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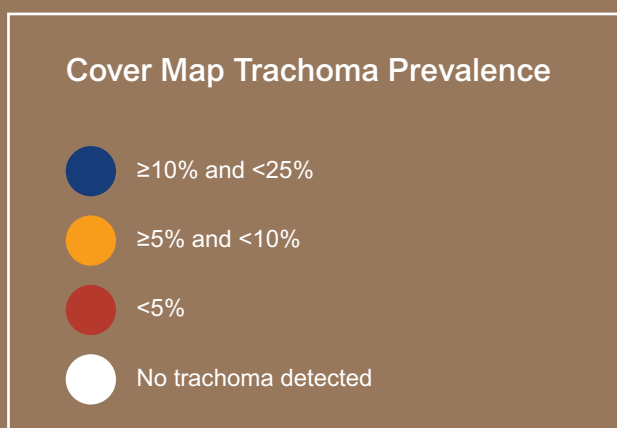
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Australian Trachoma Surveillance Report 2022

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 in 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 2022 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*.

The report contains a short description of methods used by the jurisdictions to undertake trachoma surveillance and control and the methods of data analysis used by the NTSRU. The main findings of the report are presented as tables and figures, with supporting text.

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

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- Midwest Population Health Unit, WA Country Health Service
- Pilbara Population Health Unit, WA Country Health Service

Technical terms and definitions

At-risk communities

Communities classified by jurisdictions as being at higher risk of trachoma based on 1) no recent data, but historical evidence of endemicity; 2) data of trachoma prevalence of 5% or more in children aged 5-9 years in the last 5 years; or 3) current data of less than 5% trachoma prevalence but with a recorded prevalence of trachoma of 5% or above in the past 5 years.

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.

Endemic trachoma

Prevalence of trachoma of 5% or more in children aged 5-9 years screened or a prevalence of trichiasis of at least 0.1% in the adult population screened

Hyperendemic trachoma

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

Prevalence of trachoma

The proportion of people found in a screening program to have trachoma, relative to the people screened.

Screening coverage

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

Trachoma

The presence of chronic inflammation of the conjunctiva caused by infection with *Chlamydia trachomatis*; includes World Health Organization simplified grading: trachomatous inflammation - follicular (TF) and trachomatous inflammation - intense (TI).

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.

* Please see Methodology section for how target age groups in Australia differ from WHO target age groups.

Abbreviations

ABS	Australian Bureau of Statistics
APY	Anangu Pitjantjatjara Yankunytjatjara
ACCHS	Aboriginal Community Controlled Health Service
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 Environment
WA	Western Australia
WACHS	WA Country Health Service
WHO	World Health Organization

Executive summary

✓ The overall trachoma prevalence in children aged 5-9 years has decreased to a level consistent with elimination as a public health problem level in all jurisdictions. For verification of elimination as a public health problem, these levels must remain under 5% in all jurisdictions for a further 2 years. Screening was undertaken in SA, NT, and WA. No screening was required in NSW or QLD. There was a decrease in 2022 in the number of communities designated at-risk for trachoma (92 in 2021 to 84 in 2022) and a slight decrease in the number of communities with endemic trachoma (39 in 2021 to 31 in 2022). Of the 12 regions currently considered at-risk, 11 recorded non-endemic levels of trachoma. The proportion of children with clean faces decreased in 2022, with 67% of children aged 5-9 years screened reported to have a clean face compared to 75% in 2021. In 2022, the proportion of communities reaching the CDNA guidelines goal of clean faces in 85% of children aged 5-9 years in community at the time of screening increased to 43% (34/78) of communities screened compared to 28% of communities screened (26/94) in 2021.

The elimination of endemic trachoma, maintenance of eliminated levels of trachoma, and reducing suboptimal facial cleanliness, can only be addressed by comprehensively implementing all aspects of the SAFE strategy, including health promotion, environmental health improvements and screening and treatment activities.

Summary of findings

Trachoma program coverage

- In 2022, jurisdictions designated 84 remote Indigenous communities as at-risk of endemic trachoma, a decrease of 9% from 92 in 2021 (Table 1.1).
- The number of communities at-risk of trachoma in Australia has steadily declined in all jurisdictions since 2010. The number of at-risk communities fell by 50% in NT (84 in 2010 to 42 in 2022), 85% in SA (72 in 2010 to 11 in 2022) and 64% in WA (86 in 2010 to 31 in 2022) (Figure 1.2).
- Of the 84 communities designated by jurisdictions to be at-risk at the start of 2022, 76 (90%) were determined to require and received screening, antibiotic distribution or both according to the CDNA guidelines (Table 1.1).
- Eight (10%) of the at-risk communities did not require screening or treatment as per Guidelines.

Screening coverage

- Jurisdictions undertook screening in all 76 communities that required screening (Table 1.1).
- Within the screened communities, 1491 of an estimated 1644 resident children (91%) aged 5-9 years were screened in 2022 (Table 1.2). This is similar to the screening rate of 90% in 2021.
- Screening coverage of children aged 5-9 years in the screened communities was 91% for the NT, 86% for SA and 93% for WA in 2022 (Figure 1.4, Table 1.2).

Facial cleanliness

- A total of 1543 children aged 5-9 years in screened communities were examined for clean faces (Table 1.2).
- The overall prevalence of clean faces in children aged 5-9 years was 77%, with 86% in the NT, 74% in SA and 55% in WA (Table 1.2).
- Compared to 2021, in 2022 the prevalence of clean faces increased slightly in the NT which reported the highest rate of facial cleanliness (84% in 2021, 86% in 2022), remained the same in SA (74% in 2021 and 2022) and decreased slightly in WA 2022 (57% in 2021, 55% in 2022) (Figure 1.5, Table 1.2).
- Clean face rates in children aged 5-9 years vary widely at the regional level ranging from 37% in the Goldfields region (WA) to 100% in Darwin Rural and SA's Far North regions (Tables 2.2, 3.1, 4.2 and 5.2)

Trachoma prevalence

- Trachoma is defined by the NT, SA, and WA as the presence of TF.
- The overall prevalence of trachoma in 5-9-year-olds decreased from 3.3% in 2021 to 2.2% in 2022 (Figure 1.6c, Table 1.2).
- The overall prevalence of trachoma in children aged 5-9 years was 2.3% in the NT, 0% in SA, and 3.1% in WA (Table 1.2).
- The overall prevalence of trachoma in children aged 5-9 years at the regional level ranged from 0.0% to 8.6% (Tables 2.2, 3.1, 4.2 & 5.2).
- Observed trachoma was reported among children aged 5-9 years in 50% (38/76) of the communities screened in 2022 (Table 1.3), a decrease from 2021 when trachoma was reported in 63% (52/82) of the communities screened.
- Trachoma was at endemic levels (prevalence at or above 5% in 5-9-year-olds) in 41% (31/76) of the communities screened in 2022 (Table 1.3), a decrease from 2021 when 48% (39/82) communities had endemic levels.
- Hyperendemic levels of trachoma (at or above 20%) were found in 13% (10/76) of at-risk communities screened in 2022 (Table 1.3), an increase from 2021 when 11% (9/82) of screened communities reported hyperendemic levels.

Antibiotic distribution and coverage

- Antibiotic distribution took place in all 34 communities that required antibiotic treatment according to the CDNA guidelines (Table 1.4).
- Treatment coverage for cases detected in screening activities was 100% with 91 cases treated with azithromycin (Table 1.5).
- Coverage for community members requiring treatment under CDNA Guidelines was 94%, compared to 71 % in 2021 (Table 1.5).
- Jurisdictional trachoma programs delivered a total of 829 doses of azithromycin in 2022 (Table 1.5), a reduction compared to 2021 when 1815 doses were delivered.

Trachoma-related trichiasis

- Overall, 10 806 adults aged 15 years and over in 120 at-risk and previously at-risk communities were screened for trichiasis (Table 1.6).
- There were 8 cases of trichiasis detected in adults aged 15 years and older (Table 1.6).
- The prevalence of trichiasis in screened adults aged 15 years and older was 0.07% and in adults aged 40 years and older was 0.12% (Table 1.6) compared to 0.11% and 0.19% respectively in 2021.
- Surgery for trachoma-related trichiasis in the past 12 months was reported by jurisdictional teams to have been undertaken for 4 adults in 2022 (Table 1.6).

Health promotion and environmental health improvement activities

- Approximately 175 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 promoting facial cleanliness and general hygiene activities in children (Tables 2.7, 3.1, 4.6, 5.7).
- There continues to be a lack of systematic reporting of environmental health and housing conditions, interventions and improvements at the community, regional and national levels.
- It is recognised that jurisdictional trachoma programs are not able to adequately monitor or implement the uptake of environmental improvements in affected communities.
- Progress requires a heightened effort across relevant disease areas as well as sectors and government agencies beyond health.

Background

Trachoma is the world's leading infectious cause of preventable blindness, caused by infection with the *Chlamydia trachomatis* bacteria, particularly serovars A-C.^{1,2} 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.¹ 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.^{3,4} 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, poor waste disposal systems and high numbers of flies have all been associated with trachoma prevalence.⁵ Children have more frequent and longer-lasting episodes of infection than adults and are generally believed to be the main community reservoirs of infection.⁶

Infection with *C. trachomatis* causes inflammation of the conjunctival tissue in the eye, leading to clinically recognisable trachoma. Diagnosis is by visual inspection and the detection of follicles (white spots) on the inner upper eyelid.⁷ 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.^{8,9} 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.

WHO, through the Global Alliance for the Elimination of Trachoma by 2020 (GET 2020), advocates the SAFE strategy for trachoma control.¹⁰ 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 improvements". 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.^{7, 11}

WHO has set new targets for the elimination of trachoma as a public health problem described in the recent neglected tropical diseases roadmap *Ending the neglect to attain the Sustainable Development Goals: a road map for neglected tropical diseases 2021–2030*.¹² Under the new road map, the requirements of the elimination of trachoma as a public health problem remain unchanged. Elimination 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 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 is sought from WHO through the preparation of a validation dossier.¹³

WHO guidelines recommend that clinical trachoma is treated with a single dose of the antibiotic azithromycin. When prevalence exceeds 5% in children aged 1-9 years, 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 strategy; treatment is provided at the household level, treating cases and close contacts within the same household(s) where the cases were found, where trachoma prevalence is lower than 5%, and Australia defines community coverage based on the treatment of households with at least one child aged 15 years or under.¹⁴

Trachoma control in Australia

Australia is the only high-income country with endemic trachoma. It occurs primarily in remote and very remote Indigenous communities in the NT, SA and WA. Trachoma is defined by the NT, SA, and WA as the presence of trachomatous inflammation – follicular and or trachomatous inflammation-intense.

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 Management Program was initiated in 2006. From 2009 until 2024-25, the Australian Government has committed \$72.4 million towards eliminating trachoma in Australia through the continuation, enhancement and development of trachoma control, health promotion and environmental improvement initiatives in jurisdictions with endemic trachoma. The Australian Government funds the National Trachoma Surveillance and Reporting Unit to provide a national mechanism for monitoring and evaluating trachoma control.¹⁶

The surveillance and management of trachoma in 2022 in all jurisdictions were guided by the CDNA 2014 *National guidelines for the public health management of trachoma in Australia* (the Guidelines)¹⁴. The 2014 guidelines were an update to the 2006 version¹⁷, with one of the main changes being the option not to screen all endemic communities every year, with jurisdictions instead able to allocate resources for antibiotic distribution and health promotion activities. The guidelines were developed in the context of the WHO SAFE strategy and make recommendations for control strategies, data collection, reporting and analysis.

The National Trachoma Surveillance and Reporting Unit (NTSRU)

NTSRU is responsible for data collection, analysis and reporting related to the ongoing evaluation of trachoma control strategies in Australia. The NTSRU has been managed by the Kirby Institute, UNSW Sydney since 2010,¹⁸⁻²⁹ 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. The NTSRU operates under a contract between UNSW Sydney and the Australian Government Department of Health and Aged Care.

Methodology

✍ The primary source of the data presented in this report is programmatic reporting from Australian states and territories which undertook screening and antibiotic distribution for trachoma in 2022. These activities take place under the guidance of the 2014 CDNA Guidelines, which recommends specific treatment strategies depending on the prevalence of trachoma detected through screening.¹⁴

In 2006 when the National Trachoma Management Program was initiated, NT, SA and WA jurisdictions 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. Mapping to establish if trachoma was a public health problem was also undertaken in NSW and QLD and results were included in surveillance reports. Trachoma control activities focus on communities designated at-risk, while a small number of other communities designated as not at-risk have been included in screening activities, generally when anecdotal information suggests the presence of trachoma, or where there is close geographic or cultural proximity to at-risk communities.

WHO simplified trachoma grading criteria⁷ are used to diagnose and classify individual cases of trachoma in all jurisdictions. Data collection forms for use at the community level, developed by the NTSRU, based on CDNA Guidelines, are completed, and forwarded by jurisdictional coordinators to the NTSRU for checking and analysis. Information provided to the NTSRU at the community level for each calendar year includes:

- Number of Indigenous children aged 1-14 years screened for clean faces and the number with clean faces, by age group.
- Number of Indigenous children aged 1-14 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.

WHO elimination as public health problem targets specify screening of 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.

Opportunistic rather than systematic screening in communities has also included children 1-4 as well as those 10-14 years. Data for the 1-4 and 10-14 years are presented in supplementary tables in Appendix 1.

Trachoma control programs in Australia in the NT, SA and WA undertake trachoma grader training to ensure rigorous and accurate trachoma grading. In QLD, screening was performed by an ophthalmologist with decades long experience in trachoma control. 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.

New South Wales

There were no communities designated at-risk in NSW in 2022. Historically data has been provided by NSW Health, which focused on screening in potentially at-risk communities in northwestern and far western NSW, with the most recent screening conducted in 2015.

Northern Territory

From 2013, the NT has followed the screening and treatment schedule recommended in the 2014 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 (ACCHS). Trachoma screening is generally a stand-alone activity of the trachoma team and program partners 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 is undertaken by the trachoma team and program partners with support from primary healthcare services.

In 2022, screening for trichiasis was undertaken opportunistically, primarily by clinic staff during adult health checks or optometrists and ophthalmologists based with regional eye health services.

South Australia

The Trachoma Elimination Program in SA is implemented by the Eyre and Far North Local Health Network on behalf of the state government. The program is overseen by the South Australian 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. Embedding screening and treatment practices in local health services for the sustainable elimination of trachoma as a public health problem has been a priority in SA.

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

Since 2014, trachoma control activities in the 9 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.

Queensland

There were no communities designated at-risk in QLD in 2022.

In November 2019, cumulative data from the Torres Strait Islands were presented to the NTSCRG and it was agreed that these communities should no longer be designated at-risk of trachoma.^{34, 35} Likewise, in 2022 cumulative data from the North-West region was reviewed by the NTSCRG which agreed these communities should no longer be designated at-risk of trachoma.³⁶ Health promotion activities were undertaken in one community in North-West Queensland.

Western Australia

Trachoma screening and management in WA are the responsibility of the WA Country Health Service (WACHS) Population Health Units in the Kimberley, Goldfields, Pilbara and Midwest health regions. The interagency State Trachoma Reference Group provides program oversight and has established a set of operational principles which guide the program and provide consistent practice across the 4 endemic regions. In WA, trachoma screening teams are required to complete the Remote Area Health Corps (RAHC) 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 4-week period in August and September. People identified with trachoma are treated at the time of screening, together with their household contacts. In communities with a prevalence above 5%, treatment may be offered in the form of mass drug administration to the whole community in line with WHO guidelines or to a particular part of the community if there appears to be a clustering of cases. In 2022, each region determined the screening denominator based on the school register, which was updated by removing names of children known to be out of the community at the time of screening and adding names of children present. 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 because of their small populations and kinship links. In 2022, 7 of these communities were screened for trachoma. From 2016, data from 4 communities in the Pilbara region have been similarly reported as one. These reporting changes need to be considered in the interpretation of time trends for WA reports.

WHO simplified trachoma grading criteria are used to diagnose and classify trachomatous trichiasis. Each jurisdictional program identified communities at-risk of trichiasis based on trachoma prevalence data, both current and historical. Screening for trichiasis occurs at different times of the year and is integrated into other community and public health programs such as the annual influenza vaccination program. The priority target group for trichiasis screening activities in the 4 regions comprises Aboriginal and Torres Strait Islander adults aged 40 years and over. Regional population health units report on screening of children from 15 years of age, adults screened during the annual influenza vaccination program, the Aboriginal Medical Service (Adult Health Check MBS Item 715) and information from the Visiting Optometrist Service.

Data analysis

In NT, SA and WA, trachoma is defined as the presence of trachomatous inflammation – follicular. In QLD, the diagnosis of trachoma was based upon several features: the clinical advice of an experienced ophthalmologist who performed a detailed examination beyond that required by the WHO simplified grading system, the collection of conjunctival swabs for PCR testing for *C. trachomatis* as well as for microscopy and bacterial culture, and whether any follicles were present on the upper tarsal conjunctiva.

A community is defined as a geographic location where people reside and there is at least one school. Community screening coverage is the number of communities screened for trachoma as a proportion of those classified as at-risk. Individual screening coverage is the proportion of resident children in the target age group 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).

Trachoma data are analysed in the age groups 1-4, 5-9 and 10-14 years. Tables and comparisons over time are limited to the age group 5-9 years. Supplementary tables are presented in Appendix 1 for the 1-4 and 10-14 age groups. Data from 2006 were excluded from the assessment 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 were 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, for communities not screened in 2022 an *estimated prevalence* of trachoma was calculated by carrying forward the most recent prevalence data, following a method endorsed by the NTSCRG. This method may result in an over-estimate of current estimated 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 2022, the most recent prevalence carried forward from at-risk communities that were not screened in 2022 and the most recent prevalence carried forward from 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.

National results

Findings and interpretation

✓ In 2022, Australia reached elimination targets of trachoma prevalence, that is, trachoma prevalence of below 5% in children aged 5-9 years, in each jurisdiction with formerly known endemic levels of trachoma. This is the first year Australia has reached this target. For formal recognition of elimination of trachoma as a public health problem by WHO, Australia must maintain these levels of trachoma prevalence for two years, ascertain trichiasis levels are below <0.2% in adults and provide WHO evidence of a health care system that can recognise and manage trichiasis cases, through the provision of a dossier.

While trachoma has reached levels of elimination as a public health problem at the jurisdictional levels, endemic and hyperendemic level of trachoma remain in several communities in the central regions of Australia. This highlights that post elimination as a public health problem Australia will nevertheless require ongoing screening and treatment activities for trachoma, as well strengthening of health promotion and environmental improvements including reducing crowding in households and ongoing maintenance of water and sanitation hardware, which must become the mainstay of control. Such changes require a multi-sectoral effort, involving communities and agencies beyond the public health units and teams that have been assigned responsibility for trachoma control activities.

In 2021 the Australian Government extended the target date for the elimination of trachoma as a public health goal to align with WHO's framework 'Ending the neglect to attain the Sustainable Development Goals: a road map for neglected tropical diseases 2021–2030'.¹² The extension of the elimination target date will provide sufficient time to enhance control efforts and meet WHO's elimination criteria, as well as providing time for stakeholders to develop strategies and guidelines to ensure sustainable control of trachoma and its health consequences in Indigenous communities in Australia.

Screening coverage

In 2022, of the communities designated as at-risk and requiring screening, 100% (76/76) did receive screening for trachoma, which was higher than in 2021 when 92% (79/86) of at-risk communities that required screening did receive this service. It should be noted however that the proportion of communities screened is not in itself an indicator of the quality or success of the program. Under the CDNA Guidelines, jurisdictions can choose to reduce the frequency of annual screening and dedicate resources on control activities, including antibiotic distribution, in high prevalence communities.¹⁴ At the other end of the spectrum, communities with low levels of trachoma do not require annual screening.

On the other hand, the proportion of children aged 5-9 years assessed for trachoma in screened communities is an important performance measure, with the CDNA Guidelines targeting coverage of at least 85%. The overall coverage in screened communities increased marginally to 91% in 2022 from the previous year's 90%. Of the 76 communities screened in 2022, 73 (96%) reached the screening target of 85% of children in community on the day of screening (data not shown). Children not screened have either refused screening, not attended school on day of screening, or were not able to be found in community.

Facial cleanliness

Facial cleanliness and general hygiene are the priority of health promotion activities undertaken in communities. These messages have also been emphasised during the COVID outbreak. The proportion of screened children aged 5-9 years who had clean faces increased marginally from 75% in 2021 to 77% in 2022. Increases were reported in the NT and SA, with a slight decrease in WA which has the poorest levels of facial cleanliness at 55% overall in children aged 5-9 years.

Overall, since the beginning of the program in 2007, there has been considerable variance between the prevalence of facial cleanliness in regions, highlighting the complexity of promoting behavioural change, and suggesting the importance of other barriers to program success, including access to safe and functional washing facilities, prompt repair and planned maintenance of housing hardware and overcrowding in homes. The positive impact of addressing these issues would be experienced in all sectors of the community, not just trachoma and health.

