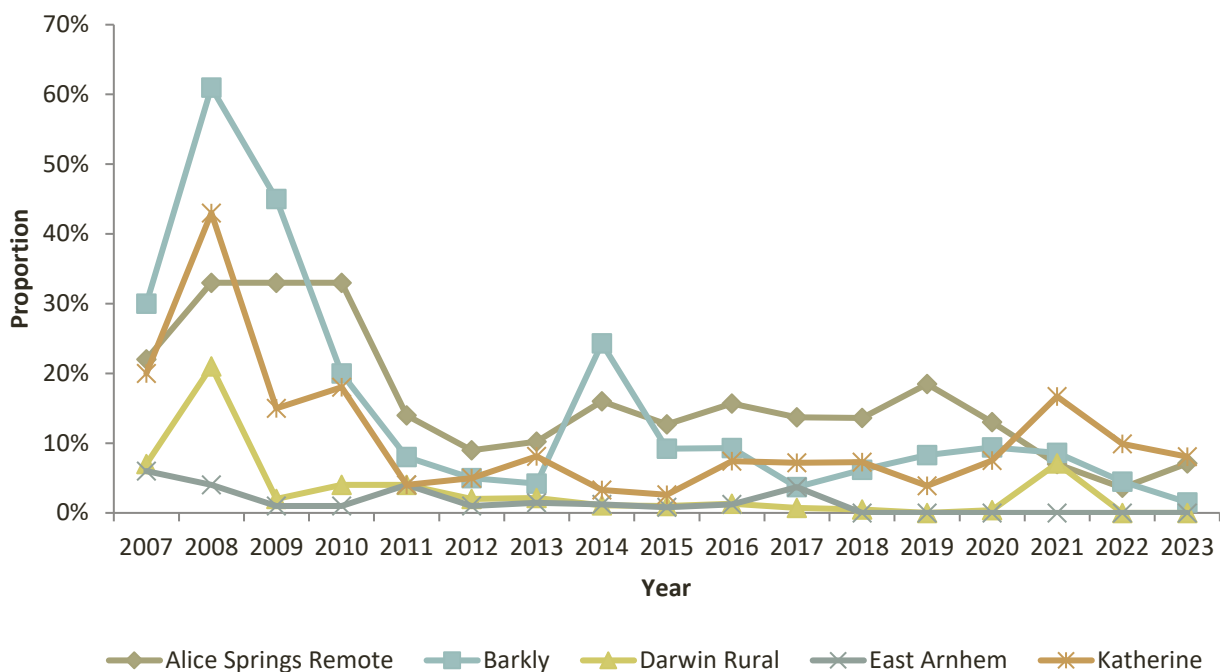
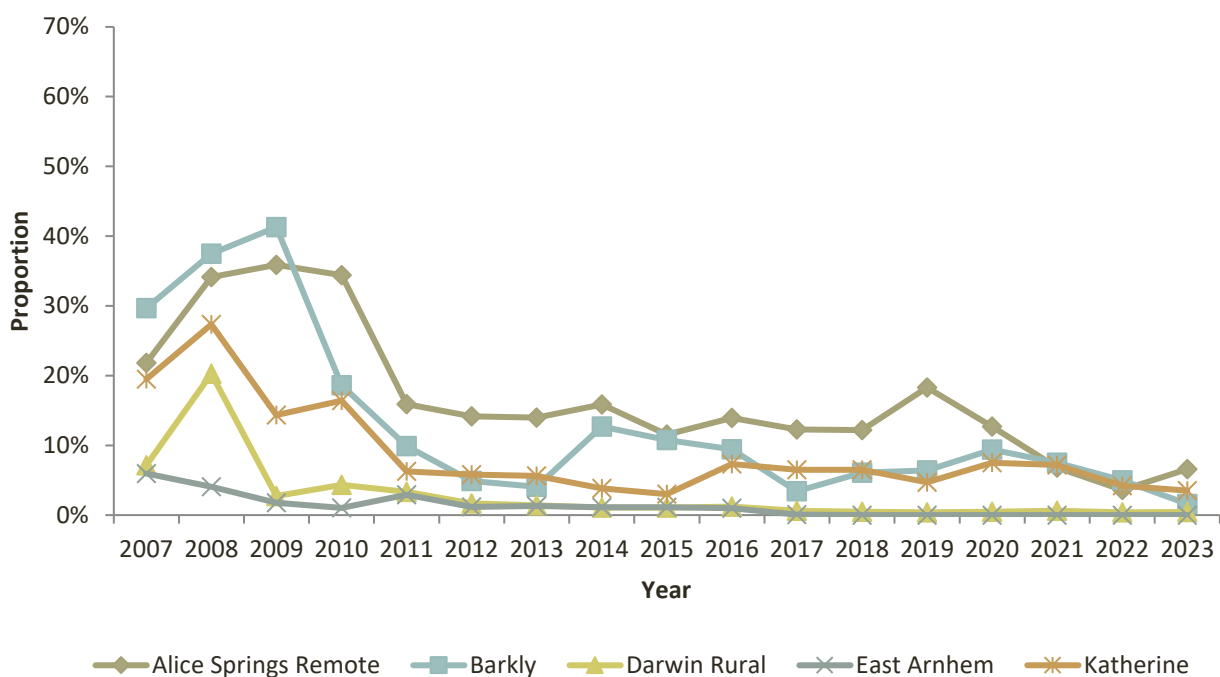


Figure 2.5b Estimated prevalence of trachoma among children aged 5-9 years in all at-risk communities* by region, Northern Territory, 2007-2023



* Most recent estimates carried forward in at-risk communities that did not screen in 2023

Figure 2.5c Overall prevalence of trachoma among children aged 5-9 years in all communities* by region, Northern Territory, 2007- 2023



* Calculated carrying forward most recent data in all communities considered at-risk of trachoma at some time since 2007.

Figure 2.6 Number of at-risk communities according to the level of observed trachoma prevalence in children aged 5-9 years by region, Northern Territory, 2023

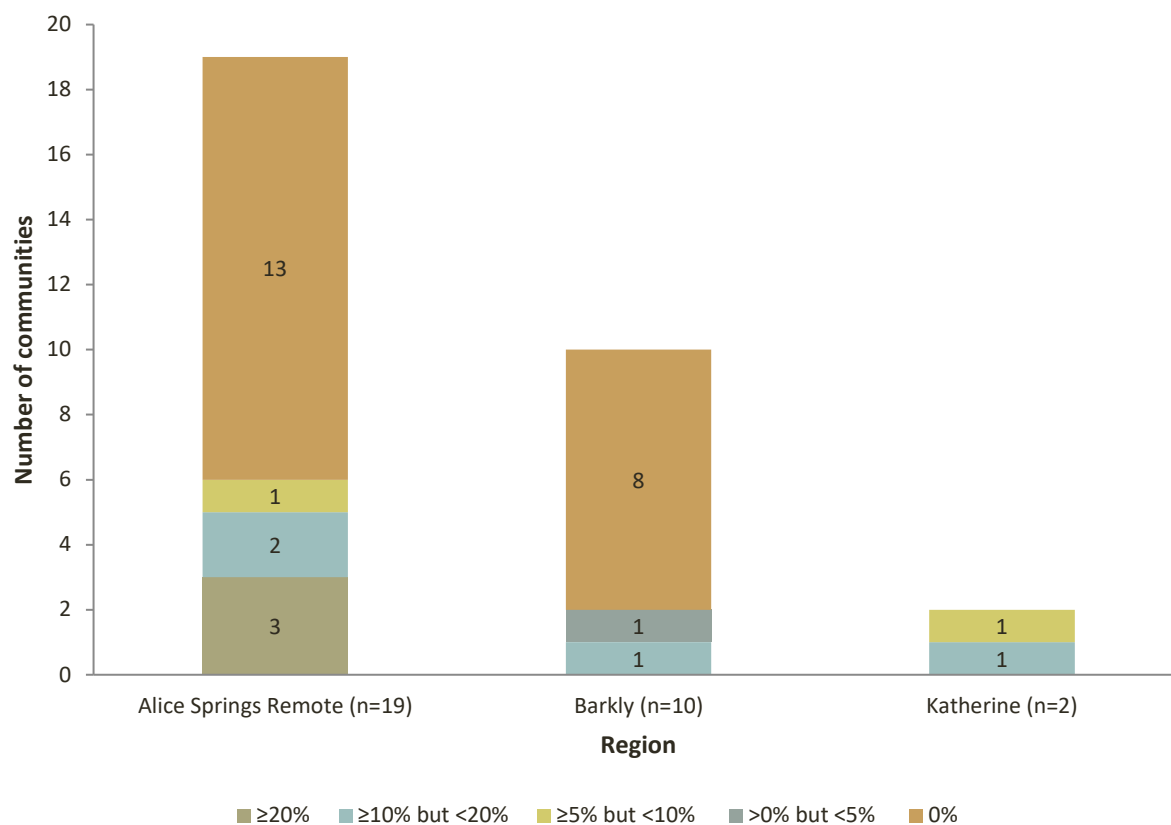


Figure 2.7 Number of doses of azithromycin administered for the treatment of trachoma by region, Northern Territory, 2007- 2023

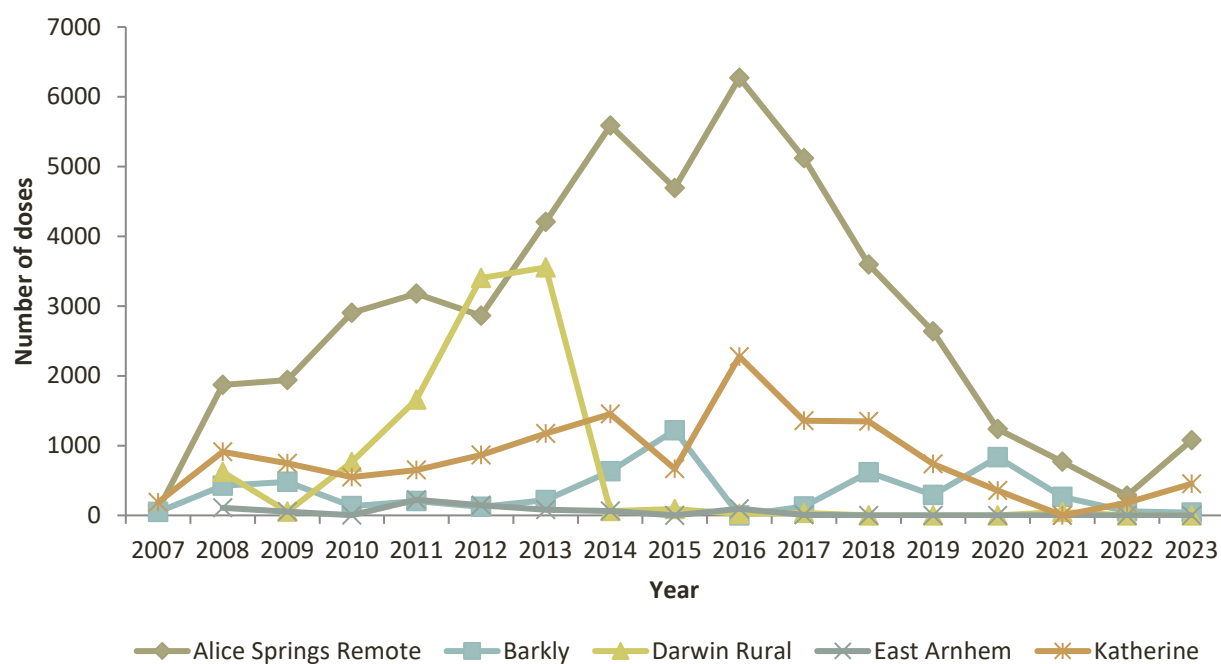


Table 2.1 Trachoma control delivery in at-risk communities* by region, Northern Territory, 2023

Number of communities	Alice Springs Remote	Barkly	Katherine	Total
At risk (A)	25	10	8	43
Requiring screening for trachoma (B)	20	10	7	37
Screened for trachoma (C)	19	10	2	31
Requiring treatment without screening† (D)	0	0	0	0
Received treatment without screening (E)	0	0	0	0
Screened and/or treated for trachoma (F=C+E)	19	10	2	31
Requiring neither screening nor treatment for trachoma (G=A-B-D)	5	0	1	6

* As defined by each jurisdiction

† As per CDNA Guidelines

Table 2.2 Trachoma screening coverage, trachoma prevalence and clean face prevalence in children aged 5-9 years by region, Northern Territory, 2023

	Alice Springs Remote	Barkly	Darwin Rural	East Arnhem	Katherine	Total
Number of communities screened	19	10	0	0	2	31
Estimated number* of Aboriginal children in communities	392	223	0	0	138	753
Children examined for clean face	384	203	0	0	124	711
Children with clean face	306	170	0	0	47	523
Clean face prevalence (%)	80	84	N/A	N/A	38	74
Children screened for trachoma	360	198	0	0	126	684
Trachoma screening coverage (%)	92	89	N/A	N/A	91	91
Children with active trachoma	38	3	0	0	16	57
Observed prevalence of active trachoma [†] (%)	10.6	1.5	N/A	N/A	12.7	8.3
Estimated prevalence of active trachoma [‡] (%)	7.1	1.5	0.0	0.0	8.1	6.0
Overall prevalence of active trachoma (%)	6.6	1.6	0.4	0.0	3.5	2.3

* Jurisdictional estimate.