Trachoma prevalence

Across NT, SA and WA, the overall prevalence of trachoma among children 5-9 years in 2022 was 2.2%, a decrease from 3.3% in 2021. At the jurisdictional levels, which are the WHO evaluating units for defining trachoma endemicity and elimination, the overall prevalence of trachoma in 5-9 age children was under targets for the first year, with 0.0% in SA, 2.3% in the NT and 3.1% in WA. The prevalence of trachoma in children aged 5-9 years in at-risk communities ranged from 0.0% to 8.6% across 12 regions.

The proportion of communities with a prevalence at or above endemic levels (5%) decreased from 48% (39/82) in 2021, to 41% (31/76) in 2022. The proportion of communities with hyperendemic trachoma (over 20% prevalence) increased marginally to 13% (10/76) from 11% (9/82) in 2021.

Antibiotic distribution and coverage

Antibiotic treatment was indicated under CDNA Guidelines¹ for 860 people in 2022, dramatically lower than 2336 people in 2021. Fewer communities (34 or 40% of all at-risk communities) required treatment activities in 2022, compared to 2021 (53 or 58% of all at-risk communities in 2021), and of those only 3 undertook community-wide treatment after consultation compared to 7 in 2021. Communities are choosing to undertake more targeted treatment after many years of community-wide distribution, with reports of treatment fatigue from practitioners on the ground. While the implications of reduced uptake of antibiotics for trachoma control are not well understood, they serve to further highlight the need for housing and environmental improvements combined with health promotion programs as crucial elements of the program to ensure sustainable elimination. Treatment coverage was high with 96% of those requiring treatment receiving treatment.

Trachoma-related trichiasis

Overall, 10 806 adults aged 15 years and older were reported to have been screened for trichiasis in 2022, compared to 11 435 in 2021, however it is considered that the number of adults screened under the Medicare item 715 adult health check exceeds this number. Among those screened in 2022 aged 15 years or older, 8 (0.07%) were found to have trichiasis, and 4 underwent trichiasis surgery as reported by jurisdictional teams.

Health promotion and environmental health activities

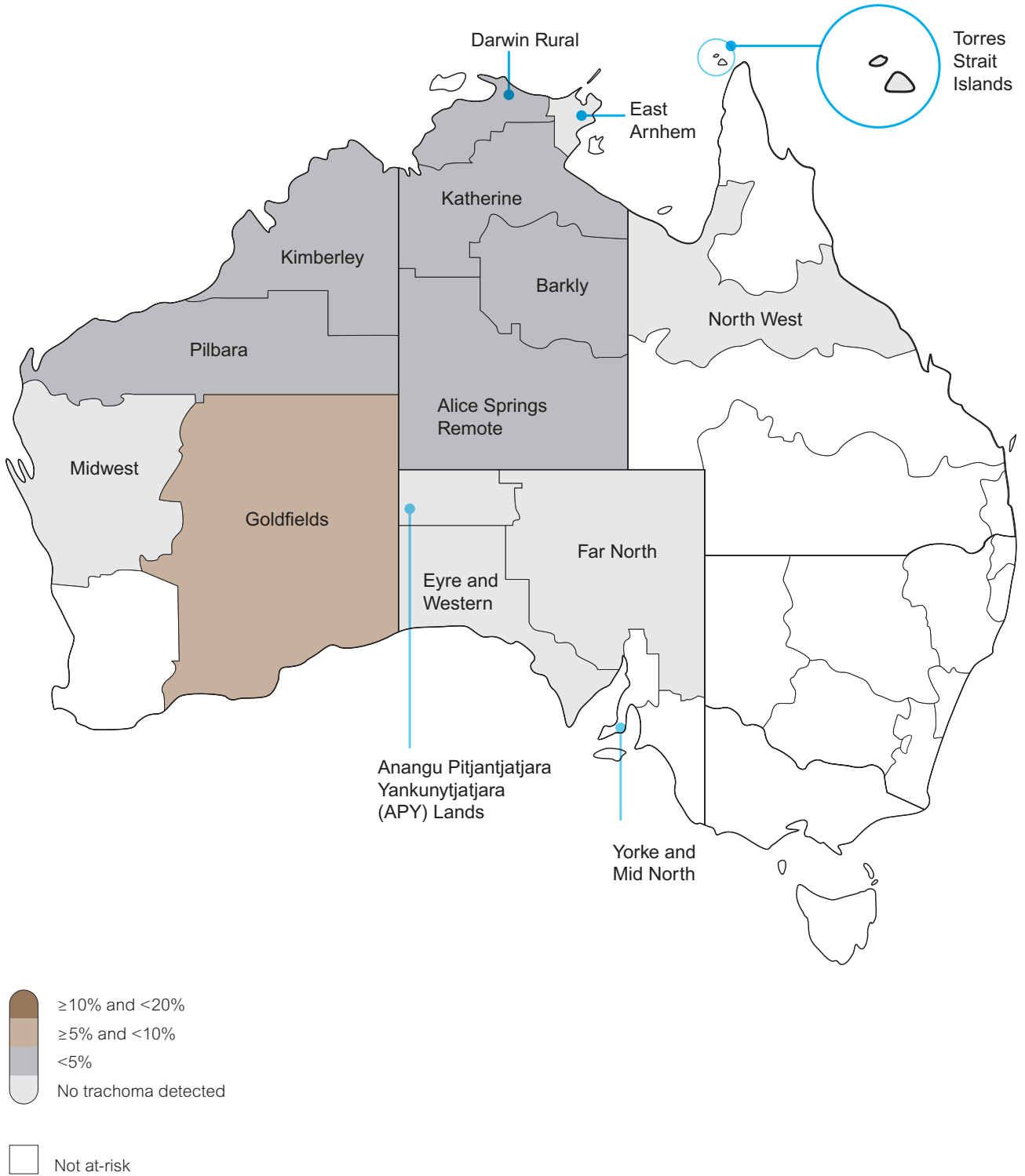
Despite program disruptions due to the COVID-19 pandemic, jurisdictions have continued to support and report health promotion activities that focus on improving infection control practices, particularly facial cleanliness and related measures in children. Targeted health promotion messaging to prevent the spread of COVID-19 have also complemented trachoma control messages.

There continues to be a lack of systematic reporting of environmental health and housing conditions, interventions and improvements at the community, regional and national levels. The NTSCRG recognises that jurisdictional trachoma programs are not able to adequately monitor, let alone substantially influence, the uptake of environmental improvements in affected communities. Progress requires a heightened effort across relevant disease areas as well as sectors and government agencies beyond health.

Figures and Tables – National

Figures and Tables

Figure 1.1 Overall trachoma prevalence in children aged 5-9 years in all at-risk communities by region, Australia, 2022*



* Most recent estimates carried forward in communities that did not screen in 2022.

Figure 1.2 Number of communities designated at-risk by jurisdiction, Australia, 2007 – 2022

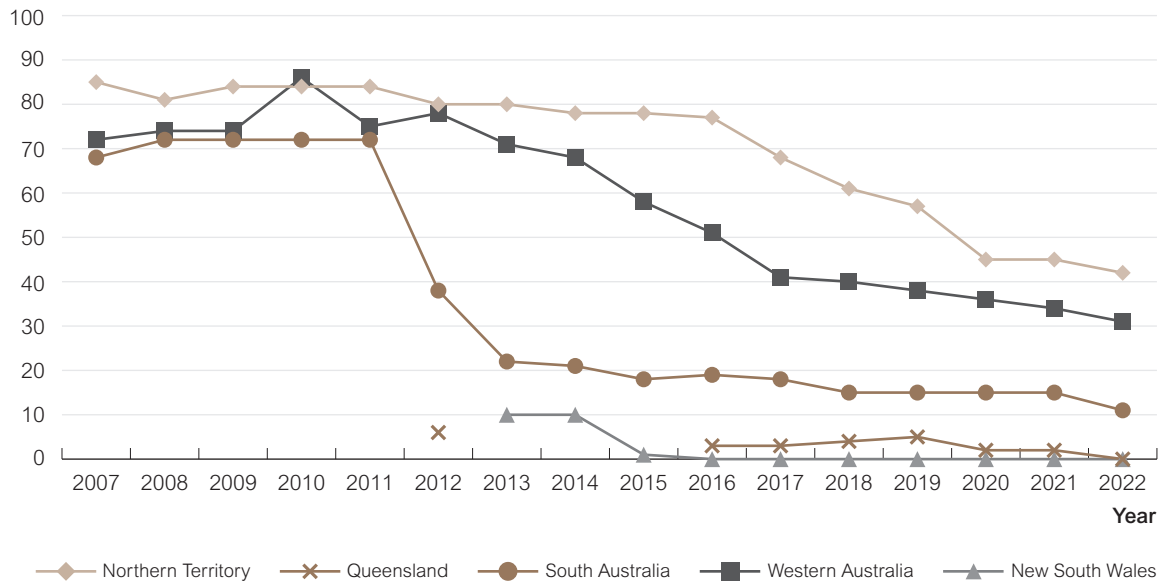


Figure 1.3 Number of at-risk communities according to trachoma control strategy implemented by jurisdiction, Australia, 2022

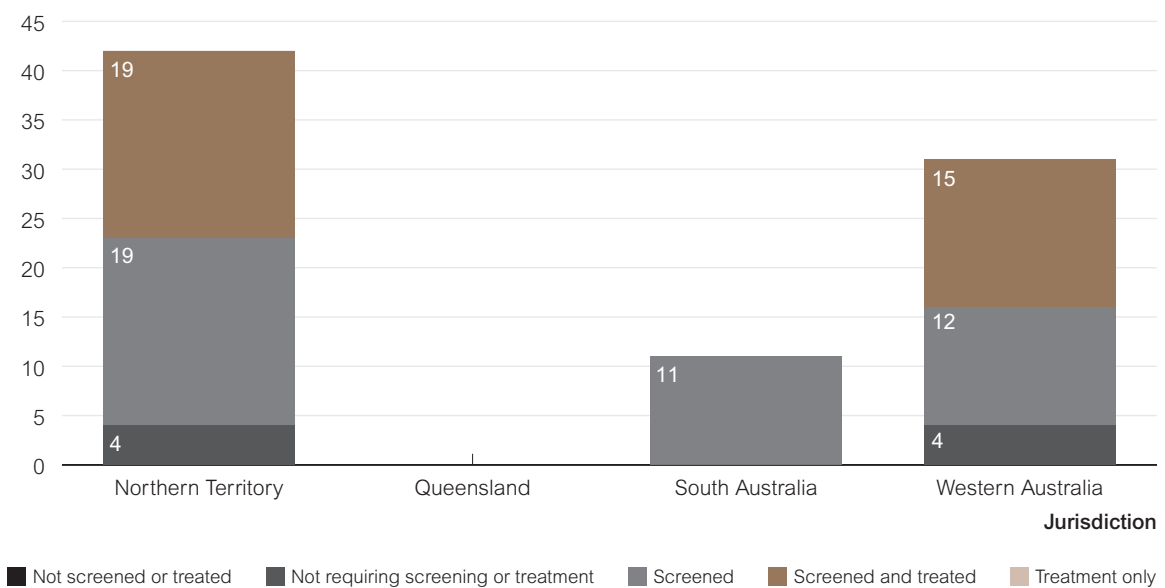


Figure 1.4 Population screening coverage in children aged 5-9 years in communities that were screened for trachoma by jurisdiction, Australia, 2022

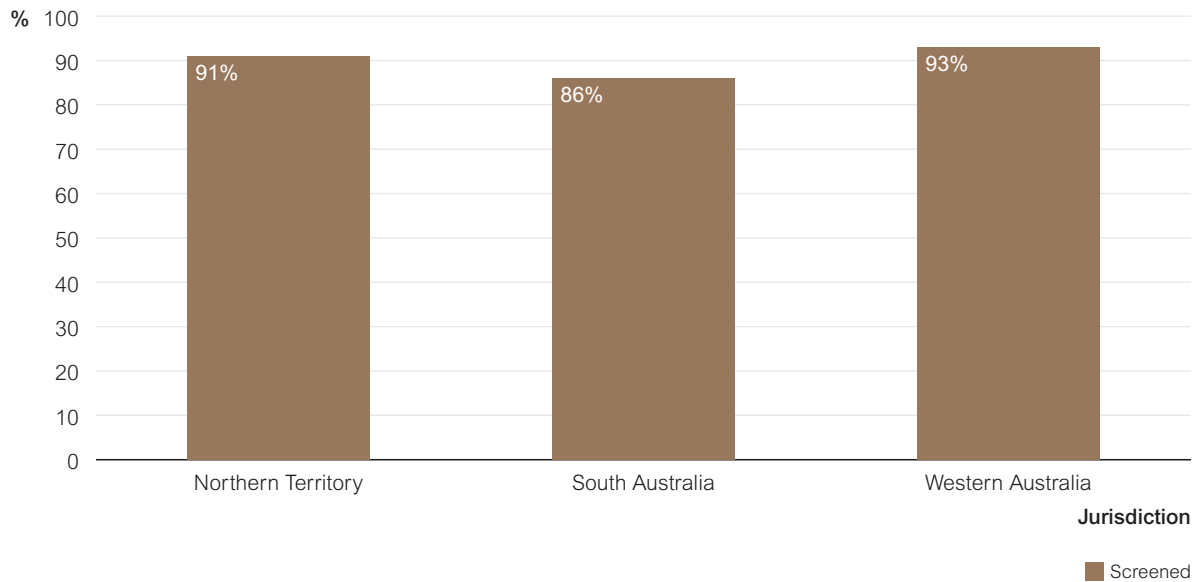


Figure 1.5 Proportion of screened children aged 5-9 years who had a clean face by jurisdiction, Australia 2007 – 2022

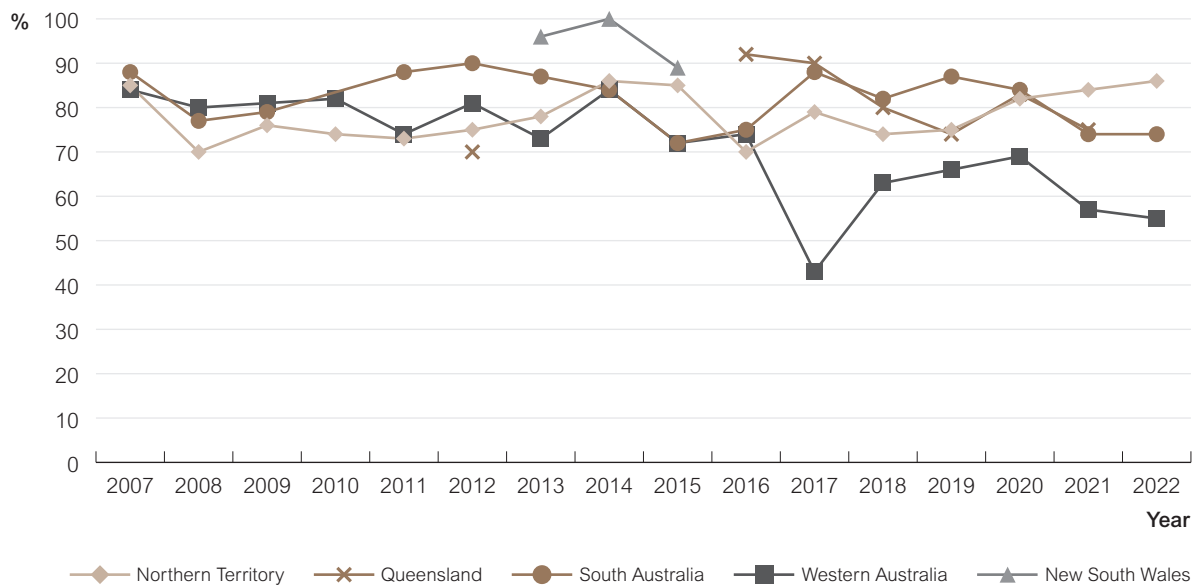


Figure 1.6a. Observed prevalence of clinical findings consistent with trachomatous inflammation – follicular/intense among screened children aged 5-9 years by jurisdiction, Australia, 2007 – 2022

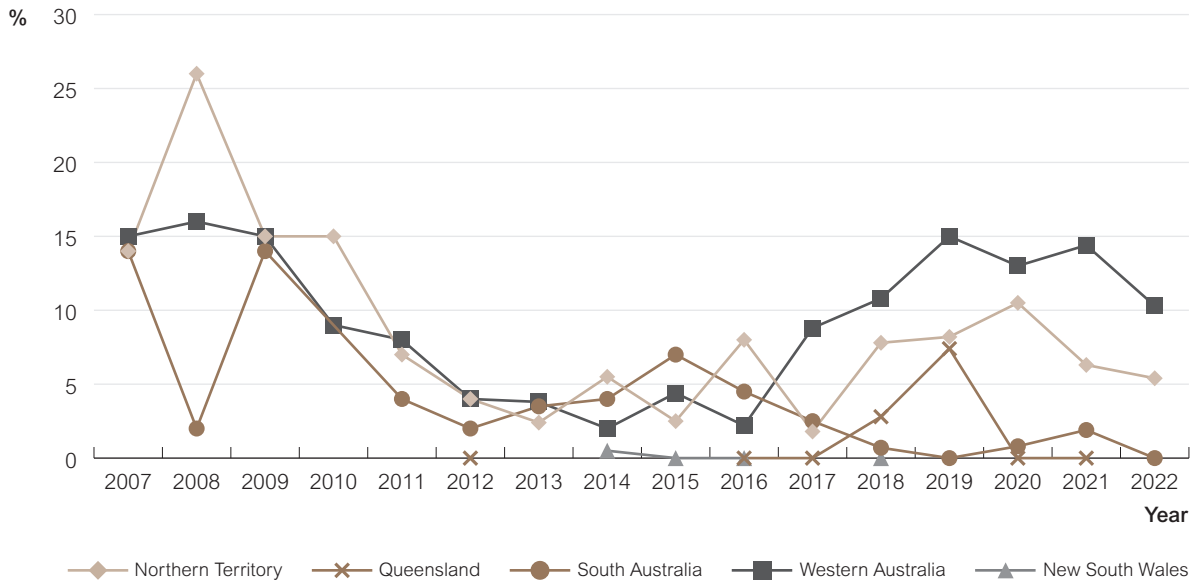
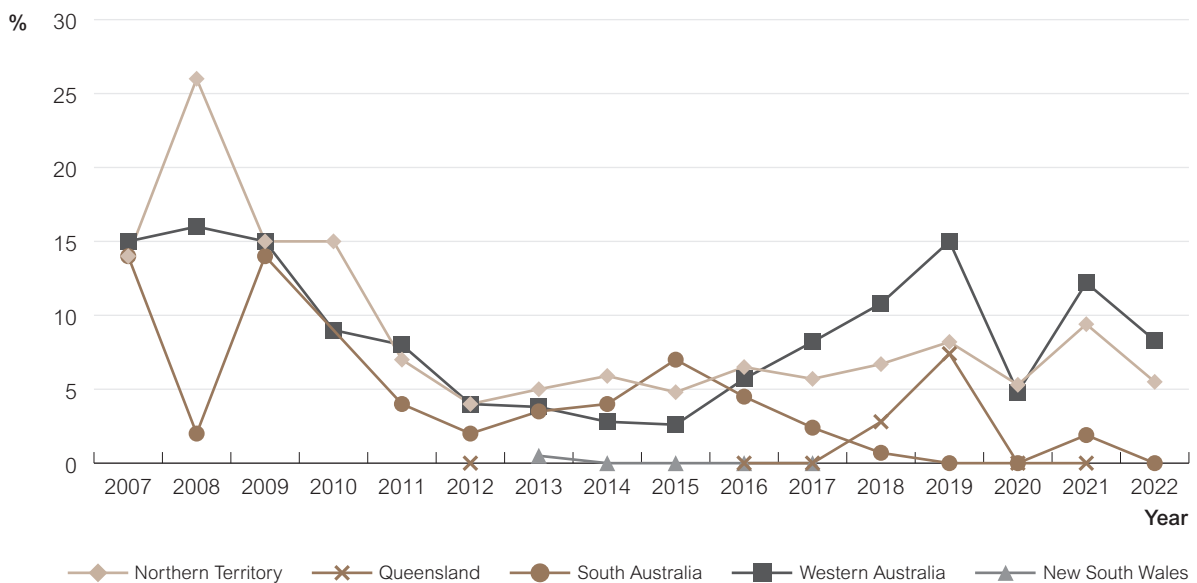
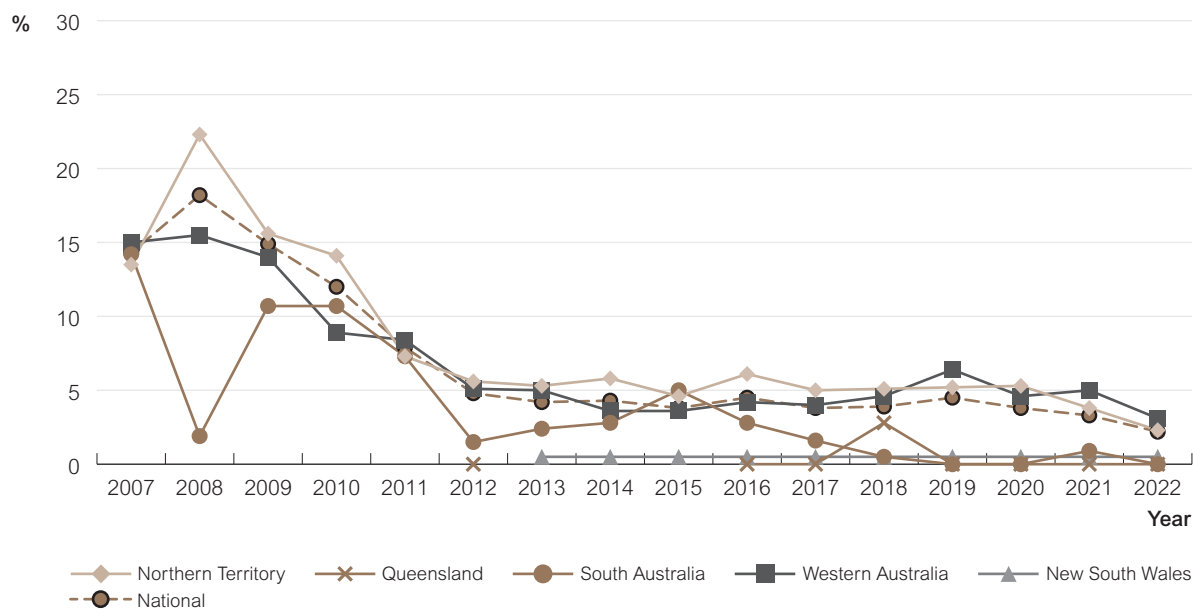


Figure 1.6b. Estimated prevalence of trachoma among children aged 5-9 years in all at-risk communities* by jurisdiction, Australia, 2007 – 2022



* Most recent estimates carried forward in at-risk communities that did not screen in 2022.