[†] Communities that were screened for trachoma in 2023.

[‡] Methods of calculating prevalence rates are described in the Methodology section.

Table 2.3 Number and proportion of at-risk communities according to the level of observed trachoma prevalence in children aged 5-9 years, Northern Territory, 2014-2023

	2014		2015		2016		2017		2018		2019		2020		2021		2022		2023	
Communities at-risk *	78		78		77		68		61		57		45		45		45		43	
Communities not screened †	0		8		8		1		8		2		3		8		4		12	
Number of communities ‡	78		70		69		67		53		55		43		37		41		31	
Trachoma prevalence rate	n	Proportion	n	Proportion	n	Proportion	n	Proportion	n	Proportion	n	Proportion	n	Proportion	n	Proportion	n	Proportion	n	Proportion
≥20%	14	18%	11	16%	11	16%	10	15%	7	13%	12	22%	8	19%	3	8%	3	7%	3	10%
≥10% but <20%	14	18%	11	16%	13	19%	12	18%	21	40%	10	18%	13	30%	8	22%	6	15%	4	13%
≥5% but <10%	10	13%	7	10%	8	12%	9	13%	7	13%	4	7%	6	14%	8	22%	7	17%	2	6%
>0% but <5%	6	8%	10	14%	9	13%	8	12%	4	8%	6	11%	2	5%	4	11%	4	10%	1	3%
0%	34	44%	31	44%	28	41%	28	42%	14	26%	23	42%	14	33%	14	38%	21	51%	21	68%

* As defined annually by each jurisdiction.

† Or treated as required per CDNA Guidelines.

‡ Screened or receiving ongoing annual treatment as per CDNA Guidelines.

Table 2.7 Treatment strategies by region, Northern Territory, 2023

Number of communities	Alice Springs Remote	Barkly	Katherine	Total
Required treatment for trachoma	6	2	2	10
Treated for trachoma	6	2	2	10
Screened and treated	6	2	2	10
Received treatment only	0	0	0	0
Received 6-monthly treatment	0	0	0	0
Did not require treatment	13	8	0	21
Treated active trachoma and households	2	2	1	5
Community-wide treatment	4	0	1	5
Not treated according to CDNA Guidelines	0	0	0	0

Table 2.8 Trachoma treatment coverage by region, Northern Territory, 2023

	Alice Springs Remote					Barkly					Katherine					Total				
Age group (years)	0-4	5-9	10-14	15+	All	0-4	5-9	10-14	15+	All	0-4	5-9	10-14	15+	All	0-4	5-9	10-14	15+	All
Requiring treatment for active trachoma	0	38	0		38	0	3	0		3	0	16	0		16	0	57	0		57
Received treatment for active trachoma	0	38	0		38	0	3	0		3	0	16	0		16	0	57	0		57
Received treatment for active trachoma (%)	N/A	100	N/A		100	N/A	100	N/A		100	N/A	100	N/A		100	N/A	100	N/A		100
Estimated community members* requiring treatment	116	127	129	904	1276	6	7	0	28	41	60	67	64	326	517	182	201	193	1258	1834
Number of community members who received treatment	85	103	108	742	1038	6	7	0	25	38	59	65	54	257	435	150	175	162	1024	1511
Estimated community members who received treatment (%)	73	81	84	82	81	100	100	N/A	89	93	98	97	84	79	84	82	87	84	81	82
Number of community members that refused treatment	20	9	6	75	110	0	0	0	0	0	1	2	10	54	67	21	11	16	129	177

Total number of doses of azithromycin delivered	85	141	108	742	1076	6	10	0	25	41	59	81	54	257	451	150	232	162	1024	1568
Estimated overall treatment coverage (%)	73	85	84	82	82	100	100	N/A	89	93	98	98	84	79	85	82	90	84	81	83

* Estimated as per CDNA Guidelines

Table 2.6 Trachoma-related trichiasis screening coverage, prevalence and surgery among Indigenous persons by region, Northern Territory, 2023

	Alice Springs Remote		Barkly		Darwin Rural		East Arnhem		Katherine		Total		
Number of communities screened for trichiasis	22		10		15		11		10		68		
Age group (years)	15-39	40+	15-39	40+	15-39	40+	15-39	40+	15-39	40+	15-39	40+	15+
Adults examined*	791	840	296	314	2387	1925	945	670	324	322	4743	4071	8814
With trichiasis	0	0	0	0	0	0	0	0	0	1	0	1	1
With trichiasis (%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.00	0.02	0.01
Surgery in past 12 months†	0	1	0	1	0	0	0	0	0	0	0	2	2

* This number may not account for all adults who may be examined in routine adult health checks and may also include multiple patient screenings. Screening is linked to trachoma endemic regions and does not consider changing endemic regions over time and transiency between regions.

† Surgery cases may include cases identified in previous years

Table 2.9 Health promotion activities by region, Northern Territory, 2023

	Alice Springs Remote	Barkly	Katherine*	Total
Number of communities that reported health promotion activities	24	10	1	35
Total number of programs reported	76	10	1	87
Methods of health promotion				
One-on-one discussion	55	10	1	66
Presentation to group	30	0	1	31
Interactive group session	28	0	0	28
Social marketing	4	0	0	4
Print material/mass media	63	0	0	63
Sporting/community events	6	0	0	6
Other	3	0	1	4
Target audience				
Health professionals/staff	19	10	1	30
Children	28	10	1	39
Youth	4	0	0	4
Teachers/childcare/preschool staff	29	10	1	40
Caregivers/parents	31	10	0	41
Community members	36	0	0	36
Community educators/health promoters	15	0	0	15
Interagency members	21	0	0	21
Frequency of health promotion activities				
Once	69	10	1	80

Occasional†	7	0	0	7
Regular‡	0	0	0	0
Ongoing/routine	0	0	0	0

* Due to staff changes, health promotion data from the Katherine region is underrepresented in 2023

† 2-4 times per year

‡ 5-12 times per year

Queensland results

Health promotion

Queensland had no communities at-risk of trachoma in 2023. Targeted hygiene work was continued in one large northwest remote community that was recently removed as an at-risk community. Queensland Health trachoma staff, in collaboration with local council and school staff, delivered health promotion sessions to all year levels within the school in that community. To facilitate in-class discussions and activities Milpa's *Six Steps to Stop Germs* health promotion materials were used, including audio visual and mobile application technology resources. These educational resources provide a unified approach to hygiene-related messaging across a range of childhood infections. Hygiene packs were distributed to children and included face washer, soap, toothbrush and toothpaste (age specific) and hairbrush. Handwashing and germ transmission was discussed using Glitterbug products.

During the school health promotion activity, it was identified that affordable access to soap was challenging for some community members. A consultation meeting was set up between council, public health, community health and other stakeholders. It was agreed that the community health service would coordinate distribution of soap-aid. Queensland Health arranged the order and delivery of 2500 bars of soap. Trachoma staff coordinated the repackaging and labelling of soap ready for distribution. Within six months over 2000 bars were distributed through eight collection points around the community. An order for a further soap delivery from soap-aid has been placed.

Queensland Health also undertook environmental activities focused on access to basic bedding and hygiene items such as soap, towels, and face washes. In one community, environmental cleaning kits were provided to the community laundry service for local distribution.

Figures and Tables – Queensland

Table 3.1 Health promotion activities, Queensland, 2023

Queensland	
Number of communities that reported health promotion activities	1
Total number of programs reported	2
Method of health promotion activities	
One-on-one discussion	0
Presentation to group	0
Interactive group session	1
Social marketing	0
Print material/mass media	0
Sporting/community events	0
Other	1
Target audience	
Health professional/staff	0
Children	1
Youth	1
Teachers/childcare/preschool staff	0
Caregivers/parents	0
Community members	1
Community educators/health promoters	0
Interagency members	0
Frequency of health promotion activities	
Once	2
Occasional *	0

Regular†	0
Ongoing/routine	0

* 2-4 times per year

† 5-12 times per year

South Australia results

Trachoma program coverage

- In 2023 SA identified 11 communities in three regions as being at-risk of trachoma (Figure 4.2, Table 4.1).
- Due to no evidence of trachoma since 2013, the Yorke and Mid North region is no longer considered at-risk of trachoma.
- All at-risk communities that required screening were screened for trachoma in 2023 (Table 4.1).

Trachoma screening coverage

- In the 11 communities in which screening took place, the total proportion of children aged 5-9 years screened for trachoma was 89% (Table 4.2).

Facial cleanliness

- Clean face prevalence was assessed in all communities that were screened (data not shown).
- The prevalence of clean faces among children aged 5-9 years across screened communities was 85% (Figure 4.4, Table 4.2).

Trachoma prevalence

- No trachoma was reported in the 5-9-year age group in all 11 communities screened in 2023. The overall prevalence of trachoma remains at 0.0% in SA (Figure 4.5c, Table 4.2).

Treatment delivery and coverage

- No treatment was required in any of the 11 communities screened (Table 4.4).

Trichiasis

- Screening for trichiasis was undertaken in 11 communities, with 975 persons aged 15 years and over screened (Table 4.5).
- No cases of trichiasis were detected among persons screened in 2023 (Table 4.5).

Health promotion and environmental health activities

The South Australian (SA) Government continues funding Aboriginal Community Control Health Organisations (ACCHOs), the Aboriginal Health Council SA (AHCSA), Flinders and Upper North Local Health Network and Aboriginal Community Care (ACC) to implement the WHO SAFE strategy. Most of the trachoma budget in SA has been redirected to enhance the F (facial cleanliness) and E (Environmental Health Improvement Measures).

The SA Government has established a uniform approach to the management of the E (Environmental Factors), and F (Facial cleanliness) components of the WHO SAFE strategy, across three regions in South Australia (Eyre and Far North, Flinders and Upper North and the APY Lands). This approach aims to implement sustainable environmental health

improvement measures, improve health literacy, promote behaviours to reduce the persistence of trachoma and other infectious diseases, as well as provide access to fast tracked repairs and home maintenance.

In total, 23 communitiesⁱⁱⁱ received health promotion activities and environmental health improvement measures during 2023. This includes maintaining programs in several communities that have been reclassified and removed from the list of communities currently at risk of trachoma, in order to prevent recrudescence. Key achievements were:

- 320 householders received environmental health education activities, and 83 dwellings were assessed and received health hardware assessment in four communities at the APY Lands (Indulkana, Mimili, Fregon and Pukatja). 122 householders also received environmental health education activities, and 14 dwellings were assessed by the environmental health team in Ceduna & Koonibba and Yalata communities.
- Trachoma prevention messages were posted regularly on social media by ACCHOs across rural SA. This included short video clips of local children washing their faces made by Nganampa Health Council for Tik Tok and YouTube.
- Six car bonnets were painted by Ernabella artists with clean face messages and other health messages encouraging people to have their eyes checked.
- Additional health promotion and education activities were delivered to students and staff at five schools in at-risk regions. These involved the presence of Milpa the trachoma goanna, the mascot for facial hygiene, who assist in engaging the students and creating a more interactive learning experience.

F&E programs that continued in 2023 included:

- The *Indigenous Environmental Health Program* (SA Department of Health and Wellbeing) which is implemented across rural and remote communities in SA. This program delivers environmental health training activities, as well as funding and supporting ACCHOs with the implementation of evidence-based environmental improvement measures such as human waste and wastewater control, health risk assessments, and remediation measures.
- Aboriginal Community Care continues with the implementation of the *Kuru Malpa Program* in four communities at the APY Lands to increase community engagement, eye health awareness, and promote health-enhancing behaviours within households.
- The Aboriginal Health Council of SA continues advising and supporting the ACCHOs across the state in the implementation of the WHO SAFE strategy, as well as providing trachoma and trichiasis training activities to the health workforce.

ⁱⁱⁱ This number is higher than the total reported in Table 4.6 which only covers current at-risk communities.

- Nganampa Health Council continues to support the provision of hand-washing facilities in community locations and as part of key community events.
- School-based face washing routines continue across Aboriginal communities in SA.