Figure 1.6c. Overall prevalence of trachoma among children aged 5-9 years in all current and formerly at-risk communities* by jurisdiction, 2007 – 2022



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

Figure 1.7 Number of screened at-risk communities according to the level of observed trachoma prevalence in children aged 5-9 years by jurisdiction, Australia, 2022

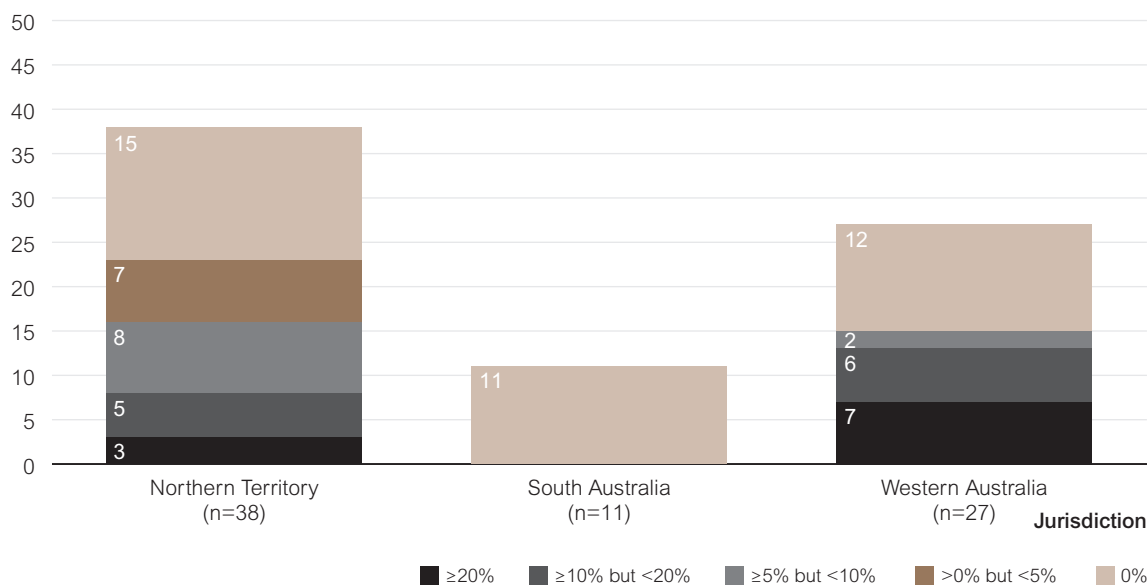


Figure 1.8 Proportion of at-risk communities with zero prevalence of trachoma by jurisdiction, Australia, 2007 – 2022

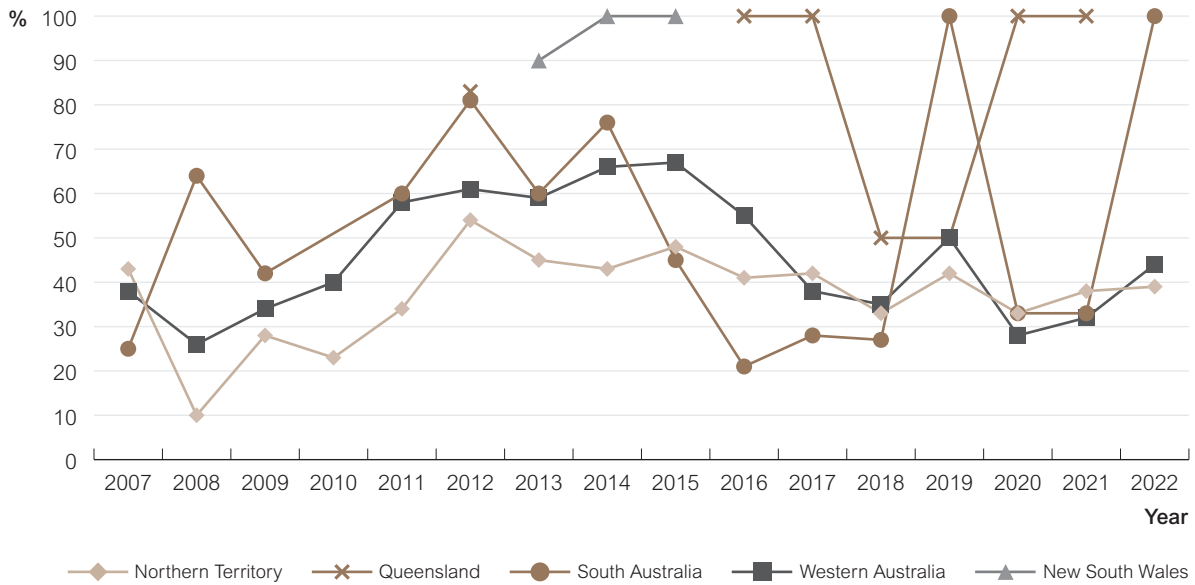


Figure 1.9 Proportion of at-risk communities with endemic (> 5%) levels of trachoma by jurisdiction, Australia, 2007 – 2022

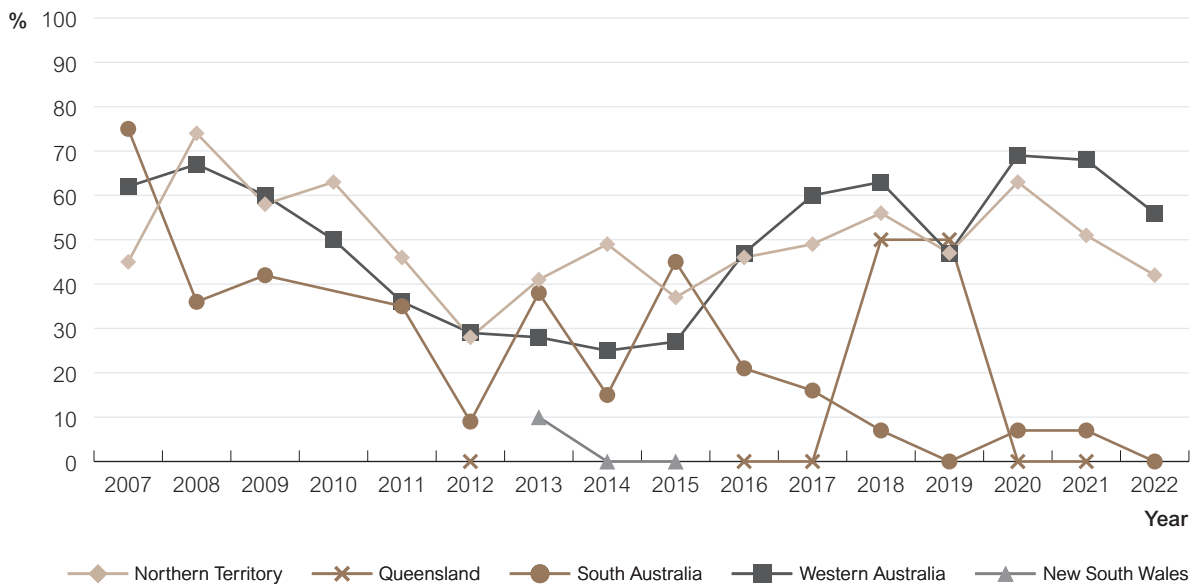


Figure 1.10 Number of doses of azithromycin administered for the treatment of trachoma by jurisdiction, Australia, 2007 – 2022

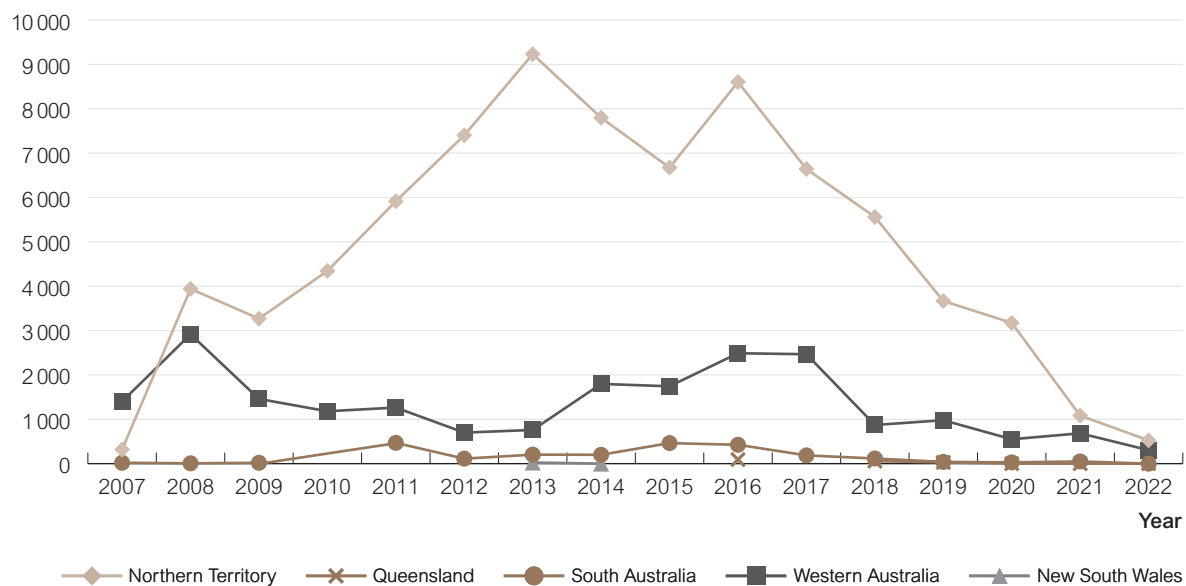


Table 1.1 Trachoma control delivery in at-risk* communities by jurisdiction, Australia, 2022

Number of communities	Northern Territory	Queensland	South Australia	Western Australia	Total
At-risk * (A)	42	0	11	31	84
Requiring screening for trachoma (B)	38	0	11	27	76
Screened for trachoma (C)	38	0	11	27	76
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)	38	0	11	27	76
Requiring neither screening or treatment for trachoma † (G=A-B-D)	4	0	0	4	8

* 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, 2022

Number of communities	Northern Territory	South Australia	Western Australia	Total
Number of communities screened	38	11	27	76
Children examined for clean face	965	215	363	1543
Children with clean face	833	159	198	1190
<i>Clean face prevalence (%)</i>	86	74	55	77
Estimated number* of Indigenous children in communities†	1008	250	386	1644
Children screened for trachoma	918	215	358	1491
<i>Trachoma screening coverage (%)</i>	91	86	93	91
Children with active trachoma	50	0	37	87
<i>Observed prevalence of active trachoma (%) ‡</i>	5.4	0.0	10.3	5.8
<i>Estimated prevalence of active trachoma (%) ‡</i>	5.5	0.0	8.3	4.2
<i>Overall prevalence of active trachoma (%) ‡</i>	2.3	0.0	3.1	2.2

* Jurisdictional estimate.

† Communities that were screened for trachoma in 2022.

‡ Methods of calculating prevalence rates are explained 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 – 2022

	2014		2015		2016		2017		2018		2019		2020		2021		2022	
Communities at-risk †	177		157		150		130		120		115		98		92		84	
Communities not screened ‡	0		8		8		1		8		4		2		13		8	
Number of communities §	177		149		142		129		112		111		96		82		76	
Trachoma prevalence rate	n	Proportion	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	13%
≥10% but <20%	36	20%	27	18%	29	20%	30	23%	34	30%	13	12%	27	28%	18	22%	11	14%
≥5% but <10%	12	7%	16	11%	12	8%	13	10%	16	14%	8	7%	10	10%	12	15%	10	13%
>0% but <5%	13	7%	16	11%	21	15%	19	15%	15	13%	8	7%	12	13%	13	16%	7	9%
0%	99	56%	74	50%	65	46%	50	39%	34	30%	58	52%	31	32%	30	37%	38	50%

† 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, 2022

Communities	Northern Territory	Queensland	South Australia	Western Australia	Total
Required treatment for trachoma	19	0	0	15	34
Treated for trachoma	19	0	0	15	34
Screened and treated	19	0	0	15	34
Received treatment without screening	0	0	0	0	0
Received 6-monthly treatment	0	0	0	0	0
Did not require treatment	16	0	11	16	43
Treated active cases and households	18	0	0	14	32
Treated the whole of community	1	0	0	2	3
Not treated according to CDNA guidelines	0	0	0	0	0

CDNA: Communicable Diseases Network Australia.

Table 1.5 Trachoma treatment coverage, Australia, 2022

Age group (years)	Northern Territory					Western Australia					Total				
	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	50	1		51	0	37	3		40	0	87	4		91
Received treatment for active trachoma	0	50	1		51	0	37	3		40	0	87	4		91
Received treatment for active trachoma (%)	N/A	100	100		100	N/A	100	100		100	N/A	100	100		100
Estimated community members* requiring treatment	61	56	70	321	508	28	48	35	164	275	89	104	105	485	783
Number of community members* who received treatment	58	54	67	295	474	26	46	35	157	264	84	100	102	452	738
Estimated community members who received treatment (%)	95	96	96	92	93	93	96	100	96	96	94	96	97	93	94
Number of community members that refused treatment	3	0	0	13	16	0	0	0	1	1	3	0	0	14	17
Total number of doses of azithromycin delivered	58	104	68	295	525	26	83	38	157	304	84	187	106	452	829
Estimated overall treatment coverage (%)	95	98	96	92	94	93	98	100	96	97	94	98	97	93	95

* Estimated as per CDNA Guidelines.

Table 1.6 Trachoma-related trichiasis screening coverage, prevalence and treatment among Indigenous adults, Australia, 2022

Age group (years)	Northern Territory		South Australia		Western Australia		Total		
	15-39	40+	15-39	40+	15-39	40+	15-39	40+	15+
Number of communities screened for trichiasis	69		12		39		120		
Adults examined †	3512	3 259	453	487	89	3 006	4 054	6 752	10 806
With trichiasis	0	0	0	1	0	7	0	8	8
With trichiasis (%)	0.00	0.00	0.00	0.21	0.00	0.23	0.00	0.12	0.07
Surgery in past 12 months ‡	0	1	0	1	0	2	0	4	4

† Number of adults examined was limited to the numbers reported. This number may not account for all adults who may be examined in routine adult health checks and may also include multiple screening.

‡ Surgery cases may include cases identified in previous years.

Table 1.7 Trachoma-related trichiasis surgery data collected from MBS Item 42588, Australia, 2022

Age group (years)	New South Wales		Northern Territory		Queensland		South Australia		Tasmania		Western Australia		Total		
	15-39	40+	15-39	40+	15-39	40+	15-39	40+	15-39	40+	15-39	40+	15-39	40+	15+
Surgery in the past 12 months	0	4	No data	No data	0	8	0	1	0	2	No data	No data	0	15	15

Jurisdictional-specific results

Northern Territory results

Trachoma program coverage

- In 2022, the NT identified 42 communities across 5 regions as being at-risk of trachoma (Figure 2.2, Table 2.1).
- Of these at-risk communities, 38 communities required and received screening or treatment for trachoma according to the current Guidelines (Figure 2.3, Table 2.1).
- A further 4 communities did not require screening or treatment as per guidelines.

Screening coverage

- In 2022 the NT identified 38 communities in the 5 regions requiring screening for trachoma with all communities screened (Table 2.1).
- The proportion of children aged 5-9 years screened in the 38 communities that received screening was 91%, ranging from 89% in the Katherine region to 92% in the Alice Springs Remote and Darwin Rural regions (Figure 2.4, Table 2.2).

Facial cleanliness

- Clean face prevalence was assessed in all communities that were screened in 2022 (data not shown).
- The overall prevalence of clean faces among children aged 5-9 years in the communities assessed was 86%, ranging from 79% in the Barkly region to 100% in the Darwin Rural region (Figure 2.5, Table 2.2).

Trachoma prevalence

- The observed prevalence of trachoma in those aged 5-9 years in the 38 communities that were screened in 2022 was 5.4% (50/918). Prevalence in these communities ranged from 3.7% in the Alice Springs Remote region to 9.9% in the Katherine region (Figure 2.6a, Table 2.2).
- The overall prevalence of trachoma in those aged 5-9 years in communities that were screened was 2.3%, ranging from 0.4% in the Darwin Rural region to 4.9% in the Barkly region (Figure 2.6c, Table 2.2).
- No trachoma was reported in 39% (15/38) of the screened at-risk communities (Table 2.3).
- Endemic levels of trachoma ($\geq 5\%$) were reported in 42% (16/38) of the screened at-risk communities (Table 2.3)
- Hyperendemic levels of trachoma ($\geq 20\%$) were reported in 8% (3/38) of the at-risk communities (Table 2.3).

Treatment delivery and coverage

- Trachoma treatment strategies were applied in 19 communities (Table 2.4).
- Treatment was delivered to trachoma cases and household contacts in 18 communities, and community-wide in one community as per CDNA Guidelines (Table 2.4).
- Total treatment coverage for those with trachoma and community members, and community-wide treatment in all regions requiring treatment was 96% with 525 doses of azithromycin delivered (Figure 2.8, Table 2.5).

Trichiasis

- Reporting for trichiasis screening was available for 69 communities (Table 2.6).
- Overall, 7071 adults aged 15 years and older were reported to be screened (Table 2.6).
- There were no new cases of trichiasis detected in adults screened in 2022 (Table 2.6).
- Surgery for trichiasis was reported to be undertaken for one adult aged 15 years or over (Table 2.6).

Health promotion and environmental health

Health promotion

The NT Trachoma program partners with The Indigenous Eye Health Unit (IEH) at the University of Melbourne in delivering a range of health promotion activities. These activities are strongly centred around 'Milpa's Six Steps to Stop Germs' suite of hygiene health promotion resources that embed the key action of facial cleanliness with other gold standard hygiene practices to prevent trachoma and other hygiene-related illnesses.

The trachoma program also works in partnership with NT Department of Education. Several NT schools have incorporated the Clean Faces Strong Eyes (CFSE) routine alongside Blow Breathe Cough (BBC) to prevent otitis media. The CFSE activity positively reinforces the importance of clean faces and schools are implementing this activity prior to the start of school.

The messages of Milpa Six Steps continued to be reinforced through incorporating information about the importance of hygiene reducing the spread of COVID-19. Trachoma nurses continued to incorporate the strategies for COVID-19 prevention in trachoma-related health promotion and activities targeting specific individuals and groups in remote Indigenous communities from Barkly and Central Australia. These health promotion activities were delivered by the trachoma clinical staff alongside IEH and Anyinginyi Health Aboriginal Corporation. Additionally, the NT Trachoma program in partnership with Environmental Health Central Australia and IEH set up health promotion stalls in 4 communities in the McDonnell Region as part of the McDonnell Region Council's Get Grubby program.

Social marketing and communications

'Milpa's Six- Steps to Stop Germs' application continues to be used by IEH and the NT Trachoma program. This was developed in 2021 with the aim of making the existing six-step resources more interactive and appealing to school children and educators.

In support of the NT Department of Education's Eye and Ear Health Program currently in schools, IEH also held a Milpa's six step poster competition for NT schools.

Sporting and community events

Trachoma-related health promotion was conducted in partnership with IEH. NT Trachoma and IEH attended Yipirinya Middle School Health Expo in Alice Springs to promote health and wellbeing. IEH also accompanied the NT Trachoma program with screening and treatment trips to Central Desert and McDonnell regions, providing health promotion activities to communities. NT Trachoma also assisted IEH with a range of health promotion activities around the Melbourne vs Port Adelaide AFL match in July 2022.

Environmental Health

Environmental health staff continued to facilitate the Central Australia Environmental Health Working Group, with three meetings and a face-to-face workshop held in 2022. IEH also maintained its work with Outback Stores around increasing access to personal hygiene, household cleaning and pest control products. In addition, staff are developing 'shelf wobblers' which aim to promote 'Milpa's Six Steps to Stop Germs' in the community store setting and provide a prompt to purchase key items such as soap and towels. IEH continues to promote the 'Milpa's SAFE Bathroom Checklist', which is a tool that assists community members to report things that aren't working in their bathrooms.

Community-based health officers

The NT Trachoma program is partnering with the Aboriginal Medical Services Alliance Northern Territory (AMSANT) in designing a project for community-based public or environmental health officers based in Aboriginal communities. This project is currently in the planning phase.

IEH Training

IEH organised a two-day 'healthy homes' workshop with a strong focus on health hardware and hygiene for the prevention of trachoma and other infectious diseases. Multiple stakeholders, including the community-controlled health sector, and nurses and staff from the NT Trachoma program participated in the workshop with the aim of building awareness about the links between diseases, prevention and environmental factors in houses. The workshop also provided information on how to engage community members in discussions about the link between housing and health.

Environmental Health Education in schools

As a part of health promotion activities in schools, NT Trachoma nurses discussed the importance of functioning health hardware in homes to prevent diseases among school students and teachers.

Coordination

NT Trachoma Group has a Central Australian focus and is run by the Central Australia Health Service Trachoma team. It meets monthly and brings together all the main organisations working in trachoma to share updates, and work collaboratively to coordinate remote trips and share resources.

Health Hardware and Hygiene Network is NT-wide, Top End based and coordinated by the NT government. It aims to provide leadership in promoting safe hygiene behaviours and functioning health hardware in remote communities, engage Aboriginal people in developing a hygiene strategy, facilitate communication and collaboration, and advocate for long-term investment in a skilled community-based Aboriginal environmental health workforce. Members are various groups within the NT Department of Health (Environmental Health, System Strategic Policy and Planning, Primary Health Care, Trachoma Program, Rheumatic Heart Disease Control Program and Hearing Health), AMSANT, NT Department of Territory Families, Housing and Communities, NT Department of Education's Families as First Teachers group, Fred Hollows Foundation, IEH and One Disease.

Central Australia Environmental Working Group is based in Central Australia and Barkly, with coordination provided by IEH. The group aims to support environmental improvements in remote communities to eliminate trachoma. Members are the NT Department of Health, NT Department of Education, NT Department of Territory Families, Housing and Communities, and NT Department of Infrastructure, Planning and Logistics, AMSANT and its local affiliate members, and regional councils.

NT Department of Education, IEH and Central Australia – Clean Faces, Strong Eyes group meets monthly. The NT Department of Education provides additional soap and hand sanitiser to schools and increased the frequency of school cleaning due to COVID-19. This group coordinates efforts across schools in terms of links to curriculum, hygiene routines in schools, Families as First Teachers programs, and supports screening and treatment visits to schools.

Northern Territory Health Promotion Network– is based in Darwin and meets monthly. The membership comprises the NT Department of Health (including Environmental Health), NT Department of Education, Children's Ground, Menzies School of Health Research, Katherine West Health Board, IEH, Heart Foundation, Mitwatj Health Aboriginal Corporation and other stakeholders.

Figures and Tables – Northern Territory

Figure 2.1 Overall trachoma prevalence in children aged 5-9 years in all at-risk communities by region, Northern Territory, 2022

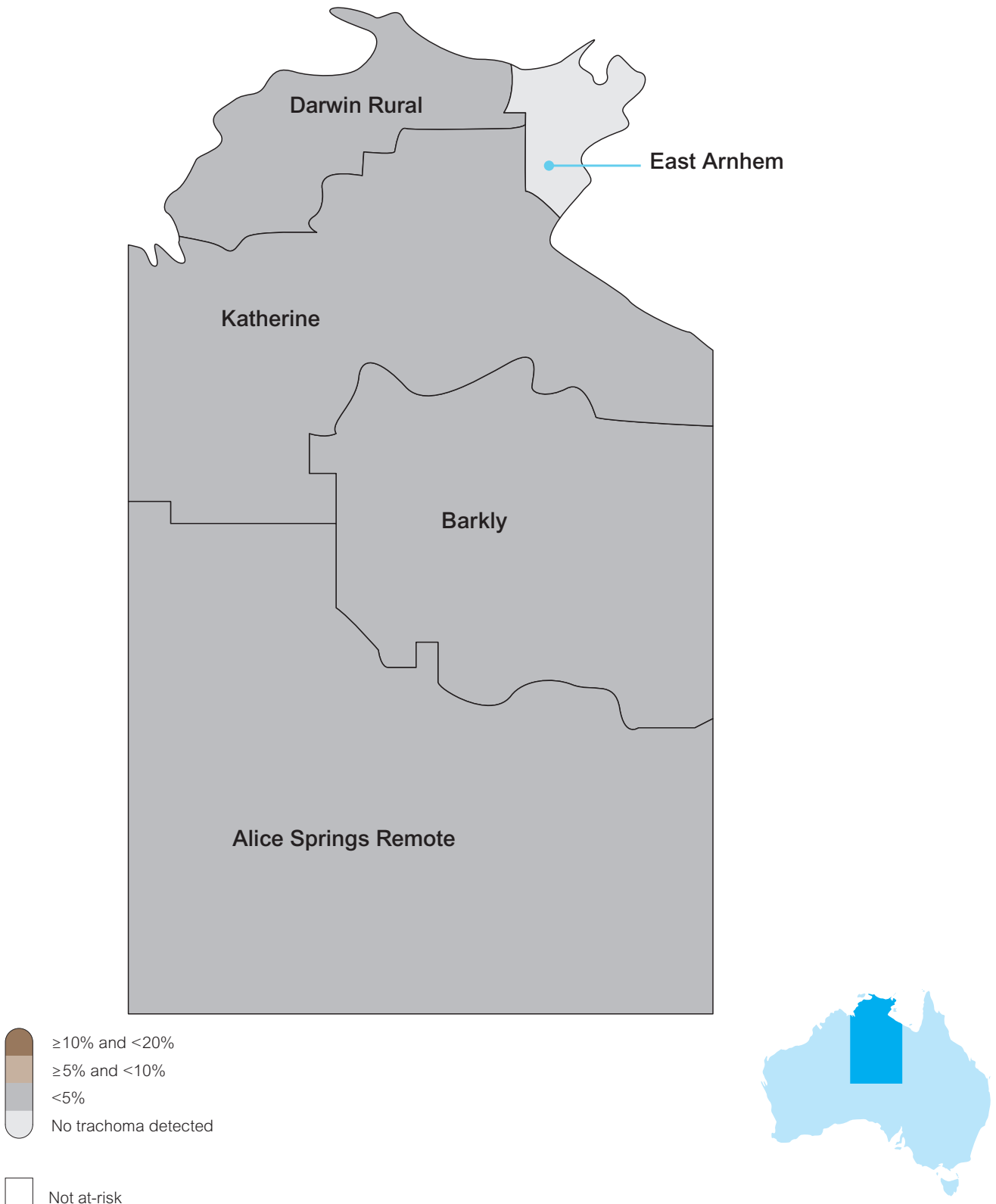


Figure 2.2 Number of communities designated at-risk by region, Northern Territory, 2007 – 2022

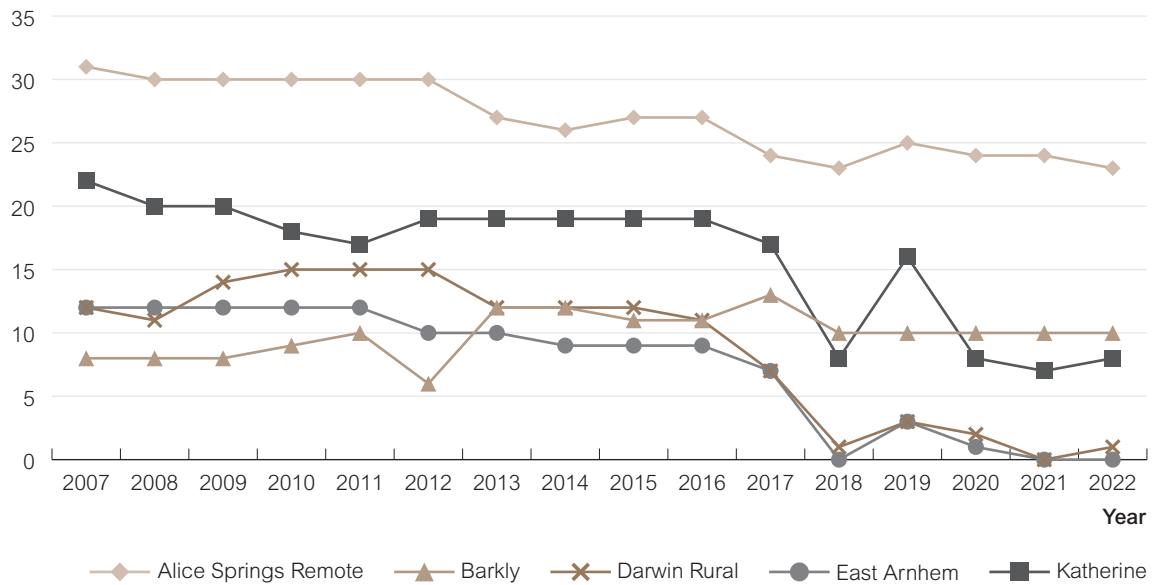


Figure 2.3 Number of at-risk communities according to trachoma control strategy implemented by region, Northern Territory, 2022

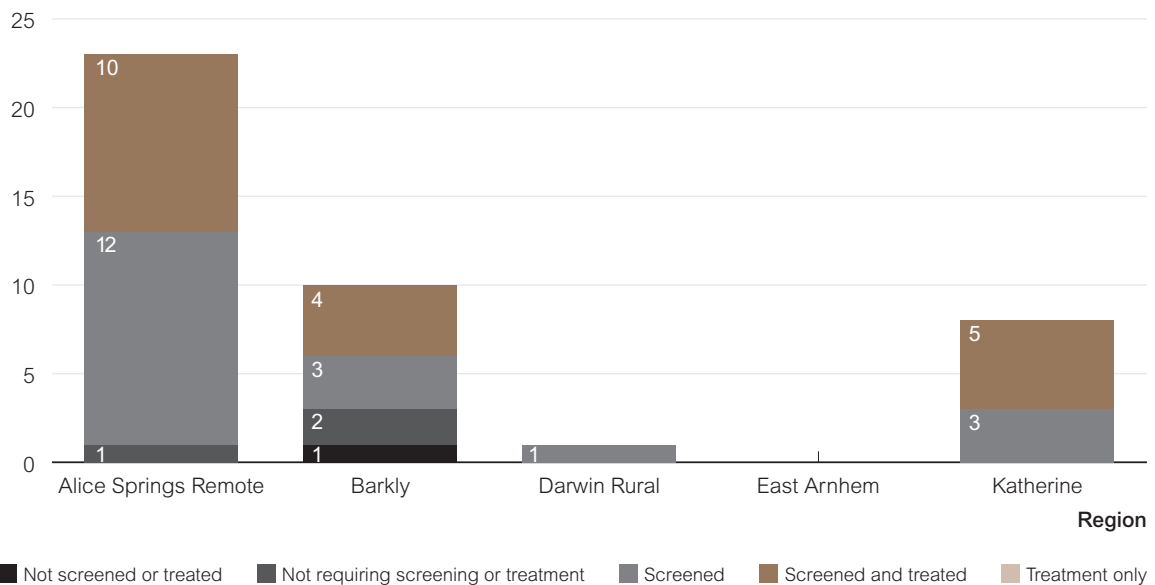
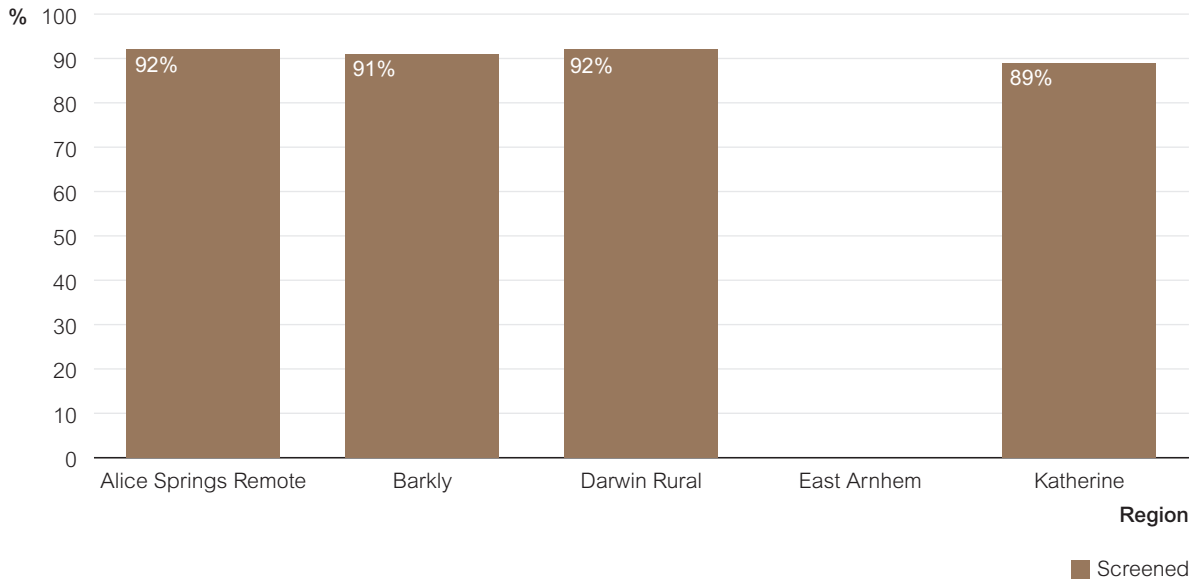


Figure 2.4 Population screening coverage in children aged 5-9 years in communities that were screened for trachoma by region*, Northern Territory, 2022



* No communities were screened in the East Arnhem region in 2022.

Figure 2.5 Proportion of screened children aged 5-9 years who had a clean face by region, Northern Territory, 2007- 2022

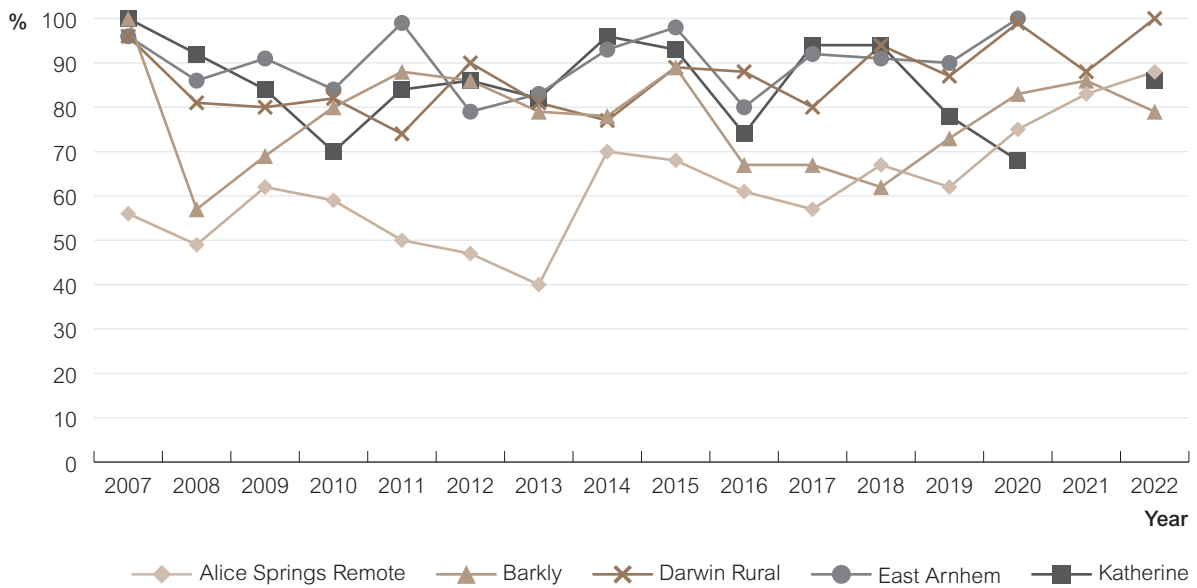


Figure 2.6a. Observed prevalence of clinical findings consistent with trachomatous inflammation – follicular/intense among screened children aged 5-9 years by region, Northern Territory, 2007 – 2022

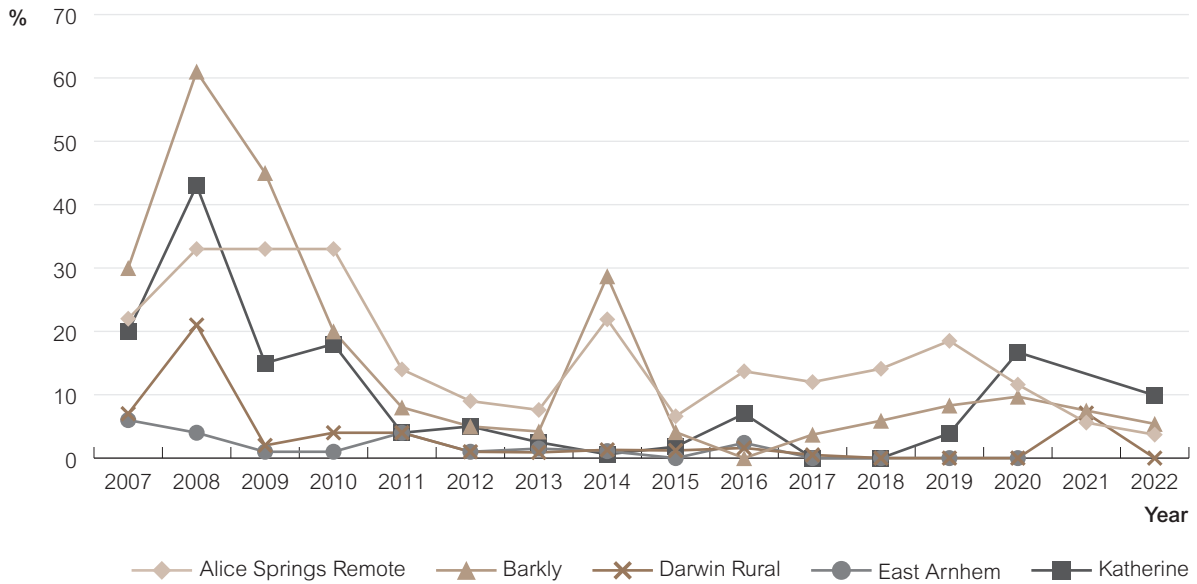
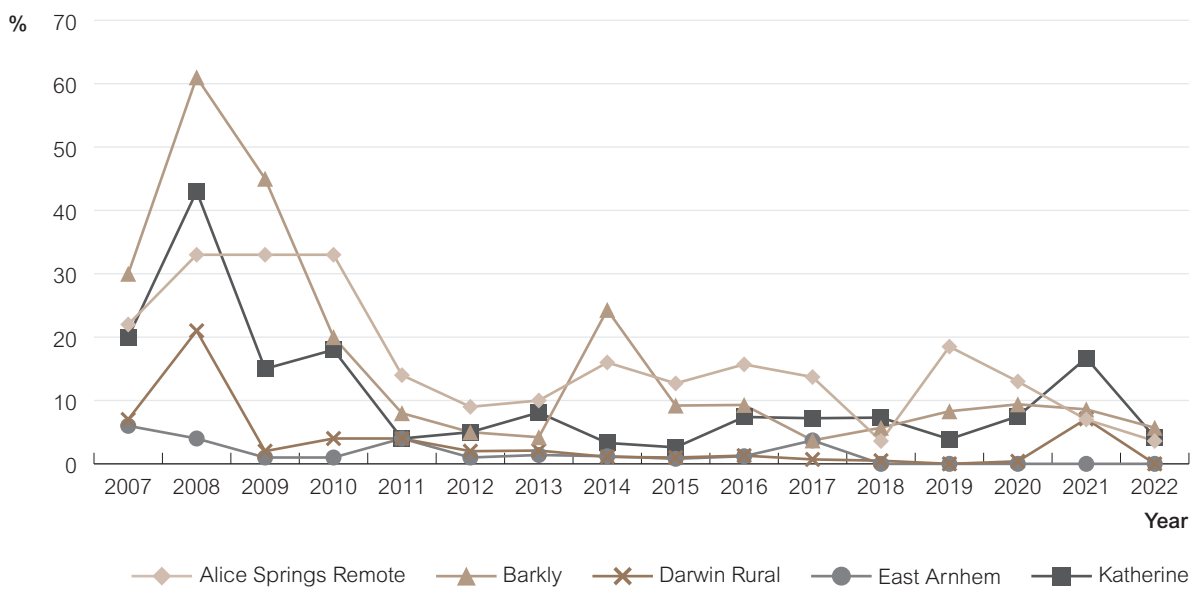
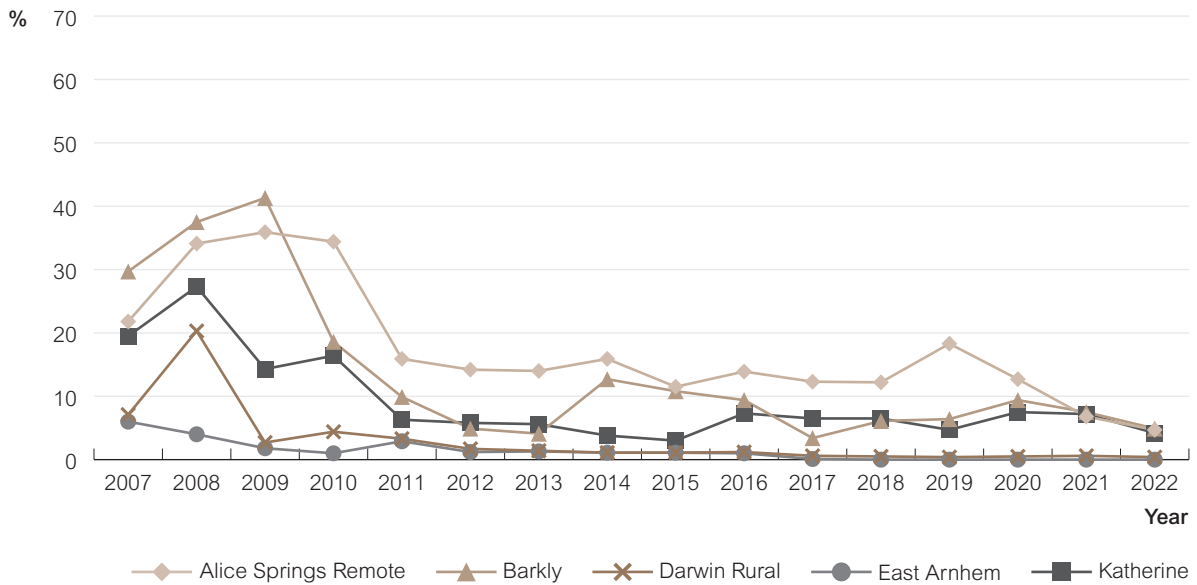


Figure 2.6b. Estimated prevalence of trachoma among children aged 5-9 years in all at-risk communities* by region, Northern Territory, 2007 – 2022



* Most recent estimates carried forward in at-risk communities that did not screen in 2022.