Figures and Tables – South Australia

Figure 4.2 Overall trachoma prevalence in children aged 5-9 years by region, South Australia, 2023

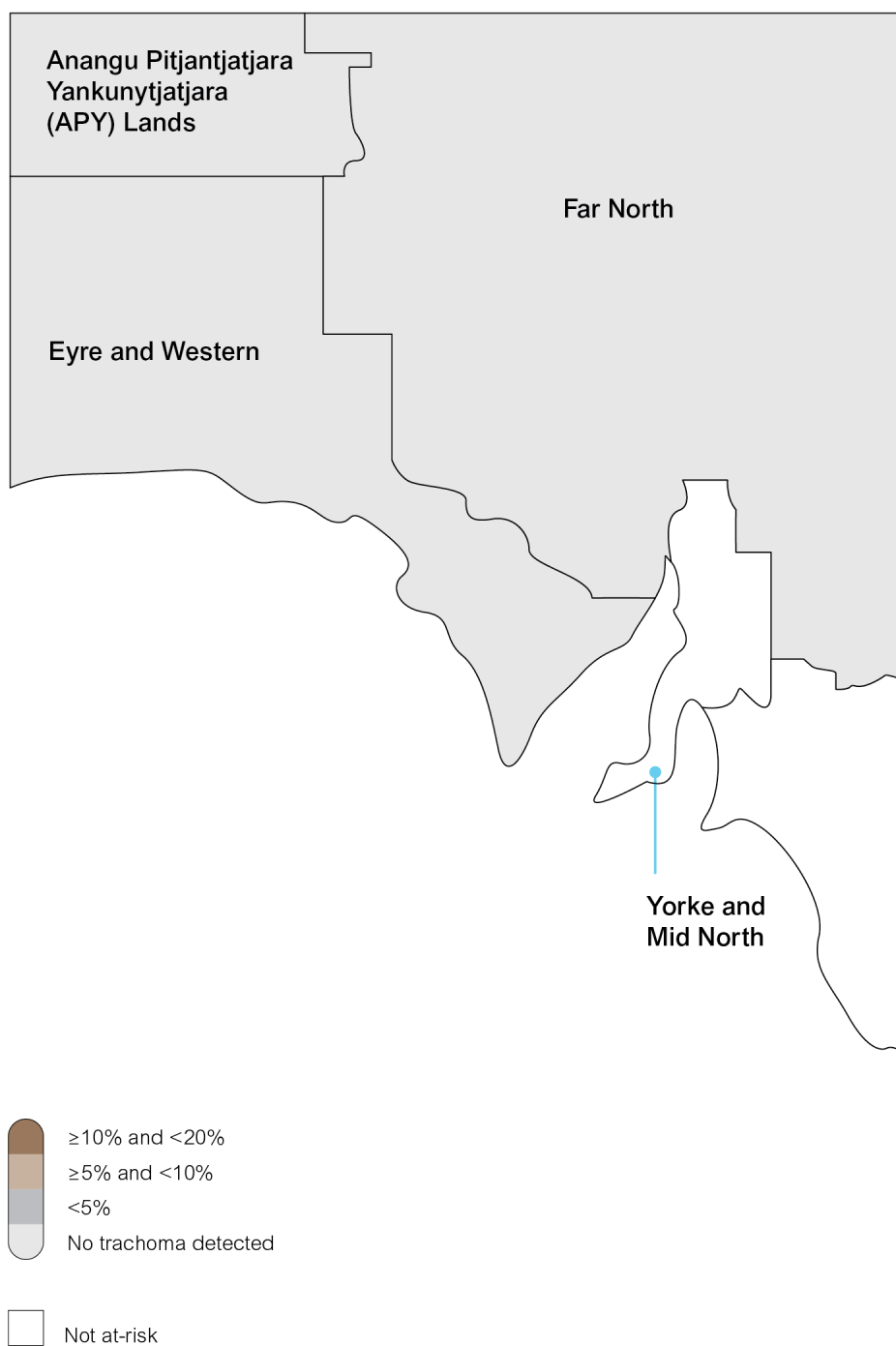
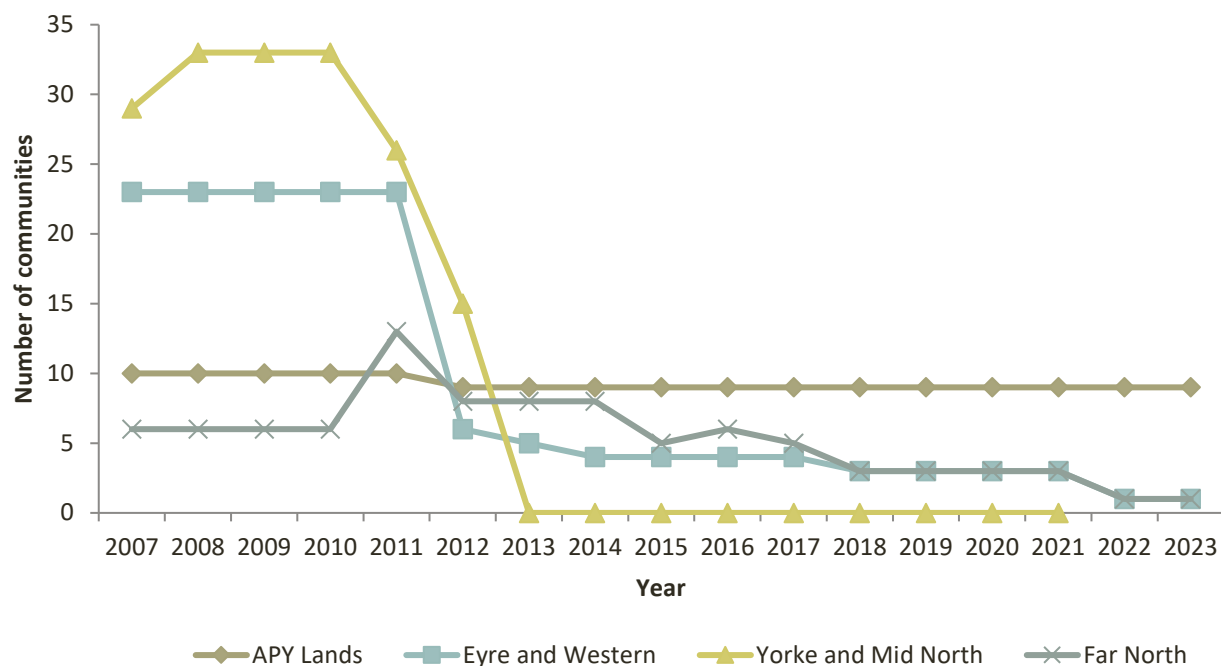


Figure 4.2 Number of at-risk communities by region, South Australia, 2007-2023



APY: Anangu Pitjantjatjara Yankunytjatja

Figure 4.3 Number of at-risk communities according to trachoma control strategy implemented by region, South Australia, 2023

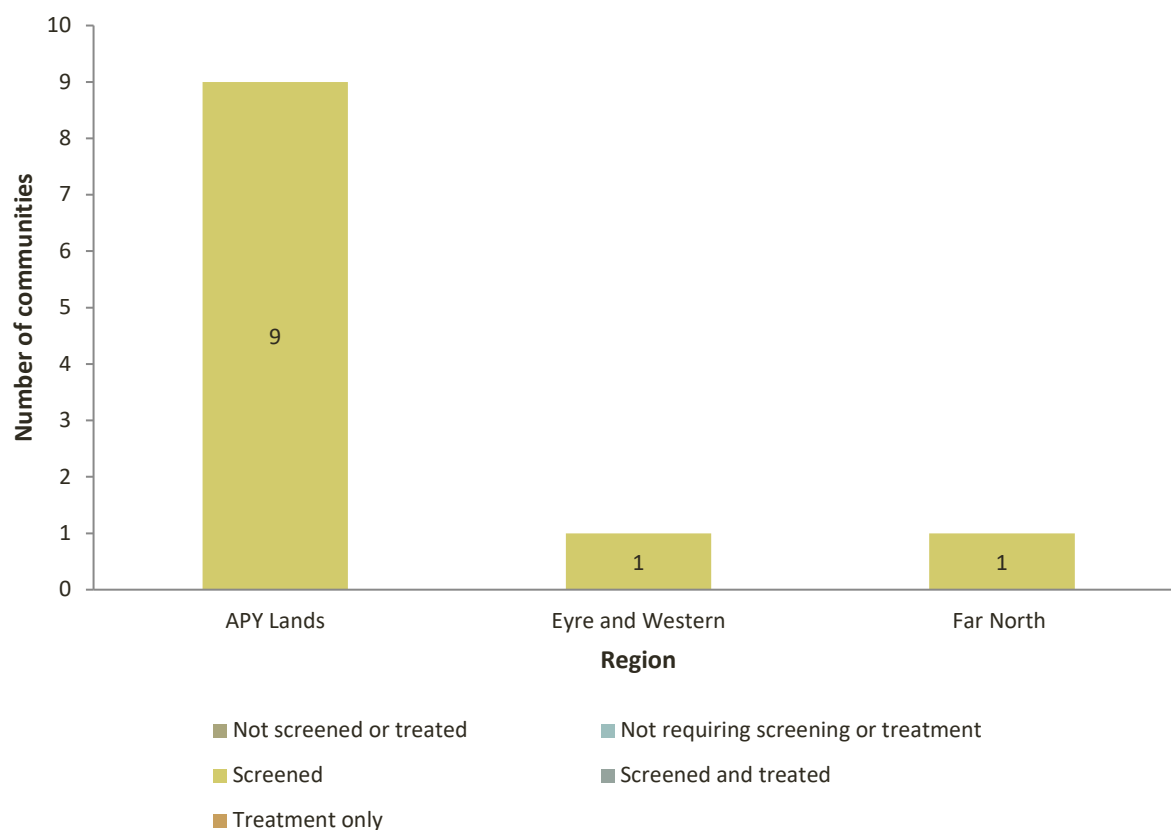


Figure 4.4 Proportion of screened children aged 5-9 years who had a clean face by region, South Australia, 2007-2023

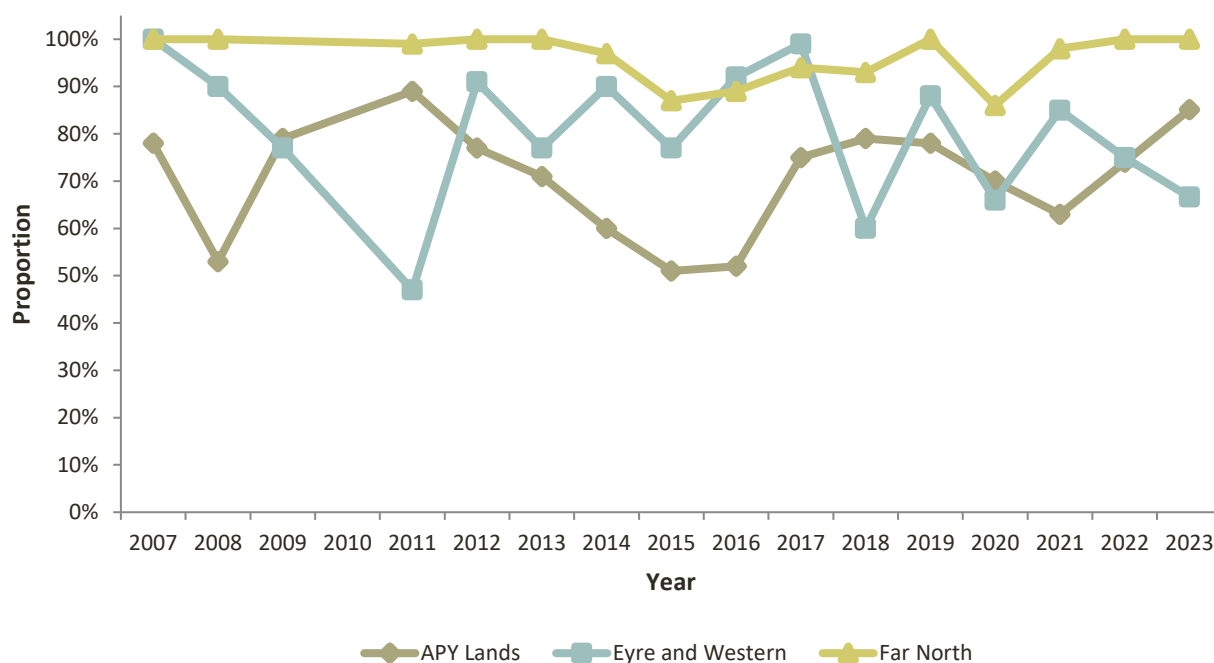


Figure 4.5a Observed prevalence of clinical findings consistent with trachomatous inflammation – follicular/intense among screened children aged 5-9 years by region, South Australia, 2007-2023