Figure 2.6c. Overall prevalence of trachoma among children aged 5-9 years in all current and formerly at-risk communities* by region, Northern Territory, 2007 – 2022



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

Figure 2.7 Number of screened at-risk communities according to the level of observed trachoma prevalence in children aged 5-9 years by region, Northern Territory, 2022

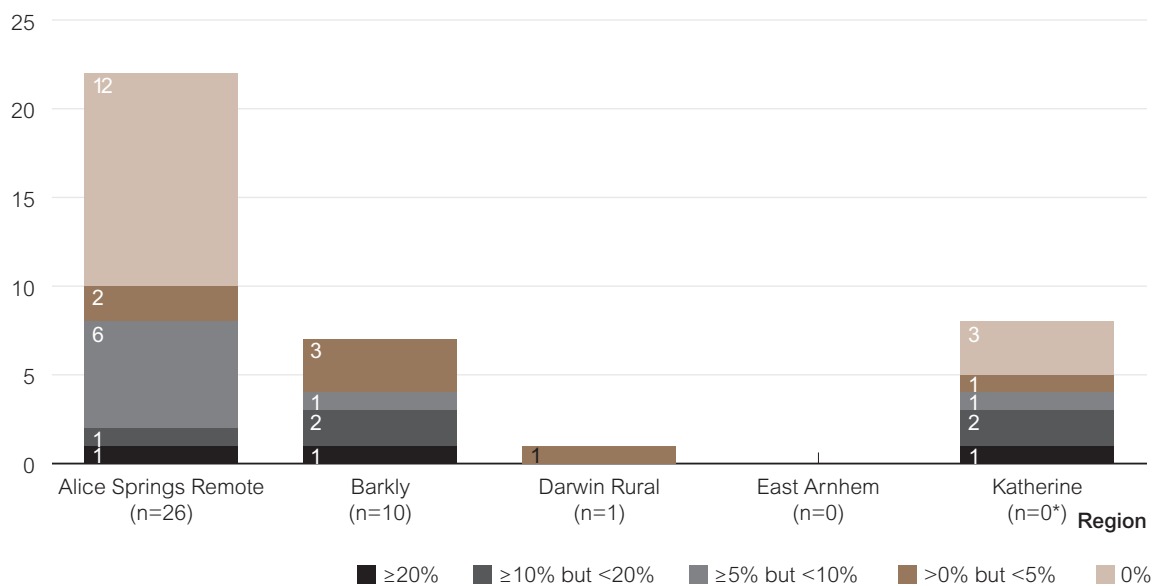


Figure 2.8 Number of doses of azithromycin administered for the treatment of trachoma by region, Northern Territory, 2007- 2022

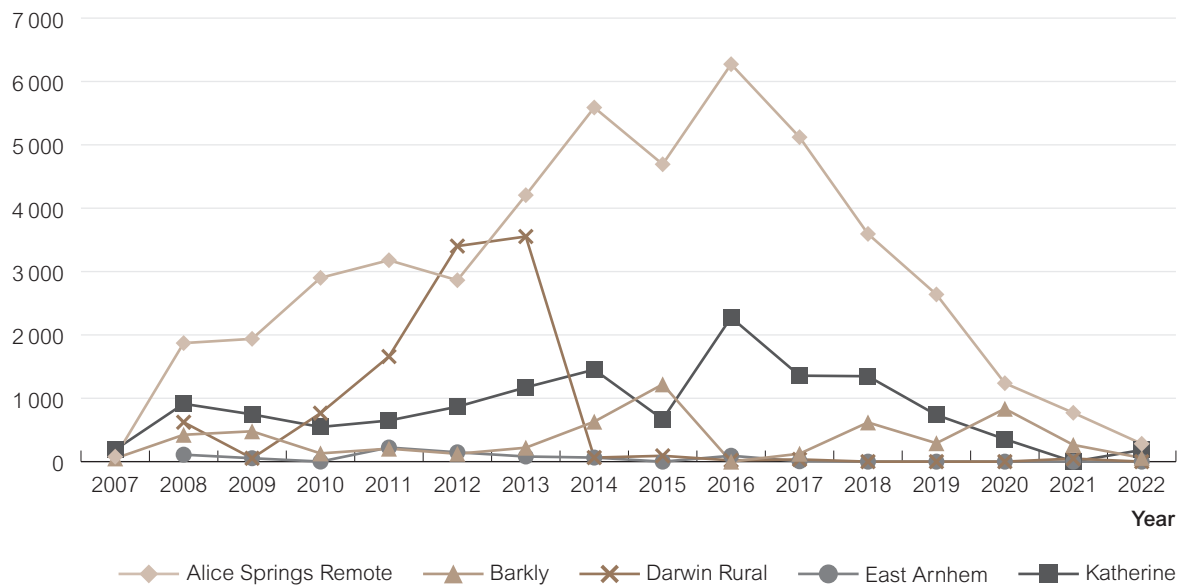


Table 2.1 Trachoma control delivery in at-risk* communities by region, Northern Territory, 2022

Number of communities	Alice Springs Remote	Barkly	Darwin Rural	East Arnhem	Katherine	Total
At-risk* (A)	23	10	1	0	8	42
Requiring screening for trachoma (B)	22	7	1	0	8	38
Screened for trachoma (C)	22	7	1	0	8	38
Requiring treatment without screening † (D)	0	0	0	0	0	0
Received treatment without screening † (E)	0	0	0	0	0	0
Screened and/or treated for trachoma (F = C+E)	22	7	1	0	8	38
Requiring neither screening or treatment for trachoma (G=A-B-D)	1	3	0	0	0	4

* 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, 2022

	Alice Springs Remote	Barkly*	Darwin Rural	East Arnhem	Katherine*	Total
Number of communities screened	22	7	1	0	8	38
Children examined for clean face	540	158	25	0	242	965
Children with clean face	474	125	25	0	209	833
Clean face prevalence (%)	88	79	100	0	86	86
Estimated number* of Aboriginal children in communities†	560	162	25	0	261	1008
Children screened for trachoma	515	148	23	0	232	918
Trachoma screening coverage (%)	92	91	92	N/A	89	91
Children with active trachoma†	19	8	0	0	23	50
Observed prevalence of active trachoma‡ (%)	3.7	5.4	0.0	N/A	9.9	5.4
Estimated prevalence of active trachoma‡ (%)	3.6	5.7	0.0	N/A	10.4	5.5
Overall prevalence of active trachoma‡ (%)	4.7	4.9	0.4	0.0	4.2	2.3

* Jurisdiction provides estimates for children aged 5-9 years.

† In communities that were screened for trachoma in 2022.

‡ Methods of calculating prevalence rates on page are explained 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 – 2022

	2014		2015		2016		2017		2018		2019		2020		2021		2022	
Communities at-risk†	78		78		77		68		61		57		45		45		42	
Communities not screened‡	0		8		8		1		8		2		3		8		4	
Number of communities§	78		70		69		67		53		55		43		37		38	
Trachoma prevalence rate	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	8%
≥10% but <20%	14	18%	11	16%	13	19%	12	18%	21	40%	10	18%	13	30%	8	22%	5	13%
≥5% but <10%	10	13%	7	10%	8	12%	9	13%	7	13%	4	7%	6	14%	8	22%	8	21%
>0% but <5%	6	8%	10	14%	9	13%	8	12%	4	8%	6	11%	2	5%	4	11%	7	18%
0%	34	44%	31	44%	28	41%	28	42%	14	26%	23	42%	14	33%	14	38%	15	39%

† As defined annually by each jurisdiction.

‡ Or treated as required per CDNA Guidelines.

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

Table 2.4 Treatment strategies by region, Northern Territory, 2022

Communities	Alice Springs Remote	Barkly	Darwin Rural	East Arnhem	Katherine	Total
Required treatment for trachoma	10	4	0	0	5	19
Treated for trachoma	10	4	0	0	5	19
Screened and treated	10	4	0	0	5	19
Received treatment only	0	0	0	0	0	0
Received 6-monthly treatment	0	0	0	0	0	0
Did not require treatment	12	0	1	0	3	16
Treated active trachoma and households	9	4	0	0	5	18
Community wide treatment	1	0	0	0	0	1
Not treated according to CDNA Guidelines	0	0	0	0	0	0

CDNA: Communicable Diseases Network Australia.

Table 2.5 Trachoma treatment coverage* by region, Northern Territory, 2022

Age group (years)	Alice Springs Remote					Barkly					Katherine					Total				
	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	19	0		19	0	8	0		8	0	23	1		24	0	50	1		51
Received treatment for active trachoma	0	19	0		19	0	8	0		8	0	23	1		24	0	50	1		51
Received treatment for active trachoma (%)		100			100		100			100		100	100		100		100	100		100
Estimated community members* requiring treatment	29	32	38	192	291	9	8	6	29	52	23	16	26	100	165	61	56	70	321	508
Number of community members* who received treatment	28	30	35	170	263	9	8	6	28	51	21	16	26	97	160	58	54	67	295	474
Estimated community members who received treatment (%)	97	94	92	89	90	100	100	100	97	98	91	100	100	97	97	95	96	96	92	93
Number of community members that refused treatment	1	0	0	9	10	0	0	0	1	1	2	0	0	3	5	3	0	0	13	16
Total number of doses of azithromycin delivered	28	49	35	170	282	9	16	6	28	59	21	39	27	97	184	58	104	68	295	525
Estimated overall treatment coverage (%)	97	96	92	89	91	100	100	100	97	98	91	100	100	97	97	95	98	96	92	94

* Includes household contacts and community members requiring and receiving mass drug administration (MDA).

Table 2.6 Trachoma-related trichiasis screening coverage, prevalence and treatment among Indigenous adults by region, Northern Territory, 2022

	Alice Springs Remote		Barkly		Darwin Rural		East Arnhem		Katherine		Total		
Number of communities screened for trichiasis	26		6		15		10		12		69		
Age group (years)	15-39	40+	15-39	40+	15-39	40+	15-39	40+	15-39	40+	15-39	40+	15+
Number of adults examined [†]	915	868	350	369	1 263	1402	530	454	454	166	3 512	3 259	6 771
Number of adults with confirmed trichiasis	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>With trichiasis (%)</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
Surgery in past 12 months [‡]	0	1	0	0	0	0	0	0	0	0	0	1	1

[†] Number of adults examined was limited to the numbers reported. This number may not account for all adults who may be examined in routine adult health checks, and may also include multiple screening.

[‡] Surgery cases may include cases identified in previous years .

Table 2.7 Health promotion activities by region, Northern Territory, 2022

	Alice Springs Remote	Barkly	Darwin Rural	Katherine	Total
Number of communities that reported health promotion activities	22	7	1	5	35
Total number of programs reported	64	16	2	6	88
Methods of health promotion					
One-on-one discussion	57	13	2	5	77
Presentation to group	23	11	2	5	41
Interactive group session	25	10	1	4	40
Social marketing/internet	10	1		13	24
Print material/mass media	51	14	2	5	72
Sporting/community events	3			1	4
Other	15	9	2	2	28
Target audience					
Health professional staff	19	4	1	2	26
Children	30	11	1	5	47
Youth	15	6	1	1	23
Teachers/childcare/preschool staff	27	9	1	3	40
Caregivers/parents	31	10		2	43
Community members	26	7	1	3	37
Community educators/health promoters	30	10	1	3	44
Interagency members	14	1		1	16
Frequency of health promotion activities					
Once	64	16	1	6	87
Occasional*			1		1
Regular†					
Ongoing/routine					

* 2-4 times per year.

† 5-12 times per year.

Queensland results

Health promotion

Health promotion activities centre around Milpa's Six Steps to Stop Germs. The program aims to reduce the risk of trachoma reoccurring by addressing barriers to access to clean water and hygiene products. Messaging was delivered through several sessions including through the local council, schools and health care services. Activities included:

- The trachoma team returned to a north-west Queensland community to unveil the first of five water and hand wash stations to promote access to soap and clean water. Milpa, the mascot of 'Milpa's Six Steps to Stop Germs' health promotion campaign, also attended this event. The remaining four stations are being installed in strategic locations around the community.
- Age specific hygiene packs were also distributed to children at the annual child health fair. These packs correspond to Milpa's Six Steps to Stop Germs. Hygiene packs include soap, face washer, age specific toothpaste and toothbrush, brush and tissues.
- In consultation with the local community stakeholder group, it was identified that most children do not have a dedicated towel for their personal use. In response to this, Queensland Health procured towels and distributed them through the local health service and school. Towels were procured in a variety of colours for easy identification among family members.
- In addition, during the stakeholder consultation discussions it was identified that additional environmental hygiene and cleaning items were required to support environmental home hygiene activities. Queensland Health procured environmental cleaning packs through the local Aboriginal Business, Industry & Service (local store) to be distributed to families in need. These packs included soap powder, surface cleaner, floor cleaner, dish detergent, bin liners, cleaning clothes and sponge/scourer.

Figures and Tables – Queensland

Table 3.1 Health promotion activities, Queensland, 2022

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	
Presentation to group	
Interactive group session	1
Social marketing	
Print material/mass media	
Sporting/community events	
Other	1
Target audience	
Health professional/staff	
Children	1
Youth	1
Teachers/childcare/preschool staff	
Caregivers/parents	
Community members	1
Community educators/health promoters	
Interagency members	
Frequency of health promotion activities	
Once	2
Occasional*	
Regular†	
Ongoing/routine	

* 2-4 times per year.

† 5-12 times per year.

South Australia results

Trachoma program coverage

- In 2022 SA identified 11 communities in 3 regions as being at-risk of trachoma (Figure 4.2, Table 4.1).
- Due to no evidence of trachoma since 2013, Yorke and Mid North region are no longer considered at-risk of trachoma.
- All at-risk communities that required screening were screened for trachoma (Table 4.1).

Screening coverage

- Trachoma screening coverage of children aged 5-9 years in the 11 at-risk communities screened was 86%, ranging from 86% in the APY Lands and 100% in the Far North and the Eyre and Western regions (Figure 4.4, Table 4.2).

Facial cleanliness

- Clean face prevalence was assessed in all communities that were screened (data not shown).
- The overall prevalence of clean faces among children aged 5-9 years in the screened communities was 74%, ranging from 74% in the APY Lands, 75% in the Eyre and Western region and 100% in the Far North region (Figure 4.5, Table 4.2).

Trachoma prevalence

- The observed and overall prevalence of trachoma in children aged 5-9 years screened was 0.0% (Table 4.2).
- No trachoma was reported in the 5-9-year age group in all 11 communities screened (Figure 4.7, Table 4.3).

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 12 communities (Table 4.5).
- Overall, 940 adults aged 15 years and over were screened (Table 4.5).
- The prevalence of trichiasis in adults aged 15 years and over was 0.11%, and 0.21% in adults aged 40 years with one case of trichiasis detected (Table 4.5).

Health promotion and environmental health activities

The SA Government continues funding Aboriginal Community Control Health Organisations (ACCHOs), the Aboriginal Health Council SA, and Aboriginal Community Care to implement WHO's SAFE strategy. Most of the trachoma budget has been redirected towards the F (facial cleanliness) and E (environmental health) measures through enhancing health literacy and creating health-supportive environments in rural and remote Aboriginal communities.

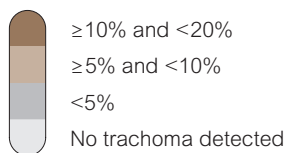
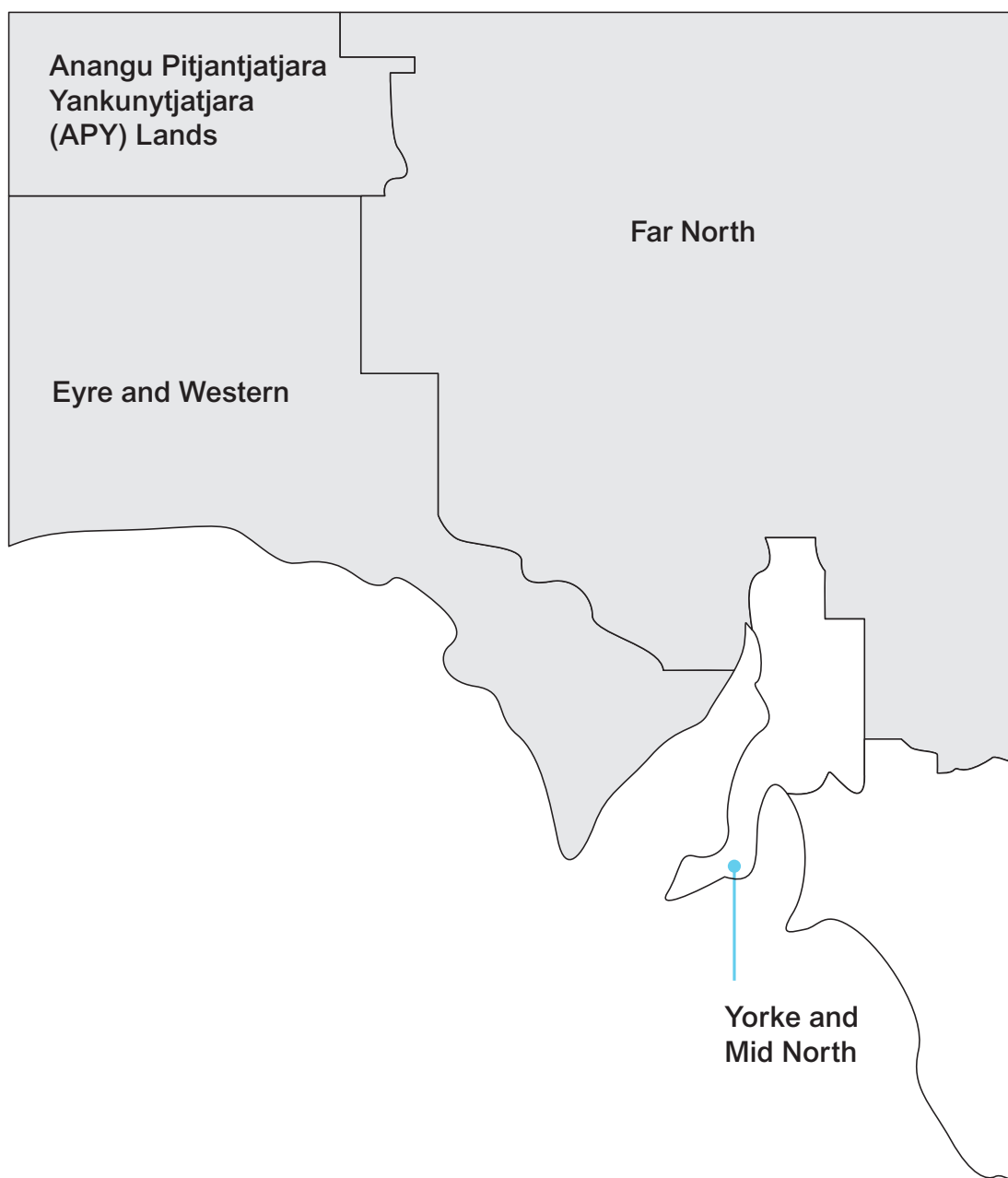
The *South Australia Aboriginal Housing Strategy 2021 -2031*³⁷ is the current 10-year plan to improve housing outcomes for all Aboriginal South Australians. Developed in coordination with Aboriginal people and organisations across the state, the vision of the plan is for Aboriginal people within SA to have equitable access to safe, secure, and affordable homes through shared decision-making and culturally informed services to maintain Aboriginal people's personal and cultural wellbeing.

The following health promotion activities and environmental health improvement measures were delivered during 2022:

- The SA Department of Education and Child Development continues to enhance the implementation of consistent hygiene practices and improve washing facilities at schools in rural remote Aboriginal communities.
- The SA Department of Health and Wellbeing continues to deliver the Indigenous Environmental Health program across rural and remote communities in SA. This program provides environmental health training activities, as well as funding and support to ACCHOs for the implementation of evidence-based environmental improvement strategies such as human waste and wastewater control, health risk assessments, and remediation measures.
- The Aboriginal Health Council of SA continues advising and supporting ACCHOs in the implementation of WHO's SAFE strategy, as well as providing trachoma and trichiasis training activities to the health workforce across the state.
- Aboriginal Community Advisory Groups were established on the APY Lands to provide advice on program implementation and to develop local strategies in conjunction with key partners.
- A communication strategy has been implemented using television, radio, and social media platforms to deliver a trachoma awareness campaign promoting eye health and healthy living practices across rural SA.
- Key partners donated cleaning products, clothing, blankets, sanitisers, towels, and soap, which were delivered across Aboriginal communities.
- Hand-washing facilities were set up in various locations in communities, and in the yards of houses. Water trailers providing hand and face washing facilities were positioned at various gatherings like funerals.

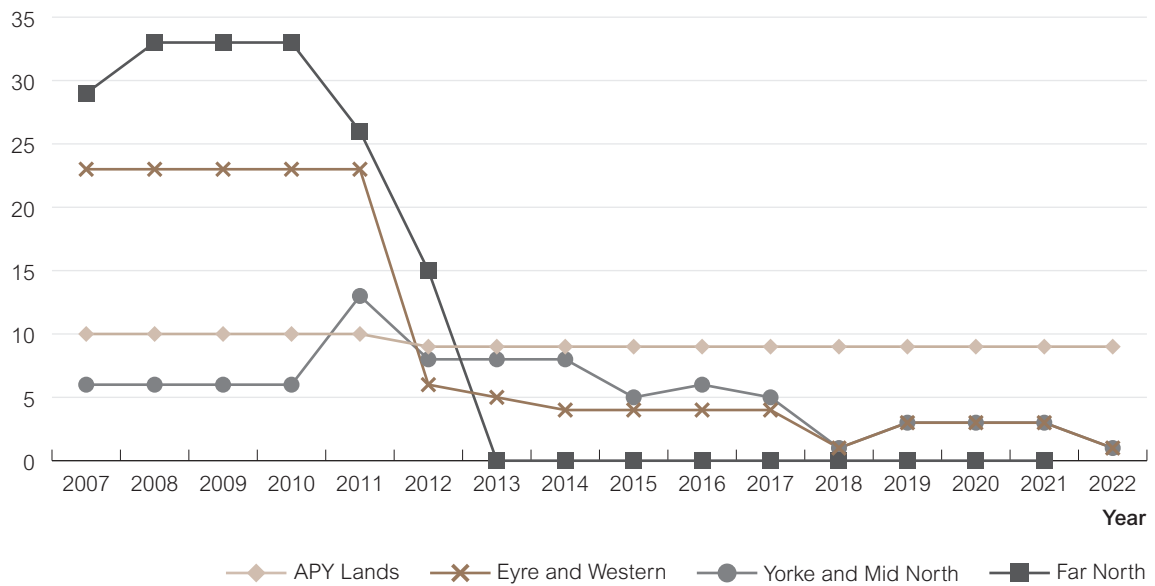
Figures and Tables – South Australia

Figure 4.1 Overall trachoma prevalence in children aged 5-9 years in all at-risk communities by region, South Australia, 2022



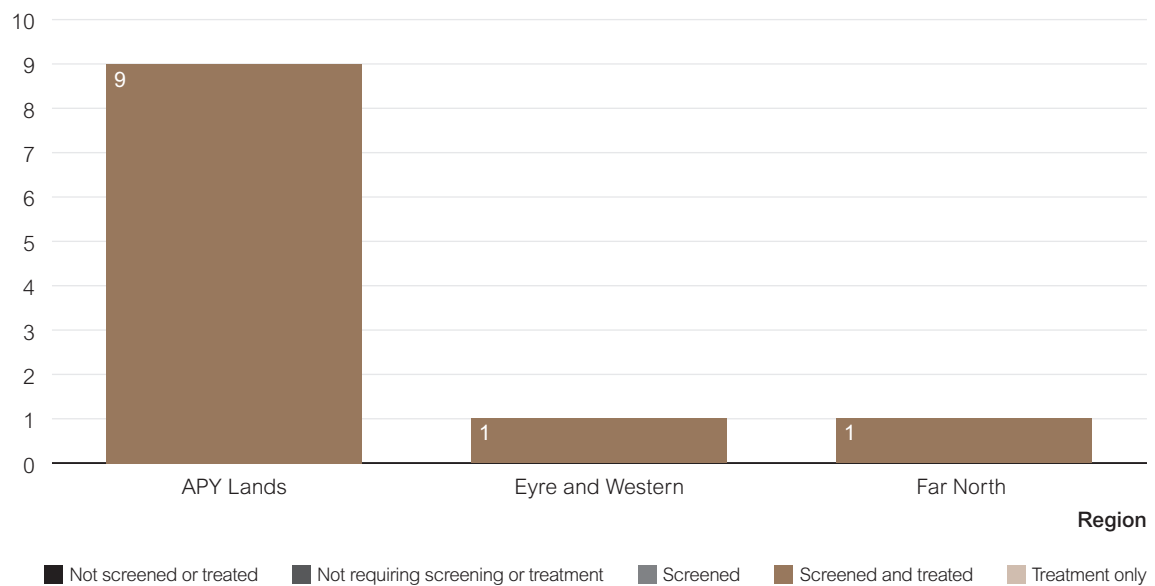
White box: Not at-risk

Figure 4.2 Number of communities designated at-risk by region, South Australia, 2007 – 2022



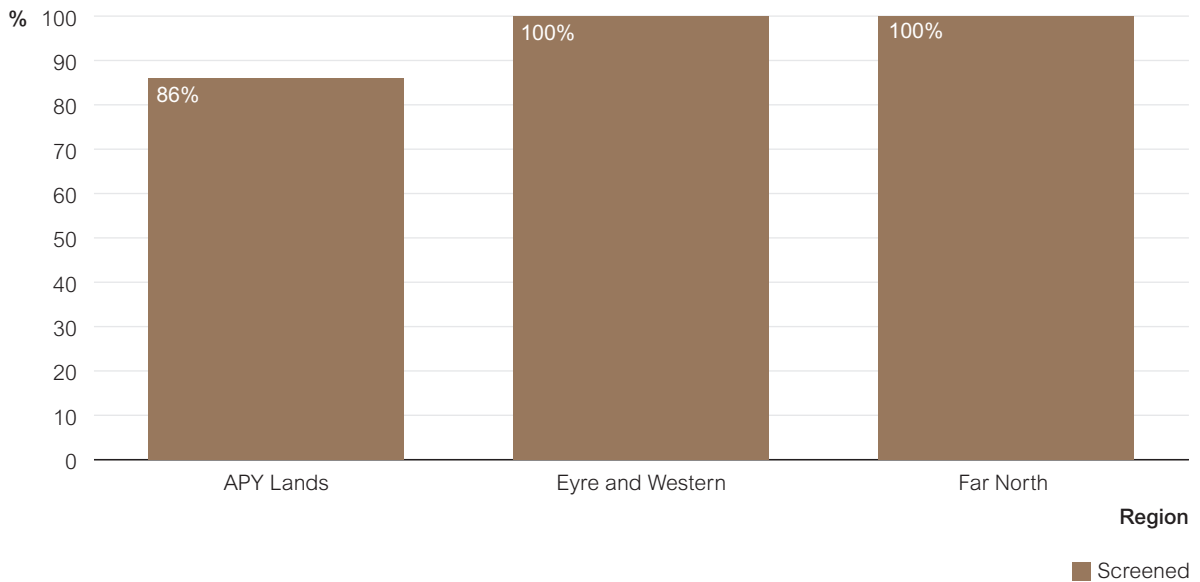
APY: Anangu Pitjantjatjara Yankunytjatjara.

Figure 4.3 Number of at-risk communities according to trachoma control strategy implemented by region, South Australia, 2022



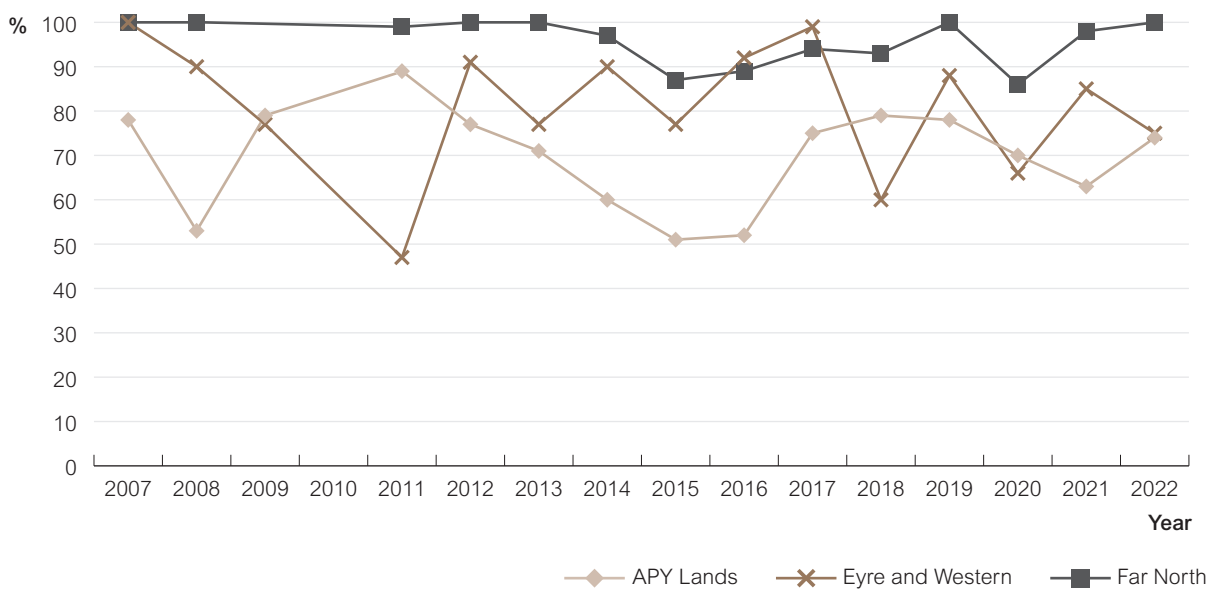
APY: Anangu Pitjantjatjara Yankunytjatjara.

Figure 4.4 Population screening coverage in children aged 5-9 years in communities that were screened for trachoma by region, South Australia, 2022



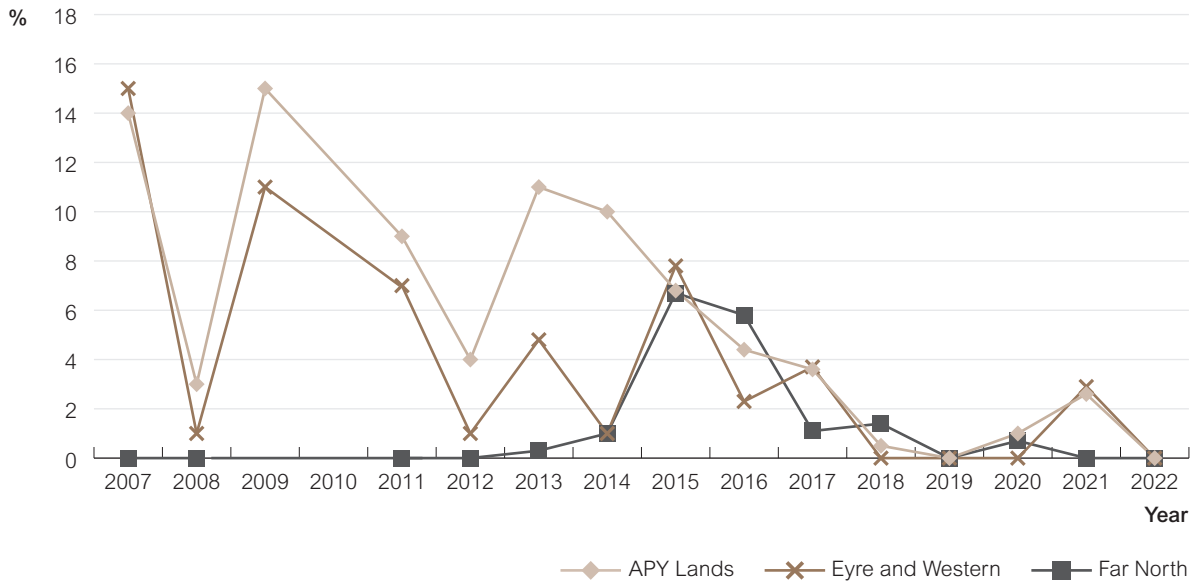
APY: Anangu Pitjantjatjara Yankunytjatjara.

Figure 4.5 Proportion of screened children aged 5-9 years who had a clean face by region, South Australia, 2007 – 2022



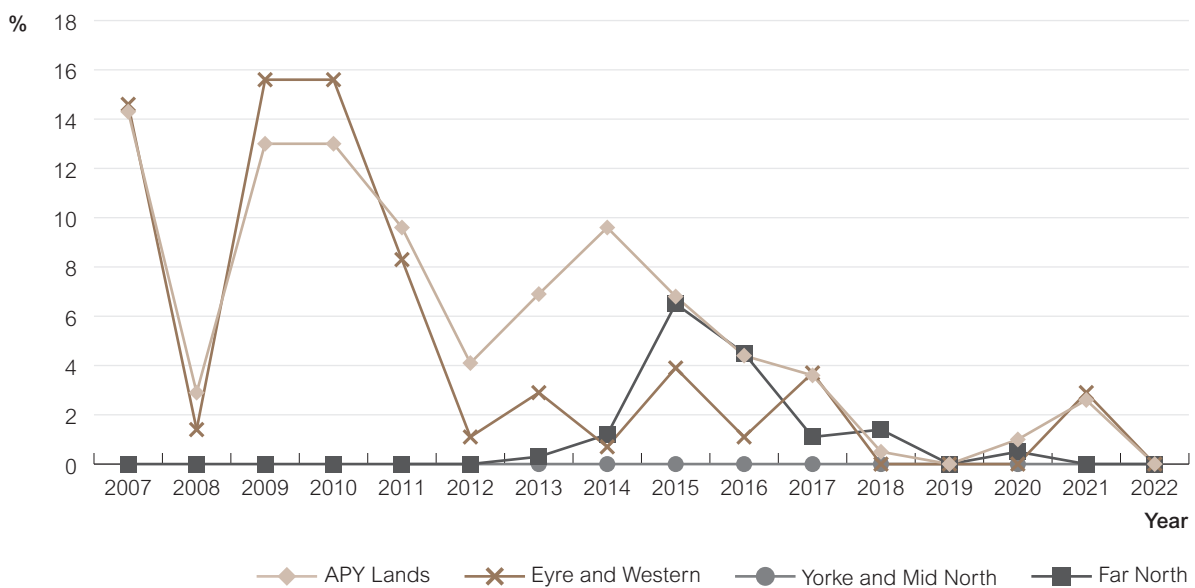
APY: Anangu Pitjantjatjara Yankunytjatjara.

Figure 4.6a. Observed prevalence of clinical findings consistent with trichomatous inflammation - follicular/intense among screened children aged 5-9 years by region, South Australia, 2007 – 2022



APY: Anangu Pitjantjatjara Yankunytjatjara.

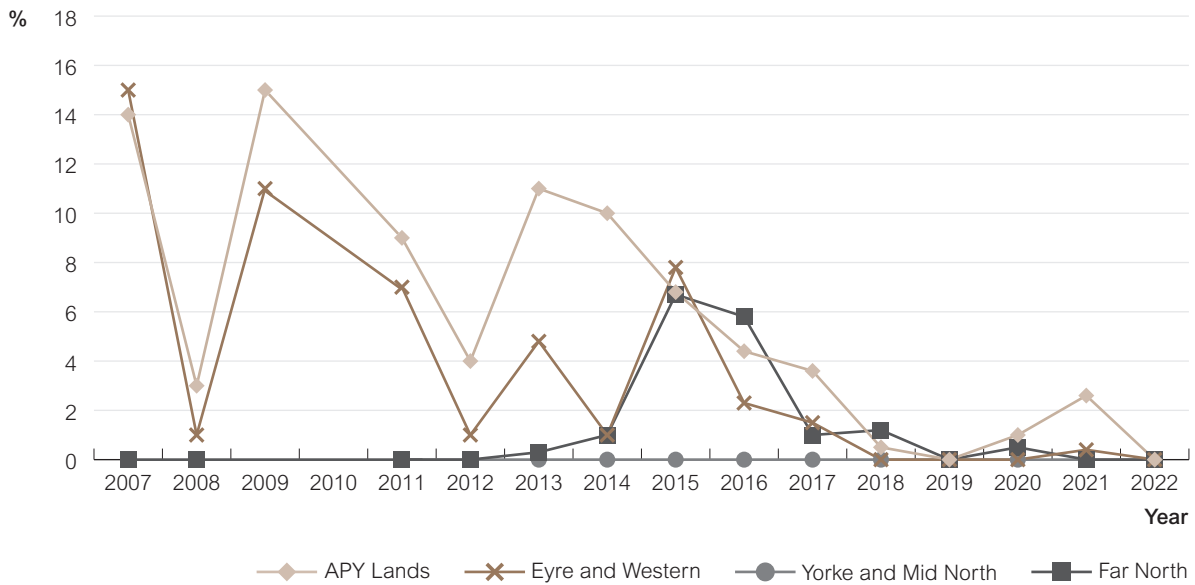
Figure 4.6b. Estimated prevalence of trachoma among children aged 5-9 years in all at-risk communities* by region, South Australia, 2007 – 2022



APY: Anangu Pitjantjatjara Yankunytjatjara.

* Most recent estimates carried forward in at-risk communities that did not screen in 2022.

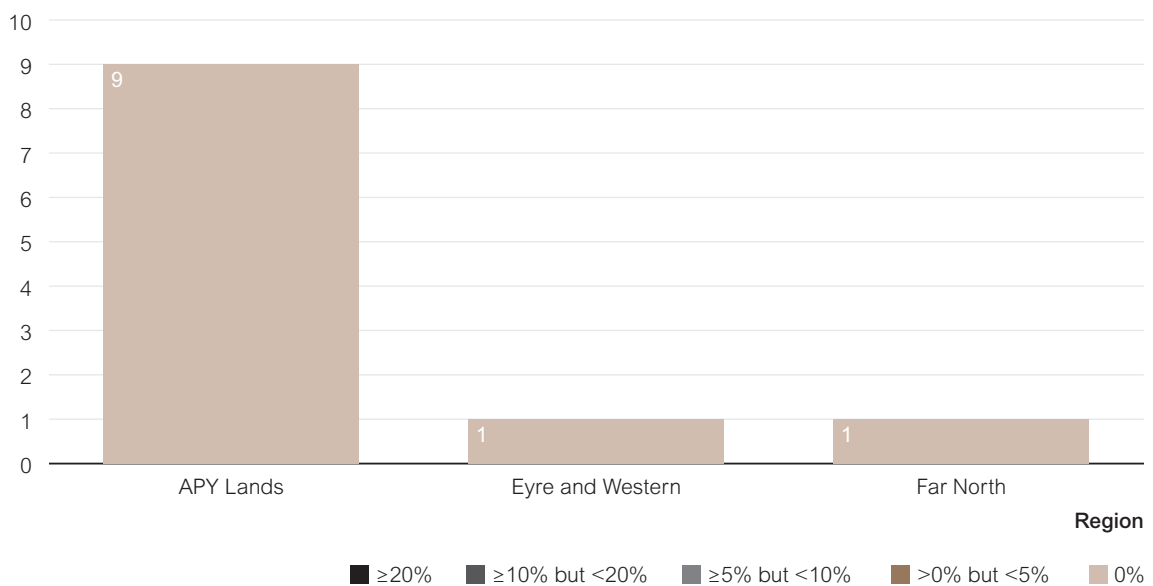
Figure 4.6c. Overall prevalence of trachoma among children aged 5-9 years in all current and formerly at-risk communities* by region, South Australia, 2007 – 2022



APY: Anangu Pitjantjatjara Yankunytjatjara.