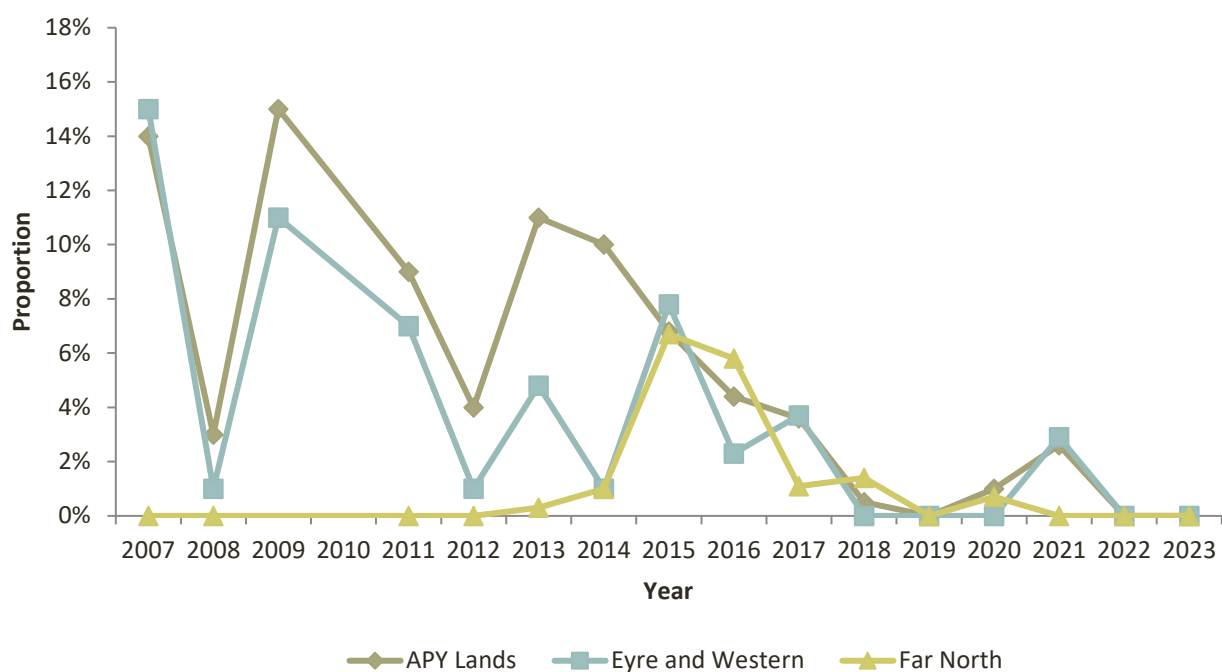
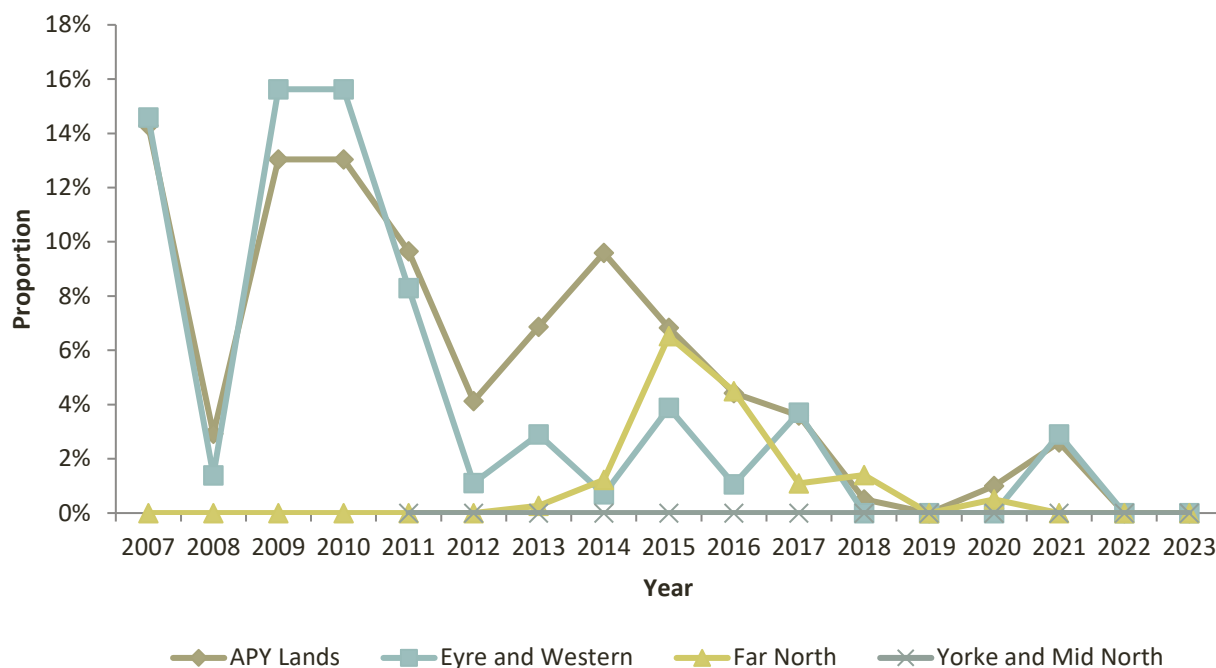
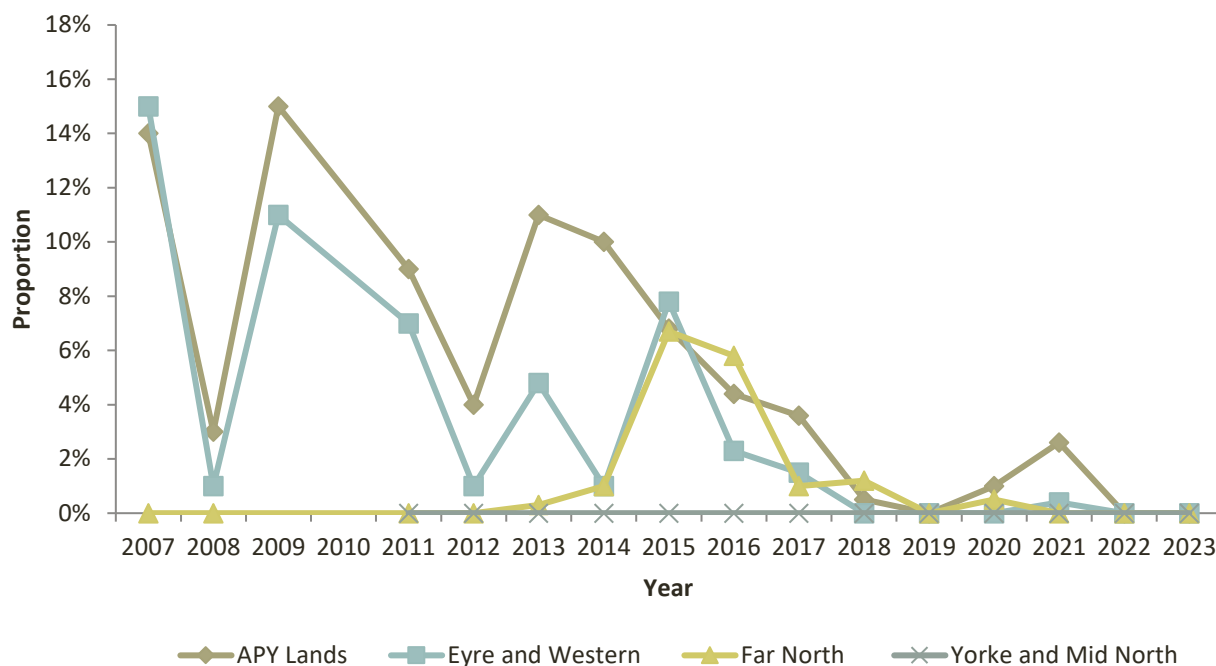


Figure 4.5b Estimated prevalence of trachoma among children aged 5-9 years in all at-risk communities* by region, South Australia, 2007-2023



* Most recent estimates carried forward in at-risk communities that did not screen in 2023

Figure 4.5c Overall prevalence of trachoma among children aged 5-9 years in all communities* by region, South Australia, 2007-2023



* Calculated carrying forward most recent data in all communities considered at-risk of trachoma at some time since 2007

Figure 4.6 Number of at-risk communities according to the level of observed trachoma prevalence in children aged 5-9 years by region, South Australia, 2023

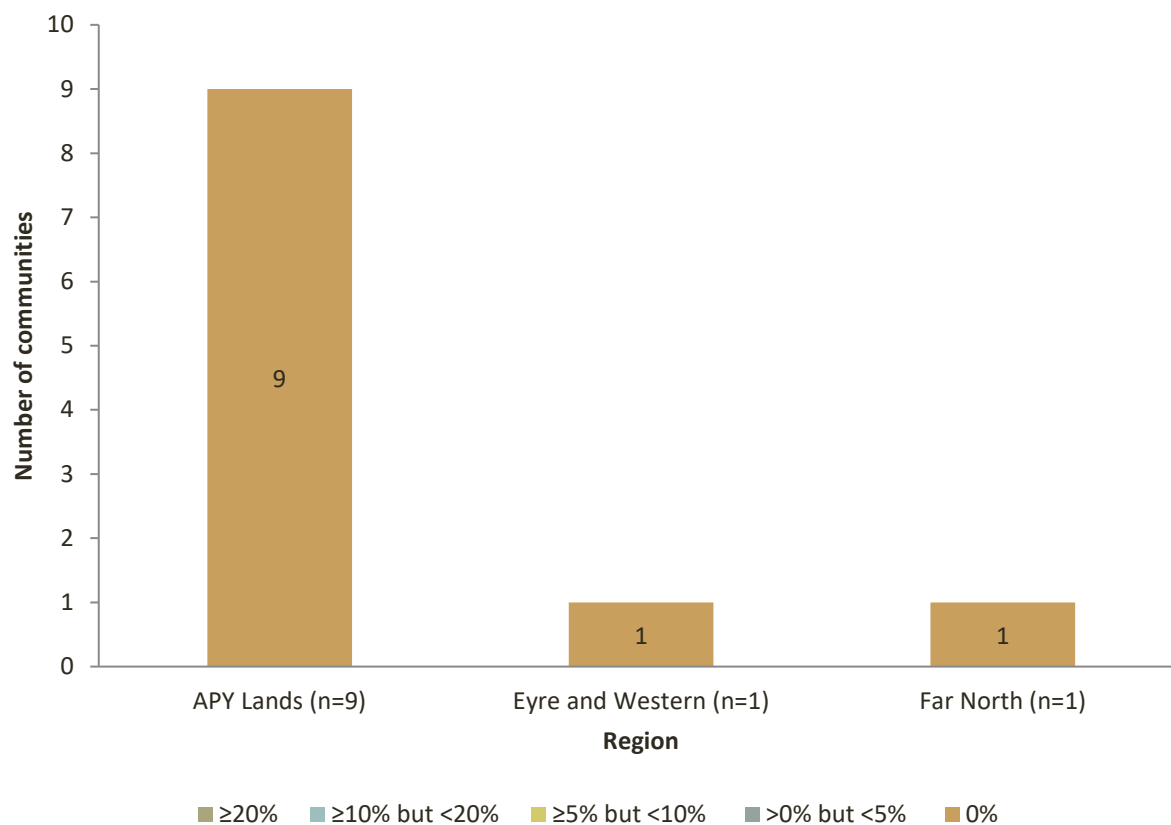


Figure 4.7 Number of doses of azithromycin administered for the treatment of trachoma by region, South Australia, 2007-2023

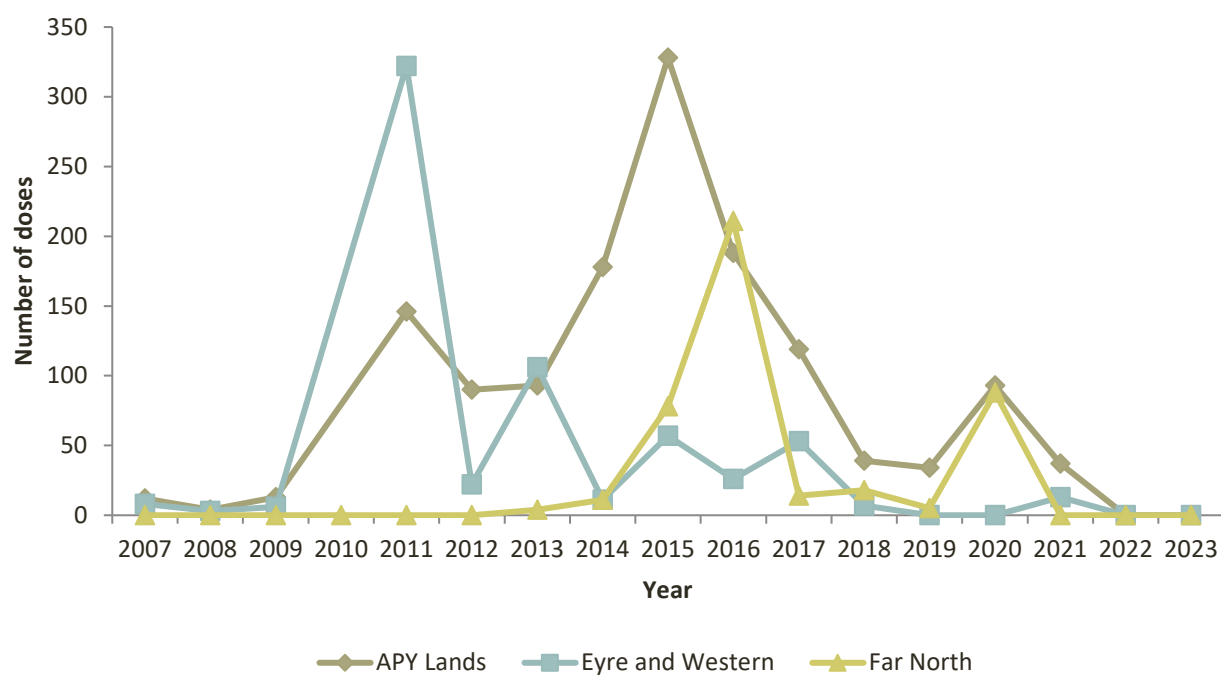


Table 4.10 Trachoma control delivery in at-risk communities* by region, South Australia, 2023