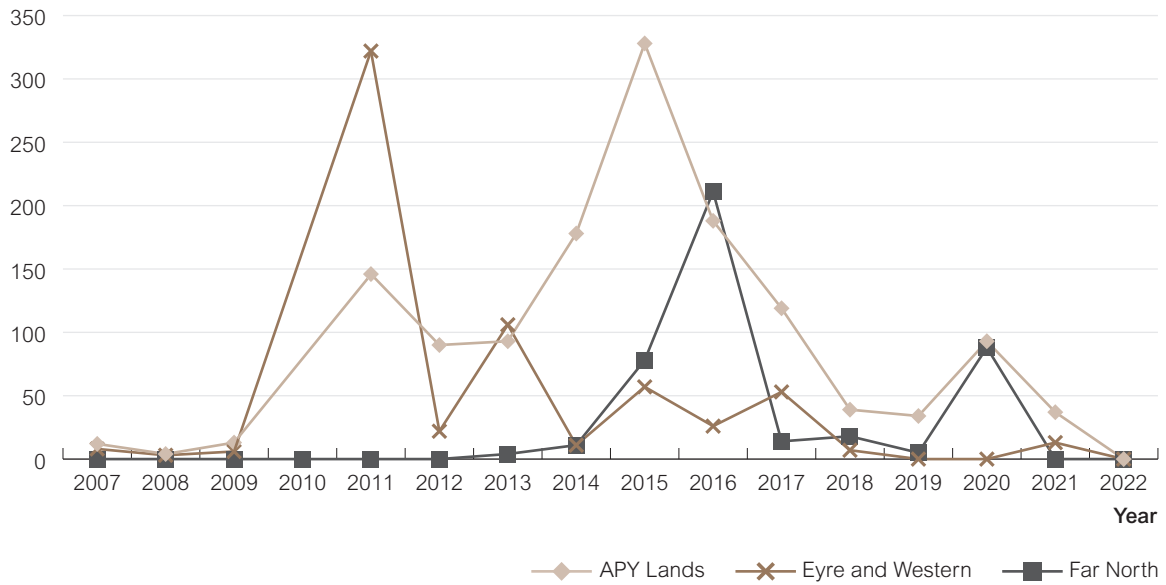
* Calculated carrying forward most recent data in all communities considered at risk of trachoma at some time since 2007.

Figure 4.7 Number of screened at-risk communities according to the level of observed trachoma prevalence in children aged 5-9 years by region, South Australia, 2022



APY: Anangu Pitjantjatjara Yankunytjatjara.

Figure 4.8 Number of doses of azithromycin administered for the treatment of trachoma by region, South Australia, 2007 – 2022



APY: Anangu Pitjantjatjara Yankunytjatjar.

Table 4.1 Trachoma control delivery in at-risk* communities by region, South Australia, 2022

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 4.2 Trachoma screening coverage, trachoma prevalence and clean face prevalence in children aged 5-9 years by region, South Australia, 2022

	APY Lands	Eyre and Western	Far North	Total
Number of communities screened	9	1	1	11
Children examined for clean face	208	4	3	215
Children with clean face	153	3	3	159
<i>Clean face prevalence (%)</i>	<i>74</i>	<i>75</i>	<i>100</i>	<i>74</i>
Estimated number* of Aboriginal children in communities†	243	4	3	250
Children screened for trachoma	208	4	3	215
<i>Trachoma screening coverage (%)</i>	<i>86</i>	<i>100</i>	<i>100</i>	<i>86</i>
Children with active trachoma‡	0	0	0	0
<i>Observed prevalence of active trachoma‡ (%)</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>
<i>Estimated prevalence of active trachoma‡ (%)</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>
<i>Overall prevalence of active trachoma‡ (%)</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>

* ABS estimate.

† Communities that were screened for trachoma in 2022.

‡ Methods of calculating the different prevalence rates are explained in the methodology section.

APY: Anangu Pitjantjatjara Yankunytjatjara.

Table 4.3 Number and proportion of at-risk communities according to the level of observed trachoma prevalence in children aged 5-9 years, South Australia, 2014 – 2022

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

† As defined annually by each jurisdiction.

‡ Or treated as required per CDNA Guidelines.

§ Screened or receiving ongoing annual treatment as per Guidelines.

Table 4.4 Treatment strategies by region, South Australia, 2022

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 trachoma and households	0	0	0	0
Community-wide treatment	0	0	0	0
Not treated according to CDNA Guidelines*	0	0	0	0

* In 2022 APY Lands aggregated 9 communities into one community for the presentation of data; details of the specific number of communities requiring treatment or treated were not supplied.

CDNA: Communicable Diseases Network Australia.

APY: Anangu Pitjantjatjara Yankunytjatjara.

Table 4.5 Trachoma-related trichiasis screening coverage, prevalence and treatment among Indigenous adults by region, South Australia, 2022

	APY Lands		Eyre and Western		Far North		Total		
Number of communities screened for trichiasis	9		2		1		12		
Age group (years)	15-39	40+	15-39	40+	15-39	40+	15-39	40+	15+
Number of adults examined†	417	412	29	60	7	15	453	487	940
Number of adults with trichiasis	0	1	0	0	0	0	0	1	1
<i>Proportion of adults with trichiasis (%)</i>	<i>0.00</i>	<i>0.24</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.21</i>	<i>0.11</i>
Surgery in past 12 months‡	0	1	0	0	0	0	0	1	1

† Number of adults examined limited to numbers reported. This number may not account for all adults who may be examined in routine adult health checks, and may also include multiple screening.

‡ Surgery cases may include cases identified in previous years.

Table 4.6 Health promotion activities by region, South Australia, 2022

	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	1	2	7
Methods of health promotion				
One-on-one discussion	4	1	2	7
Presentation to group	1	1		2
Interactive group session				
Social marketing/ internet	4			4
Print material/mass media	4	1	2	7
Sporting/community events				
Other	1			1
Target audience				
Health professional/staff	1	1	1	3
Children	3	1	1	5
Youth	1	1	1	3
Teachers/childcare/preschool staff	2	1	1	4
Caregivers/parents	1	1		2
Community members	1	1		2
Community educators/health promoters	2			2
Interagency members	1	1	1	3
Frequency of health promotion activities				
Once				
Occasional *	1	1	2	4
Regular†	2			2
Ongoing/routine	1			1

* 2-4 times per year.

† 5-12 times per year.

APY: Anangu Pitjantjatjara Yankunytjatjara.

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Western Australia results

Trachoma program coverage

- In 2022 WA identified 31 communities in 4 regions as being at-risk of trachoma (Figure 5.2, Table 5.1).
- Of these at-risk communities 27 communities required and received screening (Figure 5.3, Table 5.1).

Screening coverage

- The proportion of children aged 5-9 years screened in the 27 communities screened was 93%, ranging from 90% in the Midwest region to 98% in the Pilbara region (Figure 5.4, Table 5.2).

Facial cleanliness

- Clean face prevalence was assessed in all communities that were screened (data not shown).
- The overall prevalence of clean faces among children aged 5-9 years was 55%, ranging from 37% in the Goldfields region to 90% in the Midwest region (Figure 5.5, Table 5.2).

Trachoma prevalence

- The observed prevalence of trachoma in children aged 5-9 years in 27 communities that screened in 2022 was 10.3% (37/358). Prevalence ranged from 0.0% in the Midwest region to 17.6% in the Goldfields region (Figure 5.6a, Table 5.2).
- The overall prevalence of trachoma in children aged 5-9 years was 3.1% ranging from 0.0% in the Midwest region to 8.6% in the Goldfields region (Figure 5.6c, Table 5.2)
- No trachoma was reported in 44% (12/27) of the screened at-risk communities (Figure 5.7, Table 5.3).
- Endemic levels of trachoma ($\geq 5\%$) were reported in 56% (15/27) of the screened at-risk communities (Figure 5.7, Table 5.3).
- Hyperendemic levels of trachoma ($\geq 20\%$) were reported in 26% (7/27) of the screened at-risk communities (Figure 5.7, Table 5.3).

Treatment delivery and coverage

- Trachoma treatment strategies were required and received in 15 communities (Table 5.4).
- Treatment was delivered for trachoma cases and household contacts in 14 communities, and community wide in two communities as per the CDNA Guidelines (Table 5.4).
- Total treatment coverage for trachoma cases and community members, and community-wide treatment in all region's requiring treatment was 97% with 304 doses of azithromycin delivered (Figure 5.8, Table 5.5).

Trichiasis

- Data for trichiasis screening were provided from 3 distinct sources: public health units that undertook opportunistic screening of adults in at-risk communities; the MBS Item 715 adult health checks; and visiting optometrist services (VOS).
- Overall, 3095 adults aged 15 years and older were reported to be screened (Table 5.6).
- The prevalence of trichiasis in adults aged 15 years and over was 0.23%, and 0.23% in adults aged 40 years and over (Table 5.6).
- Surgery for trichiasis was reported to be undertaken for 2 adults in 2022 (Table 5.6).

Health promotion

All Western Australia trachoma at-risk communities have had health hygiene promotion and activities actively promoted using methods targeted to the intended audience during 2022. Health promotion activities continue to be a collaborative effort coordinated by the WA Country Health Service (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 the Melbourne University Indigenous Eye Health Unit (IEH). Activities focus on the 'F' and 'E' elements of the WHO SAFE strategy.

The health promotion program aims to reduce trachoma by overcoming barriers to good hygiene in remote communities such as the cost of soap by providing it for free to households and community facilities to promote good health hygiene practices. 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 at external partner organisations who assist with the distribution as part of multiple programs including healthy home assessments, health promotion events and at the request of other services.

As part of ongoing programs, WACHS Population Health teams continue to deliver hygiene messaging to 'at-risk' communities as well as providing support, tools 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 with the aim of increasing access and improving health outcomes for rural and remote populations. Contract variations with these services were completed in 2022 with the school health reporting outcomes framework within the four trachoma endemic regions now including deliverables related to health hygiene programs.

In 2022, school and community-based education sessions were undertaken in 37 communities designated 'at-risk' of trachoma or trachoma resurgence. Regional teams used a variety of resources in the education sessions including the IEH stickers, posters, school and community flip charts, soap, hygiene packs, hand and face washing techniques, No Germs on Me resources and pre and post screening posters. Approximately 144 000 bars of soap were provided across the regions at different events. Collaboration with other environmental health related disease programs such as Rheumatic Heart Disease (skin related health) and Ear Health have continued. Sessions delivered by the WACHS contracted services were mainly based around the Breath Blow Cough (BBC) program and personal hygiene.

Environmental health (EH)

In providing and coordinating the E component of the WA SAFE trachoma strategy and collaborating with and supporting the Facial cleanliness component strategies, 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 continue in 2022 and include community-wide multi-agency healthy housing assessments. These approaches aim to have health hardware issues identified fixed immediately (same day) when possible, with outstanding issues referred to other service providers as necessary. The environmental health workforce undertook 908 Healthy Homes Assessments (HHAs) in 26 communities across the trachoma endemic regions. Referrals were submitted to external agencies as required for required housing maintenance that was outside the scope of the environmental health practitioners, and advice was provided to community members on remediation measures. A total of 250 Environmental Health Practitioner visits were recorded from 1 January to 31 December 2022.

Other services included formal sessions and "on-the-job- in community" training opportunities, support to maintain rubbish tips / landfills, pest control activities, dog health management, house clean-ups, assistance with community wide clean-up projects and review and updating of Community Environmental Health Action Plans (CEHAPs) in consultation with AEH Agency staff and community members.

Figures and Tables – Western Australia

Figure 5.1 Overall trachoma prevalence in children aged 5-9 years in all at-risk communities by region, Western Australia, 2022

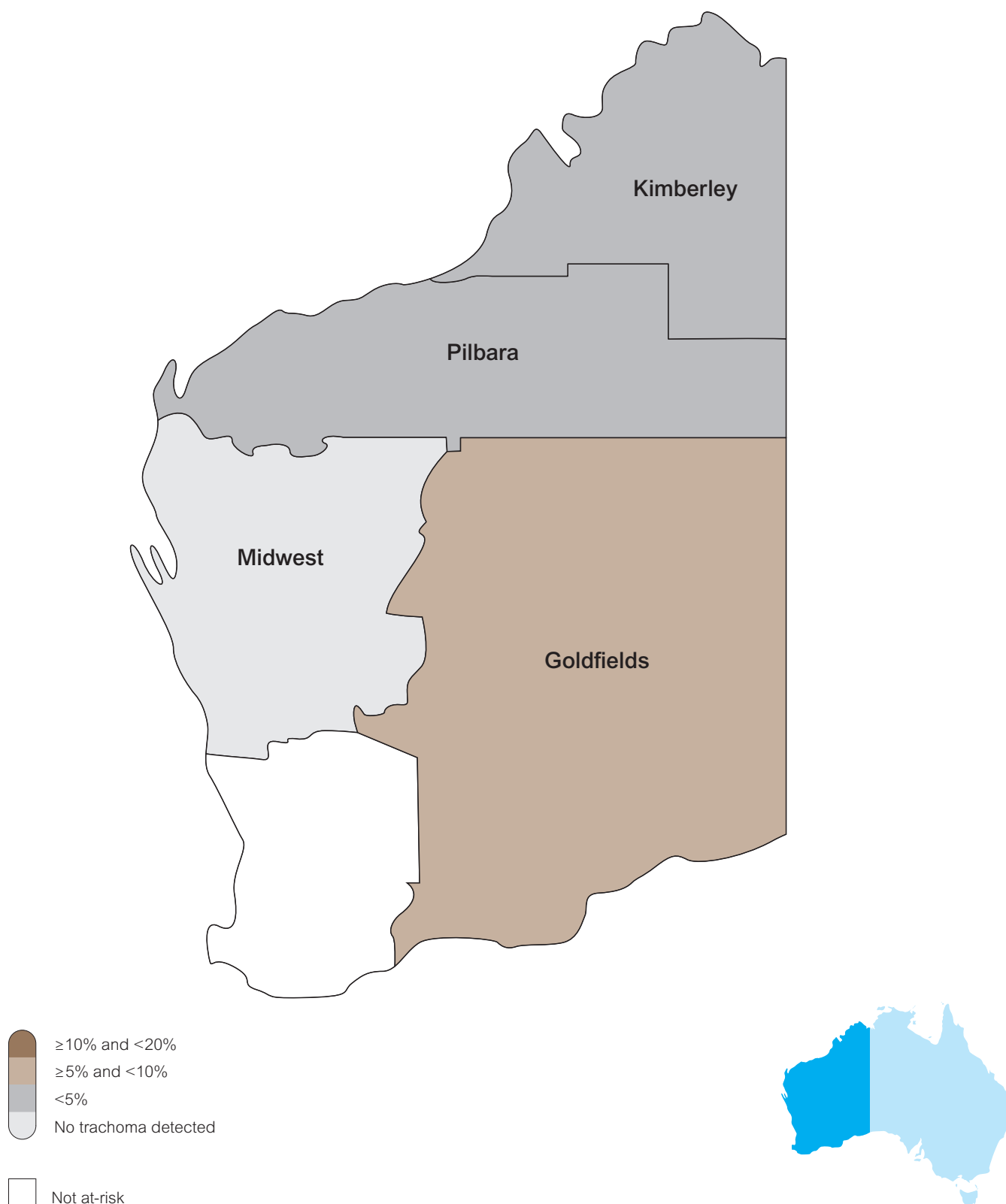


Figure 5.2 Number of communities designated at-risk by region, Western Australia, 2007 – 2022

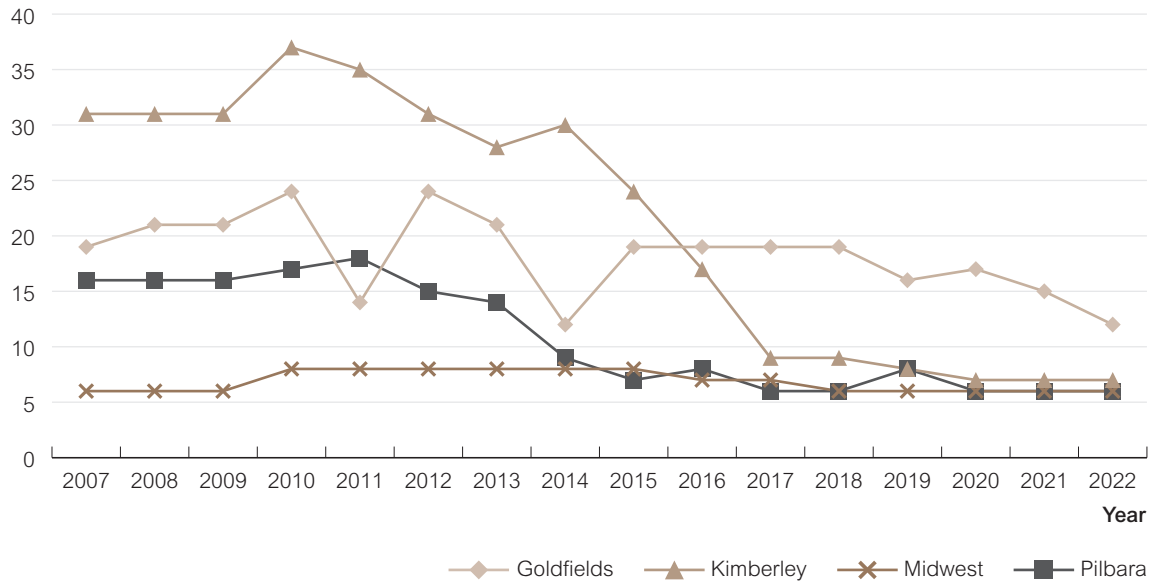


Figure 5.3 Number of at-risk communities according to trachoma control strategy implemented by region, Western Australia, 2022

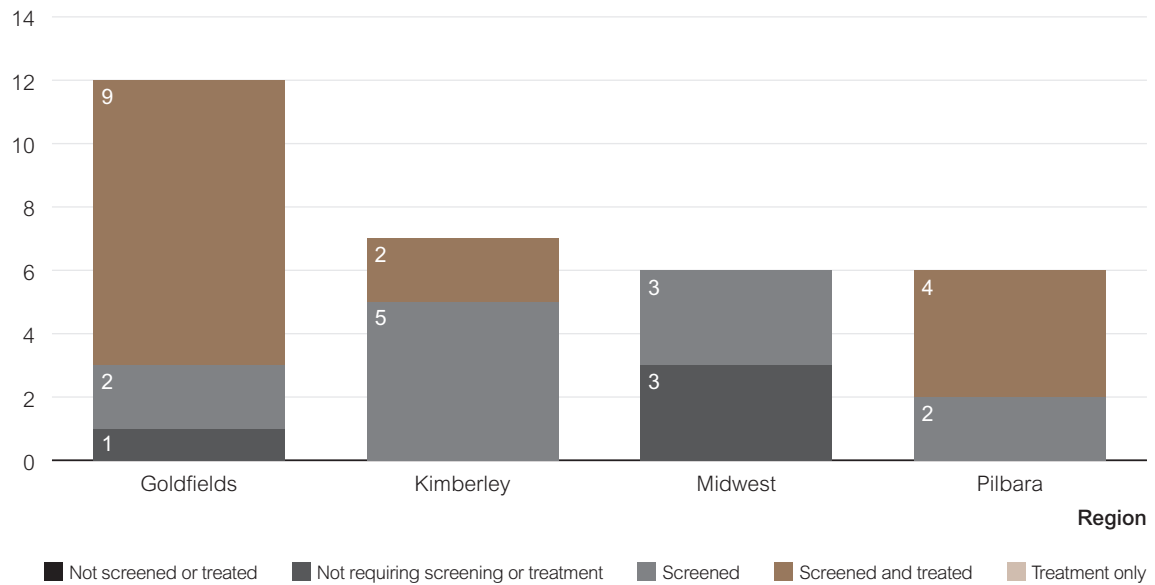


Figure 5.4 Population screening coverage in children aged 5-9 years in communities that were screened for trachoma by region, Western Australia, 2022

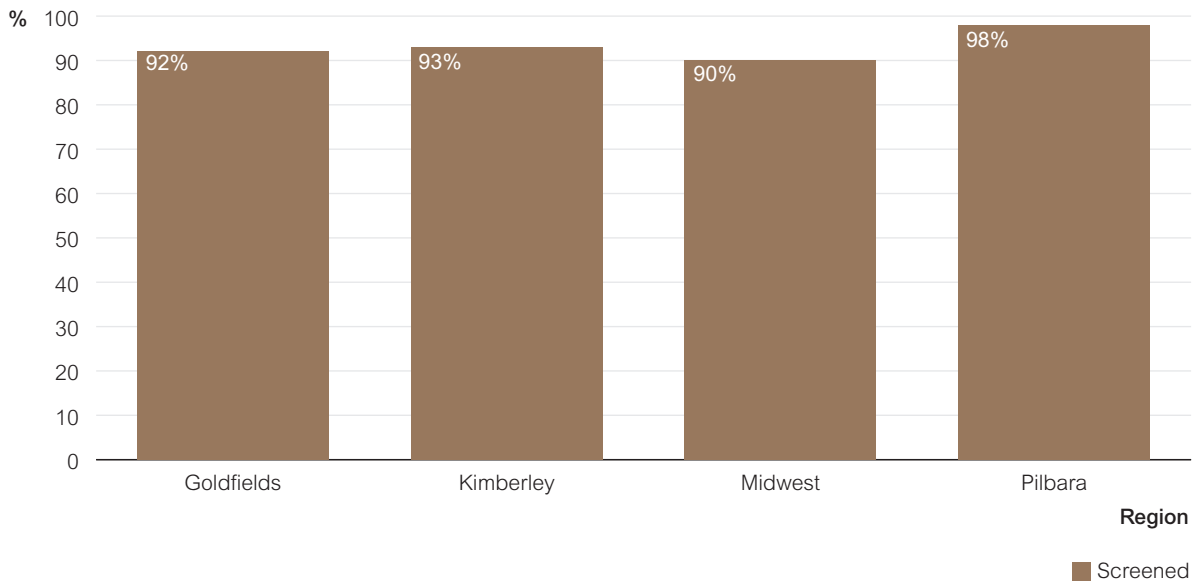


Figure 5.5 Proportion of screened children aged 5-9 years who had a clean face by region, Western Australia, 2007 – 2022