Number of communities	APY Lands	Eyre and Western	Far North	Total
At risk (A)	9	1	1	11
Requiring screening for trachoma (B)	9	1	1	11
Screened for trachoma (C)	9	1	1	11
Requiring treatment without screening† (D)	0	0	0	0
Received treatment without screening (E)	0	0	0	0
Screened and/or treated for trachoma (F=C+E)	9	1	1	11
Requiring neither screening nor treatment for trachoma (G=A-B-D)	0	0	0	0

* As defined by each jurisdiction

† As per CDNA Guidelines

APY: Anangu Pitjantjatjara Yankunytjatjara

Table 4.11 Trachoma screening coverage, trachoma prevalence and clean face prevalence in children aged 5-9 years by region, South Australia, 2023

	APY Lands	Eyre and Western	Far North	Total
Number of communities screened	9	1	1	11
Estimated number* of Aboriginal children in communities	235	3	2	240
Children examined for clean face	208	3	2	213
Children with clean face	177	2	2	181
Clean face prevalence (%)	85	67	100	85
Children screened for trachoma	208	3	2	213
Trachoma screening coverage (%)	89	100	100	89
Children with active trachoma	0	0	0	0
Observed prevalence of active trachoma† (%)	0.0	0.0	0.0	0.0
Estimated prevalence of active trachoma‡ (%)	0.0	0.0	0.0	0.0
Overall prevalence of active trachoma (%)	0.0	0.0	0.0	0.0

* Jurisdictional estimate.

† Communities that were screened for trachoma in 2023.

‡ Methods of calculating prevalence rates are described in the Methodology section.

Table 4.12 Number and proportion of at-risk communities according to the level of observed trachoma prevalence in children aged 5-9 years, South Australia, 2014-2023

	2014		2015		2016		2017		2018		2019		2020		2021		2022		2023	
Communities at-risk *	21		19		19		18		15		15		15		15		11		11	
Communities not screened †	0		0		0		0		0		0		0		0		0		0	
Number of communities ‡	21		19		19		18		15		15		15		15		11		11	
Trachoma prevalence rate	n	Proportion	n	Proportion	n	Proportion	n	Proportion	n	Proportion	n	Proportion	n	Proportion	n	Proportion	n	Proportion	n	Proportion
≥20%	1	5%	2	11%	1	5%	1	5%	1	7%	0	0%	0	0%	1	7%	0	0%	0	0%
≥10% but <20%	9	43%	3	16%	1	5%	1	6%	0	0%	0	0%	1	7%	0	0%	0	0%	0	0%
≥5% but <10%	0	0%	9	47%	2	11%	3	17%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
>0% but <5%	1	5%	1	5%	11	58%	10	56%	10	66%	0	0%	9	60%	9	60%	0	0%	0	0%
0%	10	48%	4	21%	4	21%	3	17%	4	27%	15	100%	5	33%	5	33%	11	100%	11	100%

* As defined annually by each jurisdiction.

† Or treated as required per Guidelines.

‡ Screened or receiving ongoing annual treatment as per CDNA Guidelines.

Table 4.13 Treatment strategies by region, South Australia, 2023

Number of communities	APY Lands	Eyre and Western	Far North	Total
Required treatment for trachoma	0	0	0	0
Treated for trachoma	0	0	0	0
Screened and treated	0	0	0	0
Received treatment only	0	0	0	0
Received 6-monthly treatment	0	0	0	0
Did not require treatment	9	1	1	11
Treated active trachoma and households	0	0	0	0
Community-wide treatment	0	0	0	0
Not treated according to CDNA Guidelines	0	0	0	0

Table 4.5 Trachoma-related trichiasis screening coverage, prevalence and surgery among Indigenous persons by region, South Australia, 2023

	APY Lands		Eyre and Western		Far North		Total		
Number of communities screened for trichiasis	9		1		1		11		
Age group (years)	15-39	40+	15-39	40+	15-39	40+	15-39	40+	15+
Adults examined*	465	407	24	66	1	12	490	485	975
With trichiasis	0	0	0	0	0	0	0	0	0
With trichiasis (%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surgery in past 12 months†	0	1	0	0	0	0	0	1	1

* This number may not account for all adults who may be examined in routine adult health checks and may also include multiple patient screenings. Screening is linked to trachoma endemic regions and does not consider changing endemic regions over time and transiency between regions.

† Surgery cases may include cases identified in previous years

Table 4.6 Health promotion activities by region, South Australia, 2023

	APY Lands	Eyre and Western	Far North	Total
Number of communities that reported health promotion activities	9	1	1	11
Total number of programs reported	4	3	5	12
Methods of health promotion				
One-on-one discussion	4	1	4	9
Presentation to group	0	1	2	3
Interactive group session	0	1	2	3
Social marketing	2	1	0	3
Print material/mass media	4	3	5	12
Sporting/community events	2	1	0	3
Other	2	0	1	3
Target audience				
Health professionals/staff	1	2	1	4
Children	3	2	1	6
Youth	1	1	0	2
Teachers/childcare/preschool staff	2	1	1	4
Caregivers/parents	2	1	0	3
Community members	1	1	3	5
Community educators/health promoters	2	1	2	5
Interagency members	0	0	1	1
Frequency of health promotion activities				
Once	0	0	0	0

Occasional *	3	2	5	10
Regular†	1	0	0	1
Ongoing/routine	0	1	0	1

* 2-4 times per year

† 5-12 times per year

Western Australia results

Trachoma program coverage

- In 2023 WA identified 34 communities in 4 regions as being at-risk of trachoma (Figure 5.2, Table 5.1).
- 26 at-risk communities required trachoma screening in 2023 and 25 of these communities (96%) received screening (Figure 5.3, Table 5.1).

Trachoma screening coverage

- The proportion of children aged 5-9 years screened for trachoma in the 25 communities that received screening was 91%. Screening coverage ranged from 85% in the Kimberley region to 96% in the Midwest and Pilbara regions (Table 5.2).

Facial cleanliness

- Clean face prevalence among children aged 5-9 years was assessed in all communities that were screened (data not shown).
- The total prevalence of clean faces across all screened communities in WA was 70%. Clean face prevalence ranged from 49% in the Goldfields region to 88% in the Midwest region (Figure 5.4, Table 5.2).

Trachoma prevalence

- The observed prevalence of trachoma in children aged 5-9 years in screened communities was 4.2% (17/403). Observed prevalence was 0.0% in both the Kimberley and Midwest regions, 2.2% in the Pilbara region and 11.4% in the Goldfields region (Figure 5.5a, Table 5.2).
- The overall prevalence of trachoma in children aged 5-9 years was 1.6%. Overall prevalence ranged from 0.0% in the Midwest region to 5.7% in the Goldfields region (Figure 5.5c, Table 5.2)
- No trachoma was reported in 64% (16/25) of the screened at-risk communities (Figure 5.6, Table 5.3).
- Endemic levels of trachoma ($\geq 5\%$) were reported in 32% (8/25) of the screened at-risk communities (Figure 5.6, Table 5.3).
- Hyperendemic levels of trachoma ($\geq 20\%$) were reported in 8% (2/25) of the screened at-risk communities (Figure 5.6, Table 5.3).

Treatment delivery and coverage

- Trachoma treatment strategies were required in nine communities. Eight of these communities received treatment, which was provided to active trachoma cases and households (Table 5.4).
- Total treatment coverage for trachoma cases and community members in all regions requiring treatment was 71% with 109 doses of azithromycin delivered (Figure 5.7, Table 5.5).

Trichiasis

- Overall, 3,430 persons aged 15 years and older were reported to be screened for trichiasis in 2023 (Table 5.6).
- The prevalence of trichiasis in screened persons aged 15 years and over was 0.23%, and 0.24% in adults aged 40 years and over (Table 5.6).
- Surgery for trichiasis was reported to be undertaken for four persons in 2023, all of whom were aged 40 years or older (Table 5.6).

Health promotion

All Western Australia (WA) trachoma at-risk communities have had health hygiene activities actively promoted using methods appropriate to the intended audience during 2023. Health promotion activities continue to be a collaborative effort coordinated by WACHS Central Office with the Public Health Units in the four trachoma endemic regions (Goldfields, Midwest, Pilbara and Kimberley), WA Environmental Health Directorate (EHD), Soap Aid Ltd, Aboriginal Health Council of WA (AHCWA), Public Health Advocacy Institute (PHAI) and IEHU. Collaboration with other environmental health-related disease programs such as Rheumatic Heart Disease (skin related health) and Ear Health have also continued.

In 2023, school and community-based education sessions were undertaken in 41 communities designated at-risk of trachoma or trachoma resurgence. Regional teams used a variety of resources in the education sessions including the IEHU stickers, school and community flip charts, hygiene packs, hand and face washing techniques, No Germs on Me resources and pre and post screening posters. Sessions delivered by the WACHS contracted services were based around the Breath Blow Cough (BBC) program and personal hygiene.

As part of ongoing programs, WACHS Population Health teams continue to provide support, resources and training for health, education and environmental health services within the Pilbara, Goldfields, Kimberley and Midwest regions to encourage these services to also promote positive hygiene messaging and practice in relevant communities. WACHS contract additional child and school health services to increase access and improve health outcomes for rural and remote populations. Contracts with these services within the four trachoma endemic regions now include deliverables related to health hygiene programs.

The health promotion program also aims to overcome barriers to good hygiene in remote communities, such as the cost of soap, by providing it for free to households and community facilities. The provision of free soap is available to all Aboriginal communities that are at-risk of trachoma or at-risk of trachoma resurgence. Soap is stored in each region with external partner organisations who assist with distribution as part of multiple programs including healthy home assessments, health promotion events and at the request of other services. Over 138,240 bars of soap were provided across the regions in 2023.

Environmental Health

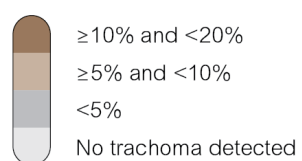
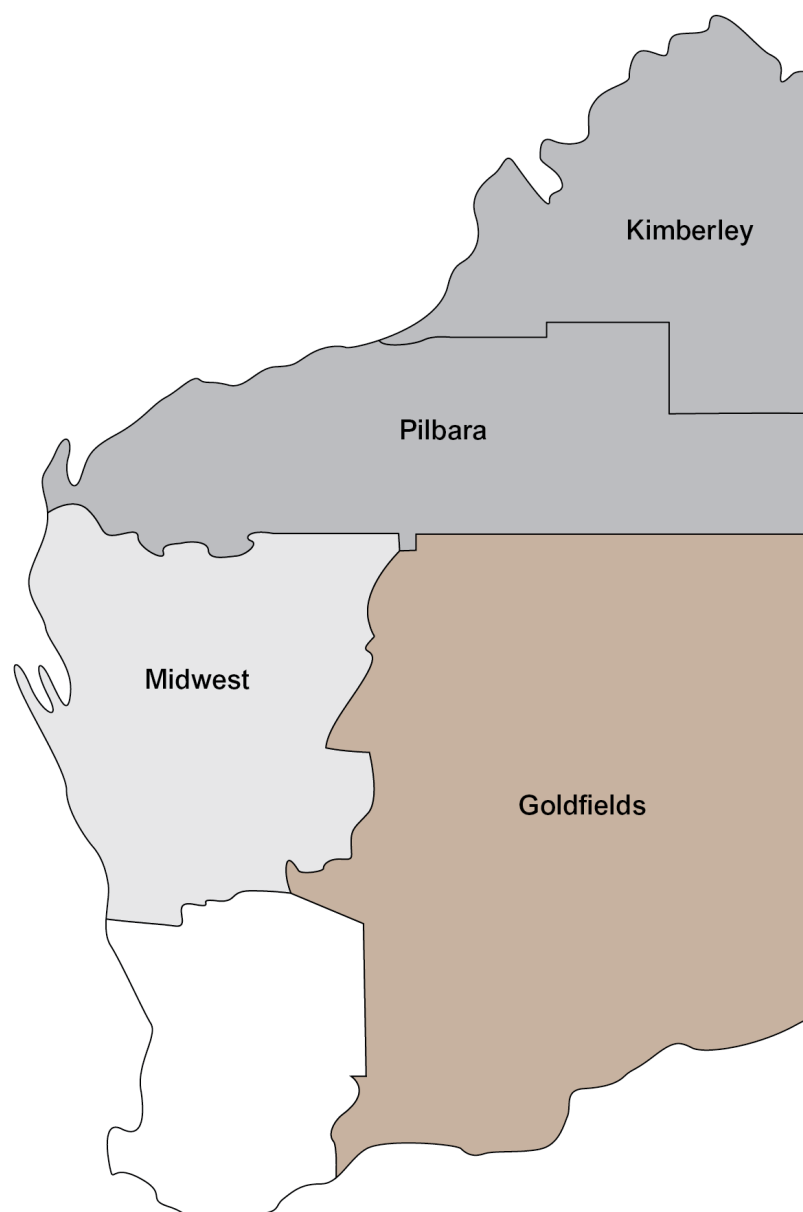
In providing and coordinating the 'E' component of the WA SAFE trachoma strategy, the Environmental Health Directorate works with and collaborates with Public Health Units, PHAI and its local/regional contracted Aboriginal environmental health service providers on initiatives to support communities with environmental health improvements. These initiatives continued in 2023 and included community-wide multi-agency healthy housing

assessments. Other complementary environmental health related services delivered include domestic and community hard waste removal and clean-ups.

Both the community-wide intensive multi-agency and dedicated single Aboriginal Environmental Health agency approaches have provided positive outcomes by identifying health hardware faults, fixing them on the spot (same day) when possible. The environmental health workforce undertook 1,409 healthy homes assessments in 20 communities across the trachoma endemic regions. Referrals were submitted to external agencies (e.g., Housing providers) for required maintenance that was outside the scope of the environmental health practitioners, and advice was provided to community members on remediation measures. A total of 326 Environmental Health Practitioner visits were recorded from 1 January to 31 December 2023.

Figures and Tables – Western Australia

Figure 5.1 Overall trachoma prevalence in children aged 5-9 years by region, Western Australia, 2023



 Not at-risk

Figure 5.2 Number of at-risk communities by region, Western Australia, 2007-2023

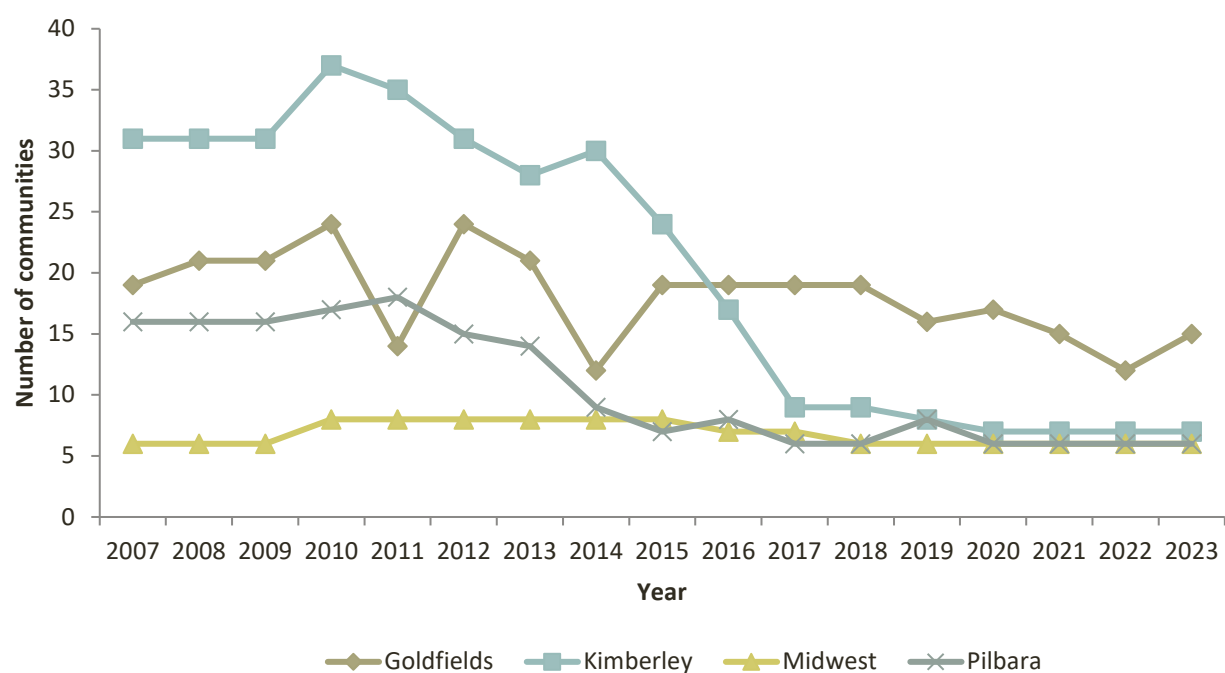


Figure 5.3 Number of at-risk communities according to trachoma control strategy implemented by region, Western Australia, 2023

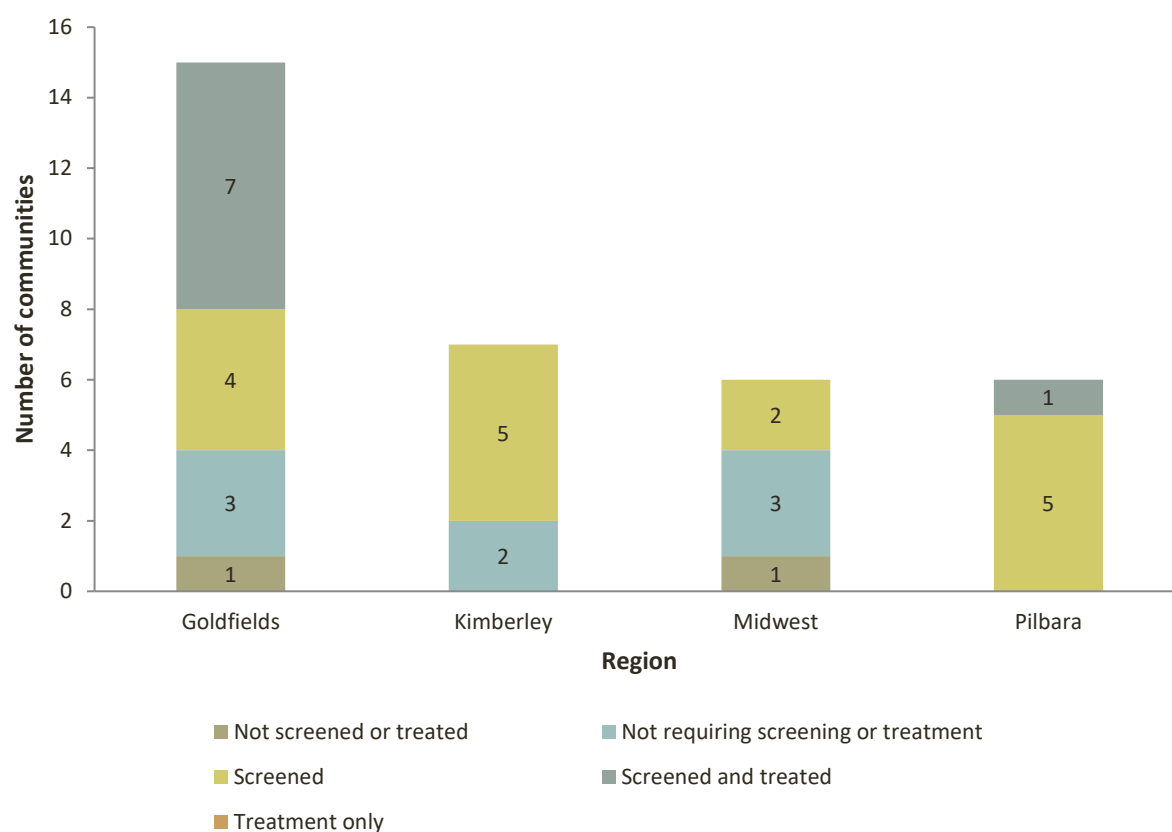


Figure 5.4 Proportion of screened children aged 5-9 years who had a clean face by region, Western Australia, 2007-2023

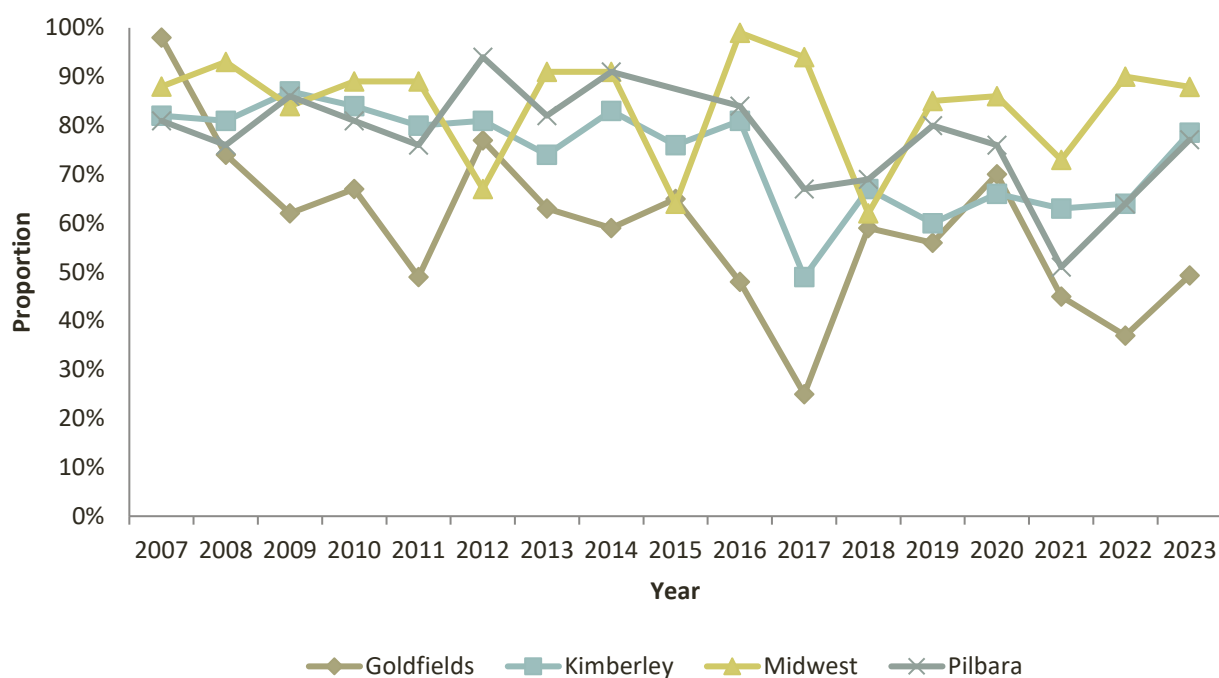


Figure 5.5a Observed prevalence of clinical findings consistent with trachomatous inflammation – follicular/intense among screened children aged 5-9 years by region, Western Australia, 2007-2023

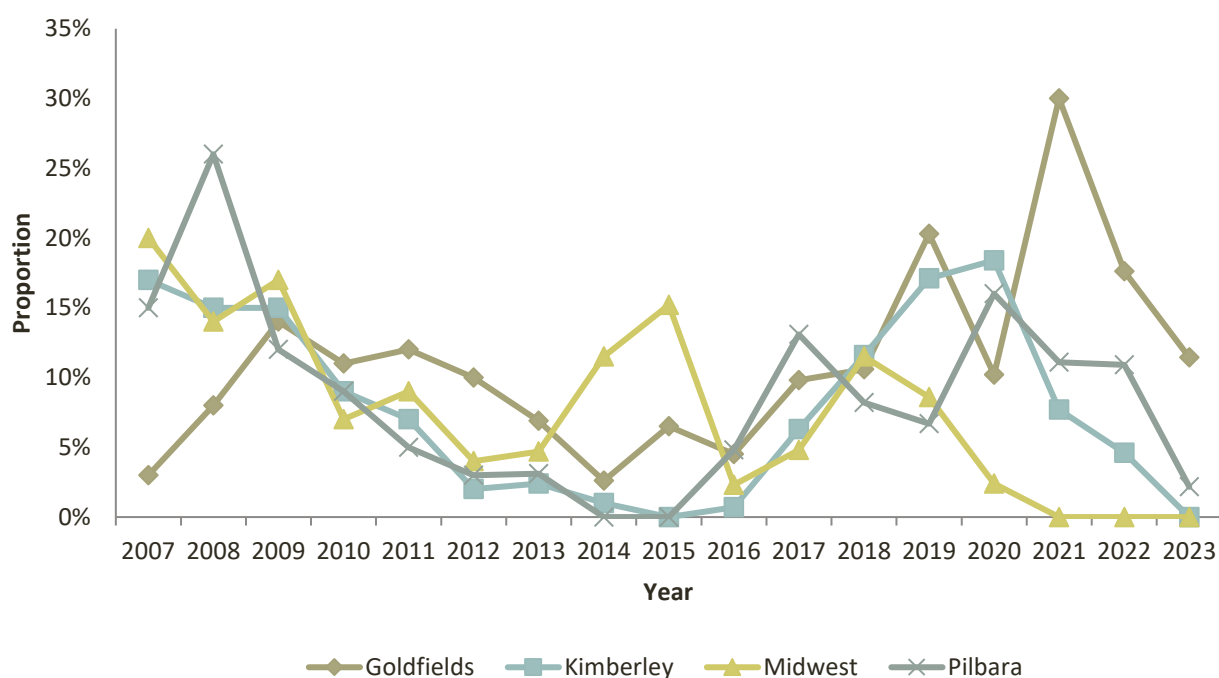
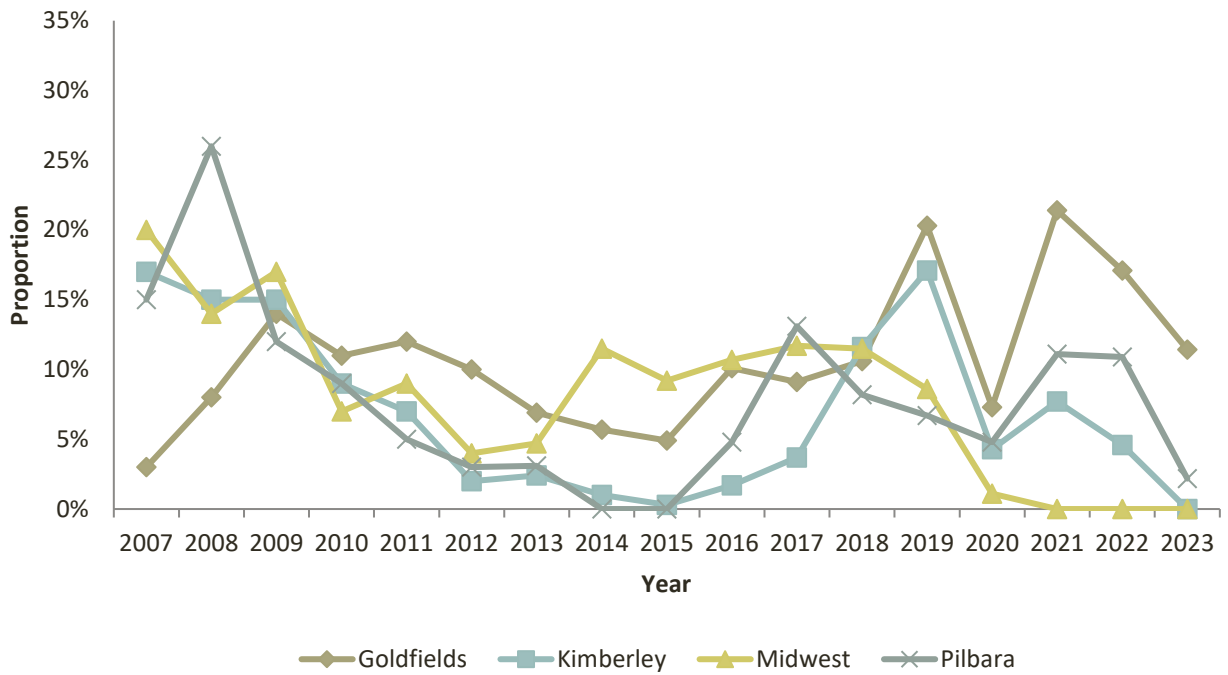
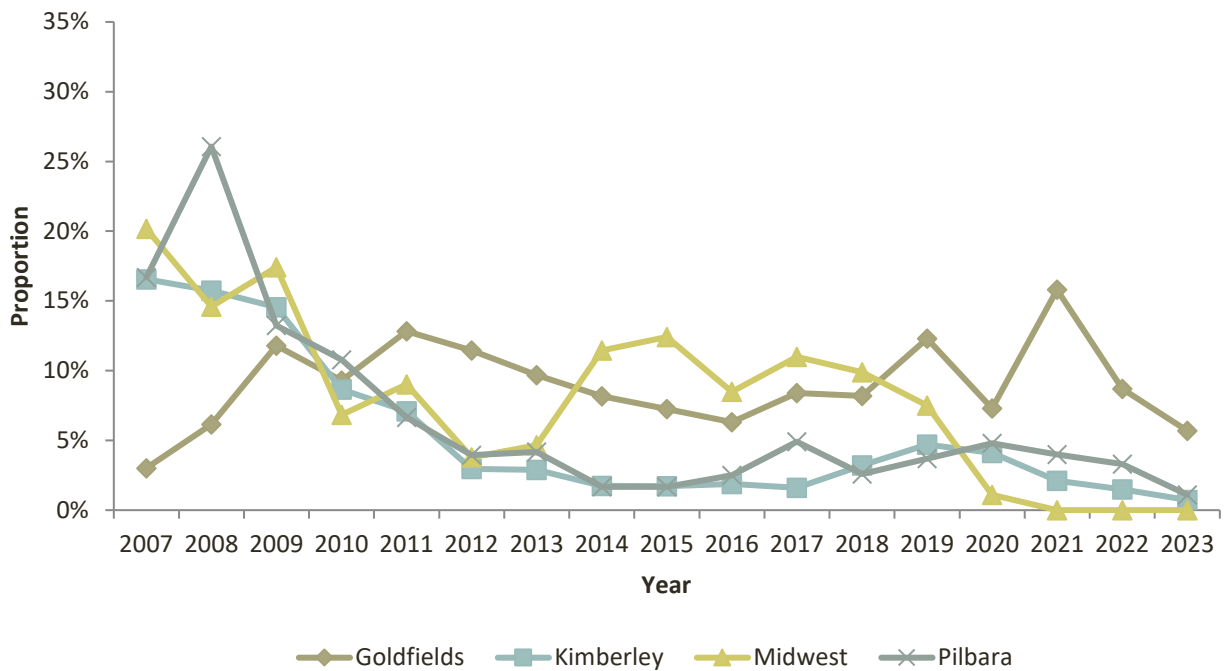


Figure 5.5b Estimated prevalence of trachoma among children aged 5-9 years in all at-risk communities* by region, Western Australia, 2007-2023



* Most recent estimates carried forward in at-risk communities that did not screen in 2023.

Figure 5.5c Overall prevalence of trachoma among children aged 5-9 years in all communities* by region, Western Australia, 2007-2023



* Calculated carrying forward most recent data in all communities considered at-risk of trachoma at some time since 2007.

Figure 5.6 Number of at-risk communities according to the level of observed trachoma prevalence in children aged 5-9 years by region, Western Australia, 2023

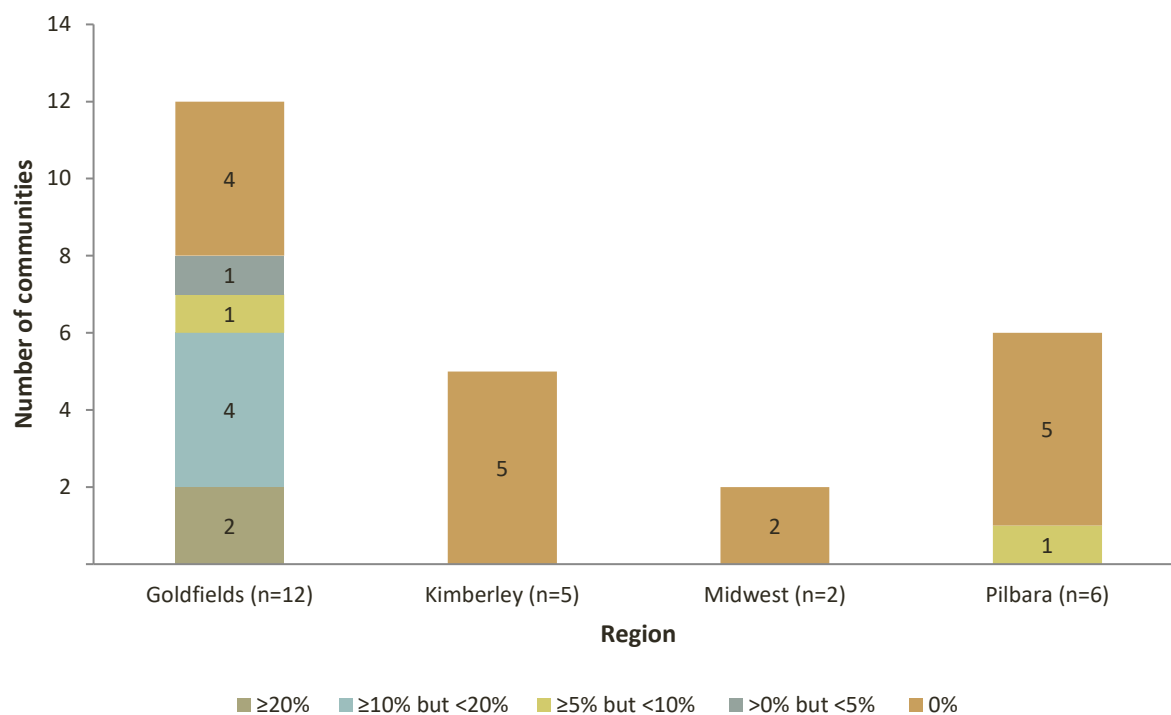
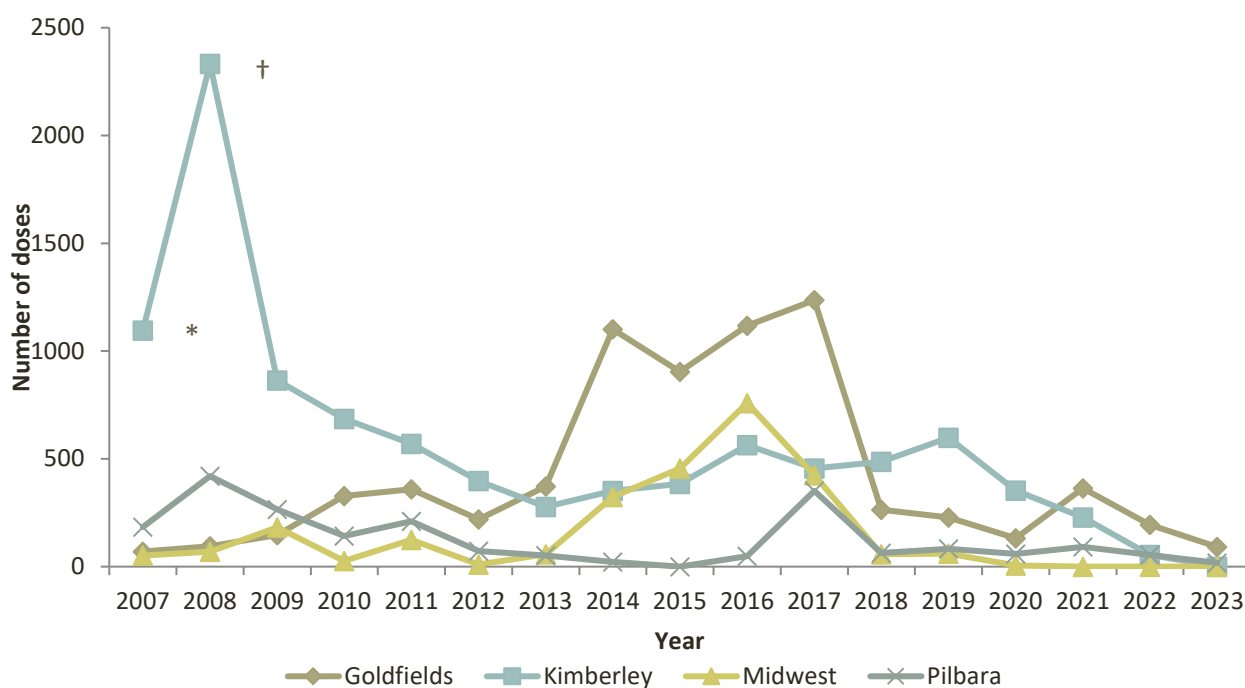


Figure 5.7 Number of doses of azithromycin administered for the treatment of trachoma by region, Western Australia, 2007-2023



* Treatments administered in the Kimberley in 2007 are likely to have been under-reported, as treatment data were not received from several communities.

† In the Kimberley in 2008, 17 communities were reported to have received community-based treatment, compared with only 7 in 2009.

Table 5.14 Trachoma control delivery in at-risk communities* by region, Western Australia, 2023

Number of communities	Goldfields	Kimberley	Midwest	Pilbara	Total
At risk (A)	15	7	6	6	34
Requiring screening for trachoma (B)	12	5	3	6	26
Screened for trachoma (C)	12	5	2	6	25
Requiring treatment without screening† (D)	0	0	0	0	0
Received treatment without screening (E)	0	0	0	0	0
Screened and/or treated for trachoma (F=C+E)	12	5	2	6	25
Requiring neither screening nor treatment for trachoma (G=A-B-D)	3	2	3	0	8

* As defined by each jurisdiction

† As per CDNA Guidelines

Table 5.15 Trachoma screening coverage, trachoma prevalence and clean face prevalence in children aged 5-9 years by region, Western Australia, 2023

	Goldfields	Kimberley	Midwest	Pilbara	Total
Number of communities screened	12	5	2	6	25
Estimated number* of Aboriginal children in communities	151	149	95	48	443
Children examined for clean face	146	126	91	48	411
Children with clean face	72	99	80	37	288
Clean face prevalence (%)	49	79	88	77	70
Children screened for trachoma	140	126	91	46	403
Trachoma screening coverage (%)	93	85	96	96	91
Children with active trachoma	16	0	0	1	17
Observed prevalence of active trachoma† (%)	11.4	0.0	0.0	2.2	4.2
Estimated prevalence of active trachoma‡ (%)	11.4	0.0	0.0	2.2	3.8
Overall prevalence of active trachoma (%)	5.7	0.7	0.0	1.1	1.6

* Jurisdictional estimate.

† Communities that were screened for trachoma in 2023.

‡ Methods of calculating prevalence rates are described in the Methodology section.

Table 5.3 Number and proportion of at-risk communities according to the level of observed trachoma prevalence in children aged 5-9 years, Western Australia, 2014-2023

	2014		2015		2016		2017		2018		2019		2020		2021		2022		2023	
Communities at-risk *	59		49		51		41		40		38		36		34		31		34	
Communities not screened †	0		0		0		0		0		0		0		6		4		9	
Number of communities ‡	59		49		51		41		40		36		36		28		27		25	
Trachoma prevalence rate	n	Proportion	n	Proportion	n	Proportion	n	Proportion	n	Proportion	n	Proportion	n	Proportion	n	Proportion	n	Proportion	n	Proportion
≥20%	2	3%	3	6%	3	6%	6	15%	5	13%	11	31%	8	22%	5	18%	7	26%	2	8%
≥10% but <20%	4	7%	2	4%	15	29%	17	41%	12	30%	3	8%	13	36%	10	36%	6	22%	4	16%
≥5% but <10%	2	3%	0	0%	2	4%	1	2%	8	20%	3	8%	4	11%	4	14%	2	7%	2	8%
>0% but <5%	6	10%	5	11%	1	2%	1	2%	1	3%	1	3%	1	3%	0	0%	0	0%	1	4%
0%	45	76%	39	79%	30	59%	16	39%	14	35%	18	50%	10	28%	9	32%	12	44%	16	64%

* As defined annually by each jurisdiction.

† Or treated as required per Guidelines.

‡ Screened or receiving ongoing annual treatment as per CDNA Guidelines.

Table 5.16 Treatment strategies by region, Western Australia, 2023

Number of communities	Goldfields	Kimberley	Midwest	Pilbara	Total
Required treatment for trachoma	8	0	0	1	9
Treated for trachoma	7	0	0	1	8
Screened and treated	7	0	0	1	8
Received treatment only	0	0	0	0	0
Received 6-monthly treatment	0	0	0	0	0
Did not require treatment	4	5	2	5	16
Treated active trachoma and households	7	0	0	1	8
Community-wide treatment	0	0	0	0	0
Not treated according to CDNA Guidelines*	1	0	0	0	1

* Includes communities where required treatment could not be undertaken due to treatment refusal.

Table 5.17 Trachoma treatment coverage by region, Western Australia, 2023

	Goldfields					Pilbara					Total				
Age group (years)	0-4	5-9	10-14	15+	All	0-4	5-9	10-14	15+	All	0-4	5-9	10-14	15+	All
Requiring treatment for active trachoma	0	16	0		16	0	1	0		1	0	17	0		17
Received treatment for active trachoma	0	15	0		15	0	1	0		1	0	16	0		16
Received treatment for trachoma (%)	N/A	94	N/A		94	N/A	100	N/A		100	N/A	94	N/A		94
Estimated community members* requiring treatment	6	11	17	86	120	2	3	4	7	16	8	14	21	93	136
Number of community members who received treatment	4	6	12	55	77	2	3	4	7	16	6	9	16	62	93
Estimated community members who received treatment (%)	67	55	71	64	64	100	100	100	100	100	75	64	76	67	68
Number of community members that refused treatment	1	3	1	7	12	0	0	0	0	0	1	3	1	7	12

Total number of doses of azithromycin delivered	4	21	12	55	92	2	4	4	7	17	6	25	16	62	109
Estimated overall treatment coverage (%)	67	78	71	64	68	100	100	100	100	100	75	81	76	67	71

* Estimated as per CDNA Guidelines

Table 5.18 Trachoma-related trichiasis screening coverage, prevalence and surgery among Indigenous persons by region, Western Australia, 2023

	Goldfields		Kimberley		Midwest		Pilbara		Total		
Number of communities screened for trichiasis	16		32		7		16		71		
Age group (years)	15-39	40+	15-39	40+	15-39	40+	15-39	40+	15-39	40+	15+
Adults examined*	50	286	8	1710	3	780	30	563	91	3339	3430
With trichiasis	0	3	0	2	0	3	0	0	0	8	8
With trichiasis (%)	0.00	1.05	0.00	0.12	0.00	0.38	0.00	0.00	0.00	0.24	0.23
Surgery in past 12 months†	0	1	0	3	0	0	0	0	0	4	4

* This number may not account for all adults who may be examined in routine adult health checks and may also include multiple patient screenings. Screening is linked to trachoma endemic regions and does not consider changing endemic regions over time and transiency between regions.

† Surgery cases may include cases identified in previous years

Table 5.19 Health promotion activities by region, Western Australia, 2023

	Goldfields	Kimberley	Midwest	Pilbara	Total
Number of communities that reported health promotion activities	14	8	7	13	42
Total number of programs reported	46	21	14	26	107
Methods of health promotion					
One-on-one discussion	30	8	2	3	43
Presentation to group	25	11	3	7	46
Interactive group session	0	7	4	13	24
Social marketing	0	0	0	0	0
Print material/mass media	0	1	0	0	1
Sporting/community events	0	0	0	4	4
Other	46	16	10	18	90
Target audience					
Health professionals/staff	12	3	0	2	17
Children	14	10	7	19	50
Youth	0	0	0	1	1
Teachers/childcare/preschool staff	13	9	1	16	39
Caregivers/parents	21	0	6	0	27
Community members	11	2	0	7	20
Community educators/health promoters	1	0	0	0	1
Interagency members	1	1	0	0	2
Frequency of health promotion activities					
Once	35	14	10	19	78
Occasional *	11	7	4	6	28

Regular†	0	0	0	1	1
Ongoing/routine	0	0	0	0	0

* 2-4 times per year

† 5-12 times per year

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Appendix 1: Age-specific prevalence of follicular trachoma in Australian remote communities

Analysis undertaken by National Trachoma Surveillance and Reporting Unit for the National Trachoma Surveillance and Control Reference Group

May 2019

Background

Australia is a signatory to the World Health Assembly's resolution to achieve the global elimination of trachoma by 2020 (GET2020). A major requirement for elimination is that the prevalence of active trachoma [Trachomatous Inflammation – Follicular (TF) and/or Trachomatous Inflammation – Intense (TI)] must be below 5% in the 1-9 year age group. Under Australian trachoma control guidelines from the Communicable Diseases Network Australia, trachoma screening for the purposes of public health decision-making is based on school settings and focuses on assessing prevalence in the 5-9 year age group. Younger children may be screened opportunistically, but coverage has not consistently been as high as in the 5-9 year group. There is some evidence internationally that trachoma may be more prevalent in younger age groups, and that estimation based on 5-9 year olds alone may underestimate the true prevalence in 1-9 year olds.¹ To ascertain whether screening of the 5-9 year age group is sufficiently representative, Australian jurisdictions with trachoma undertook enhanced screening for 1-4 year olds in at-risk communities in 2018. Here we present the results of this enhanced screening.

Screening of 1-4 year olds

In 2018 trachoma teams in the Northern Territory (NT), South Australia (SA) and Western Australia (WA) conducted enhanced screening of trachoma in 1-4 year olds to maximise coverage and to obtain a representative sample as possible of 1-9 year olds. The purpose of the enhanced screening was explained by the trachoma teams to residents of at-risk communities during their regular visits to communities for screening and treatment activities. There was general support for the enhanced screening, even though it had not been routine practice in the preceding years of the trachoma program.

Analysis methods

All communities in which screening for active trachoma was conducted during 2018 were eligible for inclusion. To ensure that the comparison of prevalence between younger and older children was based on comparable levels of screening in the two groups, in the primary analyses we restricted the analysis to communities in which the screening coverage for 1-4 year olds was 80% of coverage in the 5-9 year olds. As there are five single year age cohorts in the 5-9 years age group and four in the 1-4 years group, with the ratio of underlying population numbers 5:4 for the two age groups, we therefore included only communities in which the number of children screened in the 1-4 years age group was at least 64% (i.e., 80% of 80%) of the number screened in the 5-9 years age group. In secondary analyses, we included all communities in which screening took place, regardless of coverage.

We used logistic regression to estimate the relationship between active trachoma prevalence and age group (1-4 years vs 5-9 years) in each jurisdiction separately, with community as a fixed effect. We tested the significance of the association at the 0.05 level of significance.

Results

- Screening data from 748 children aged 1-9 in 18 communities across the two jurisdictions met the screening coverage inclusion criteria.
- SA did not meet the required inclusion criteria for the analysis in 2018.
- For WA, 11 communities, representing all four regions, met the screening coverage inclusion criteria. The difference between the two age groups in active trachoma prevalence was not statistically significant ($p = 0.808$) (Table A1 and Figure A1).
- In the NT, seven communities met the inclusion criteria, all from Alice Springs Remote region. We found evidence of a significant difference between age groups ($p = 0.048$), with higher prevalence in the 5-9 year olds than the 1-4 year olds (Table A2 and Figure A1).
- Further analyses included all communities in which 1-4 year olds were screened, regardless of whether they met the screening coverage inclusion criteria. In these analyses there was no significant difference between age groups in either WA ($p = 0.322$) (Table A3, Figure A1) or the NT ($p = 0.144$) (Table A4, Figure A1).

Discussion and conclusion

In communities with high levels of screening coverage in both age groups, trachoma prevalence in the 1-4 age group did not differ significantly from prevalence in the 5-9 age group in WA and it was lower in the NT.

There was no evidence of higher prevalence in the younger age group and, if anything, prevalence was lower in the 1-4 year olds than the 5-9 year olds. This was generally consistent between the jurisdictions and was also seen in analyses that involved all screened communities, not just those with higher coverage of screening in the younger age group.

The main limitation to this analysis is the sample size. Although substantial overall, it was not large enough at jurisdictional and sub-jurisdictional levels to exclude the possibility that the relationship between age and prevalence varies geographically. Despite this limitation, the analysis provides strong support to the use of prevalence in 5-9 year olds as a basis for assessing one of the main indicators of trachoma control.

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Figure A1 Box plot showing prevalence of trachoma in 1-4 and 5-9 year olds by jurisdiction, communities that met screening coverage inclusion criteria

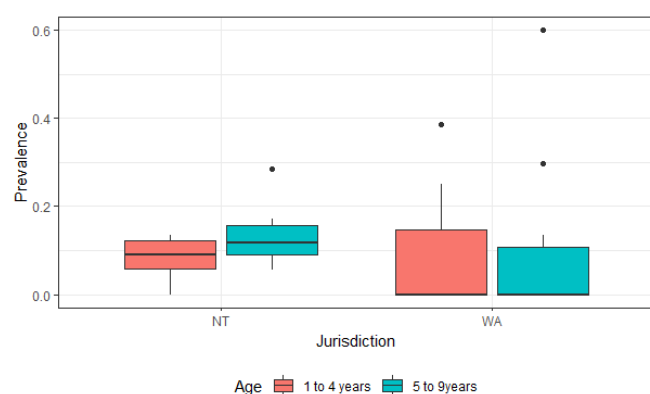


Table A1 Comparison of trachoma prevalence between 1-4 and 5-9 year olds in Western Australia among 11 communities that met screening coverage inclusion criteria

Age group (years)	Number of children examined	Number of children with active trachoma	Trachoma prevalence (%)
1-4	161	17	10.6
5-9	186	20	10.8

Odds ratio: 0.91 (0.42-1.97); p-value: 0.808

Table A2 Comparison of trachoma prevalence between 1-4 and 5-9 year olds in Northern Territory among seven communities that met screening coverage inclusion criteria

Age group (years)	Number of children examined	Number of children with active trachoma	Trachoma prevalence (%)
1-4	176	13	7.4
5-9	225	30	13.3

Odds ratio: 1.97 (1.01 -4.06); p-value: 0.048

Table A3 Comparison of trachoma prevalence between 1-4 and 5-9 year olds in all 25 Western Australia communities in which screening took place

Age group (years)	Number of children examined	Number of children with active trachoma	Trachoma prevalence (%)

1-4	335	30	9.0
5-9	541	56	10.4

Odds ratio: 0.91 (0.78-2.16); p-value: 0.322

Table A4 Comparison of trachoma prevalence between 1-4 and 5-9 year olds in all 33 Northern Territory communities that screened

Age group (years)	Number of children examined	Number of children with active trachoma	Trachoma prevalence (%)
1 - 4	408	34	8.33
5 - 9	1035	82	7.92

Odds ratio: 1.38 (0.9 – 2.18); p-value: 0.144