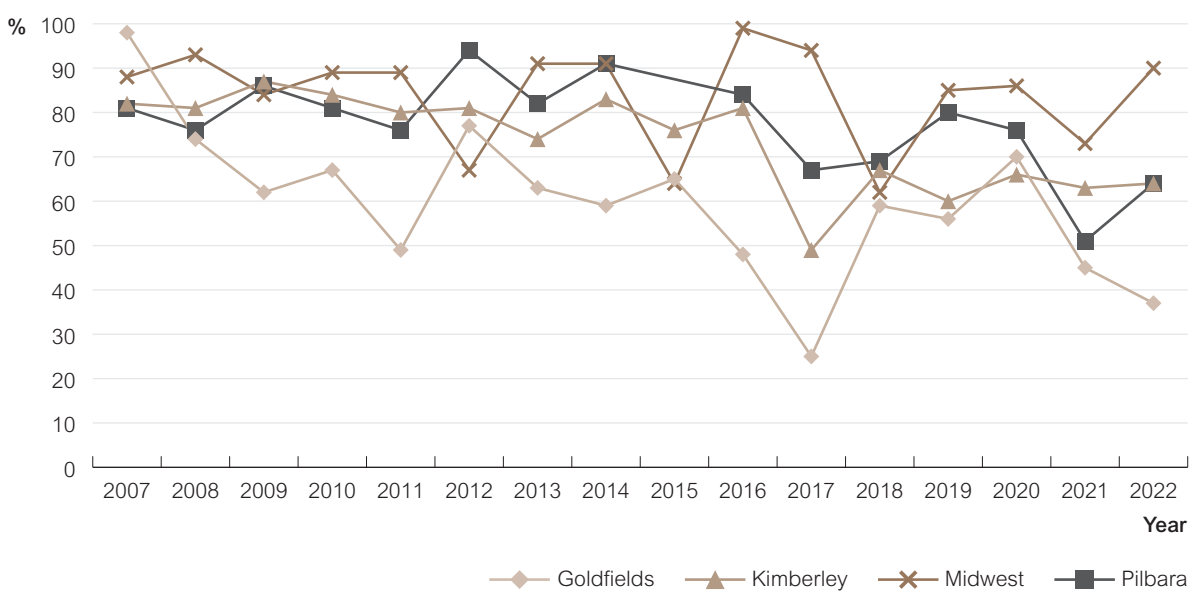


Figure 5.6a. Observed prevalence of clinical findings consistent with trichomatous inflammation - follicular/intense among screened children aged 5-9 years by region, Western Australia, 2007 – 2022

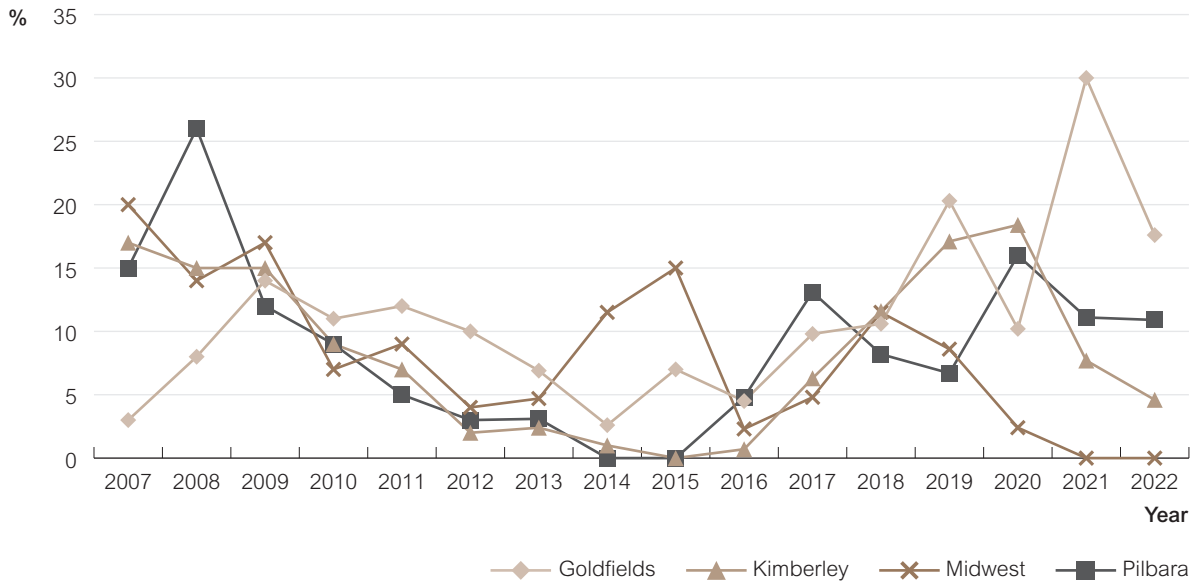
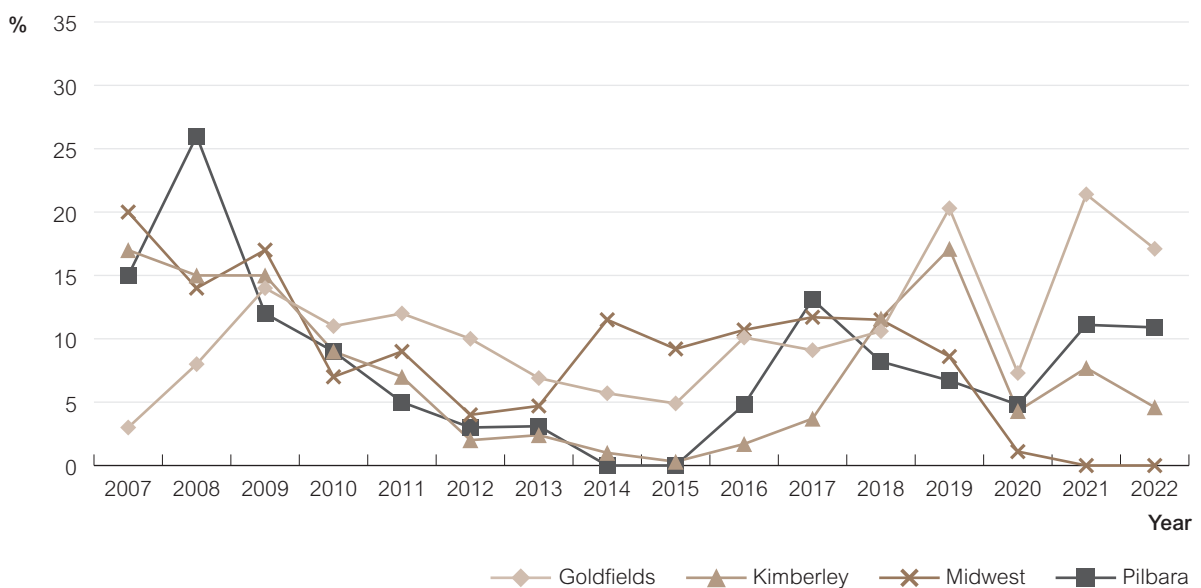
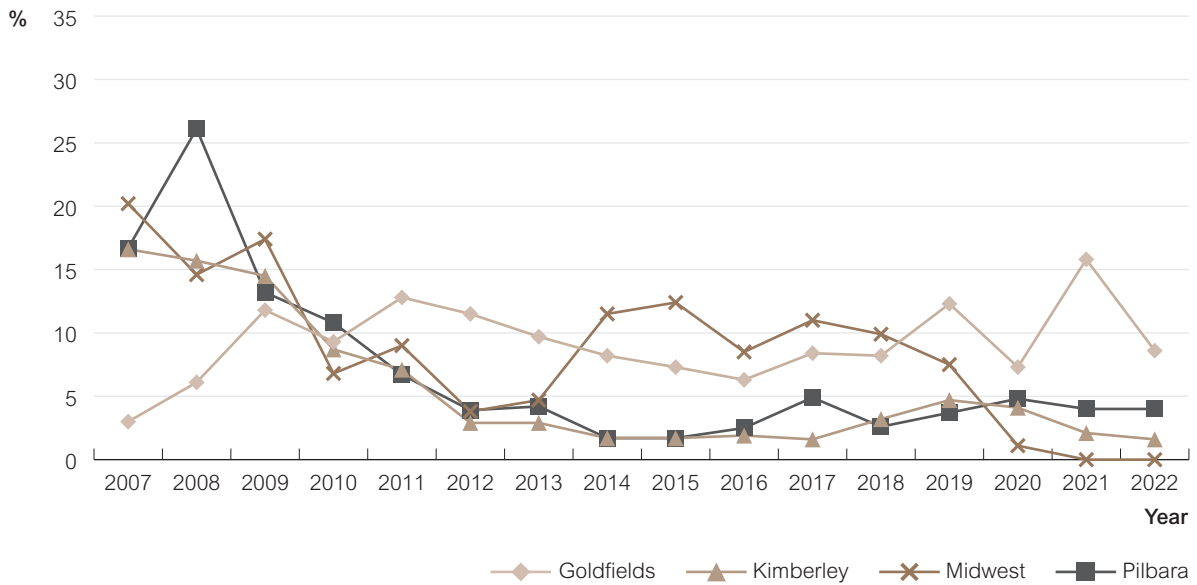


Figure 5.6b. Estimated prevalence of trachoma among children aged 5-9 years in all at-risk communities* by region, Western Australia, 2007 – 2022



* Most recent estimates carried forward in at-risk communities that did not screen in 2022.

Figure 5.6c. Overall prevalence of trachoma among children aged 5-9 years in all current and formerly at-risk communities* by region, Western Australia, 2007 – 2022



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

Figure 5.7 Number of screened at-risk communities according to the level of observed trachoma prevalence in children aged 5-9 years by region, Western Australia, 2022

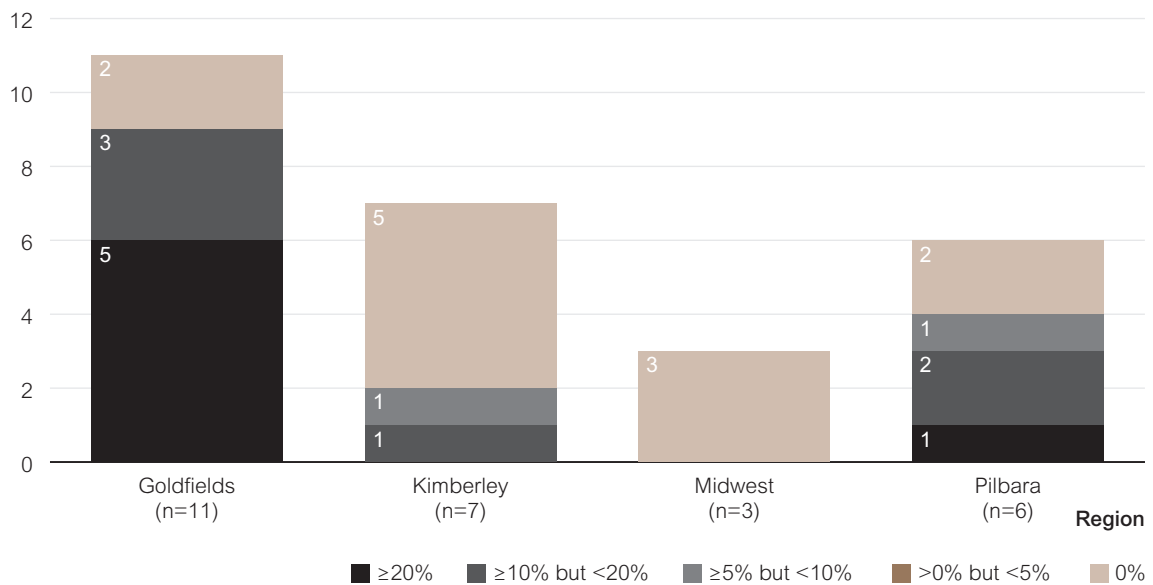
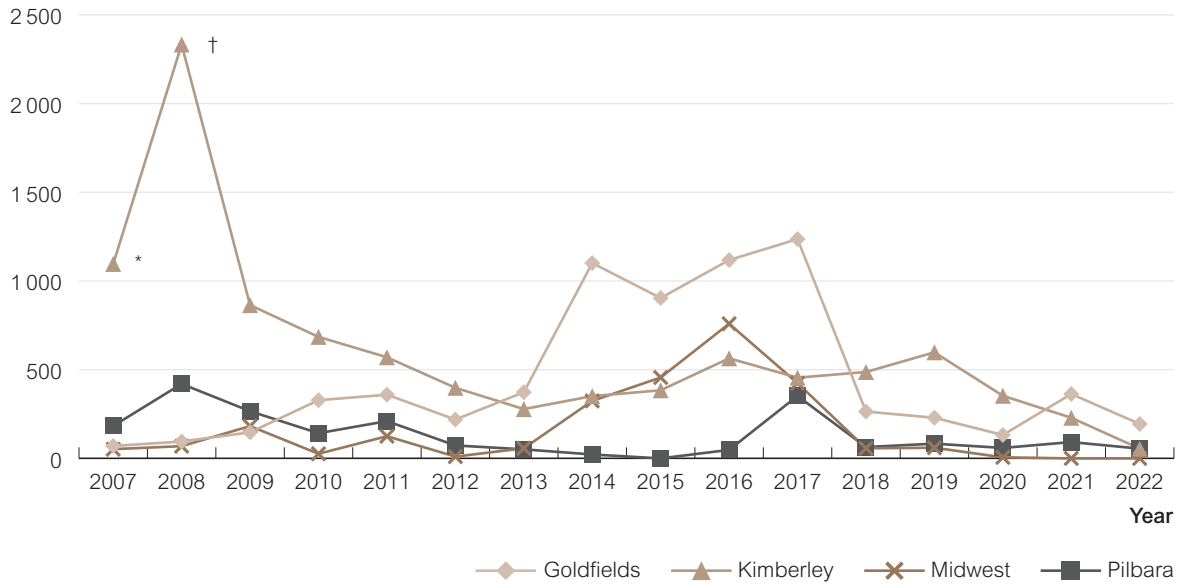


Figure 5.8 Number of doses of azithromycin administered for the treatment of trachoma by region, Western Australia, 2007 – 2022



* 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 5.1 Trachoma control delivery in at-risk* communities by region, Western Australia, 2022

Number of communities	Goldfields	Kimberley	Midwest	Pilbara	Total
At-risk* (A)	12	7	6	6	31
Requiring screening for trachoma (B)	11	7	3	6	27
Screened for trachoma (C)	11	7	3	6	27
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)	11	7	3	6	27
Requiring neither screening nor treatment for trachoma (G=A-B-D)	1	0	3	0	4

* As defined by each jurisdiction.

† As per CDNA Guidelines.

Table 5.2 Trachoma screening coverage, trachoma prevalence and clean face prevalence in children aged 5-9 years by region, Western Australia, 2022

	Goldfields	Kimberley	Midwest	Pilbara	Total
Number of communities screened	11	7	3	6	27
Children examined for clean face	142	154	20	47	363
Children with clean face	52	98	18	30	198
<i>Clean face prevalence (%)</i>	37	64	90	64	55
Estimated number* of Aboriginal children in communities†	155	164	20	47	386
Children screened for trachoma	142	152	18	46	358
<i>Trachoma screening coverage (%)</i>	92	93	90	98	93
Children with active trachoma‡	25	7	0	5	37
<i>Observed prevalence of active trachoma‡ (%)</i>	17.6	4.6	0.0	10.9	10.3
<i>Estimated prevalence of active trachoma‡ (%)</i>	17.1	4.6	0.0	10.9	8.3
<i>Overall prevalence of active trachoma‡ (%)</i>	8.6	1.6	0.0	4.0	3.1

* Jurisdiction provides estimates for children aged 5-9 years.

† In communities that were screened for trachoma in 2022.

‡ Methods of calculating the different prevalence rates are explained 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 – 2022

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

† As defined annually by each jurisdiction.

‡ Or treated as required per CDNA Guidelines.

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

Table 5.4 Treatment strategies by region, Western Australia, 2022

Communities	Goldfields	Kimberley	Midwest	Pilbara	Total
Required treatment for trachoma	9	2	0	4	15
Treated for trachoma	9	2	0	4	15
Screened and treated	9	2	0	4	15
Received treatment only	0	0	0	0	0
Received 6-monthly treatment	0	0	0	0	0
Did not require treatment	3	5	6	2	16
Treated trachoma cases and households	9	0	0	3	12
Community-wide treatment	1	0	0	1	2
Not treated according to CDNA Guidelines	0	0	0	0	0

CDNA: Communicable Diseases Network Australia.

Table 5.5 Trachoma treatment coverage* by region, Western Australia, 2022

Age group (years)	Goldfields					Kimberley					Midwest					Pilbara					Total				
	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	0-4	5-9	10-14	15+	All
Requiring treatment for trachoma	0	25	0		25	0	7	0		7	N/A	N/A	N/A		N/A	0	5	3		8	0	37	3		40
Received treatment for trachoma	0	25	0		25	0	7	0		7	N/A	N/A	N/A		N/A	0	5	3		8	0	37	3		40
Received treatment for trachoma (%)	N/A	100	N/A		100	N/A	100	N/A		100	N/A	N/A	N/A		N/A	N/A	100	100		100	N/A	100	100		100
Estimated community members* requiring treatment	19	34	17	109	179	5	8	7	28	48	N/A	N/A	N/A	N/A	N/A	4	6	11	27	48	28	48	35	164	275
Number of community members* who received treatment	18	32	17	102	169	5	8	7	28	48	N/A	N/A	N/A	N/A	N/A	3	6	11	27	47	26	46	35	157	264
Estimated community members who received treatment (%)	95	94	100	94	94	100	100	100	100	100	N/A	N/A	N/A	N/A	N/A	75	100	100	100	98	93	96	100	96	96
Number of community members who declined treatment	0	0	0	1	1	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	0	0	0	0	0	0	0	0	1	1
Total number of doses of azithromycin delivered	18	57	17	102	194	5	15	7	28	55	N/A	N/A	N/A	N/A	N/A	3	11	14	27	55	26	83	38	157	304
Estimated overall treatment coverage (%)	95	97	100	94	95	100	100	100	100	100	N/A	N/A	N/A	N/A	N/A	75	100	100	100	98	93	98	100	96	97

* Includes household contacts and community members requiring/receiving mass drug administration (MDA).

Table 5.6 Trachoma-related trichiasis screening coverage, prevalence and treatment among Indigenous adults by region, Western Australia, 2022

Age group (years)	Goldfields		Kimberley		Midwest		Pilbara		Total		
	15-39	40+	15-39	40+	15-39	40+	15-39	40+	15-39	40+	15+
Number of communities screened for trichiasis	17		6		7		9		39		
Adults examined†	71	247	0	1551	4	761	14	447	89	3006	3095
With trichiasis	0	4	0	2	0	1	0	0	0	7	7
With trichiasis (%)	0.00	1.62	0.00	0.13	0.00	0.13	0.00	0.00	0.00	0.23	0.23
Surgery in past 12 months‡	0	0	0	1	0	0	0	1	0	2	2

† Data include opportunistic screening during trachoma screening, treatment and flu vaccination activities, MBS Item 715 data and optometrist services data.

‡ Surgery cases may include cases identified in previous years.

Table 5.7 Health promotion activities by region, Western Australia, 2022

	Goldfields	Kimberley	Midwest	Pilbara	Total
Number of communities that reported health promotion activities	11	7	7	8	33
Total number of programs reported	43	11	14	11	79
Methods of health promotion					
One-on-one discussion	23	7			30
Presentation to group	22				22
Interactive group session		4	14	18	36
Social marketing/ internet					0
Print material/mass media		11	14		25
Sporting/community events	1	1		2	4
Other	14	7	14	8	43
Target audience					
Health professional staff	8			1	9
Children	16	11	14	8	49
Youth				1	1
Teachers/childcare/preschool staff	14			1	15
Caregivers/parents				5	5
Community members	7			5	12
Community educators/health promoters	1				1
Interagency members	5				5
Frequency of health promotion activities					
Once	43	11	14	11	79
Occasional *					
Regular†					
Ongoing/routine					

* 2-4 times per year.

† 5-12 times per year.

Table 5.8 Soap distribution by region, Western Australia, 2022

Region	Milpa Bar Soap
Kimberley	63 360
Pilbara	11 520
Midwest	23 040
Goldfields	46 080
Total	144 000

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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 the 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. The finding was generally consistent between the jurisdictions and was sustained 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.

Reference

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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

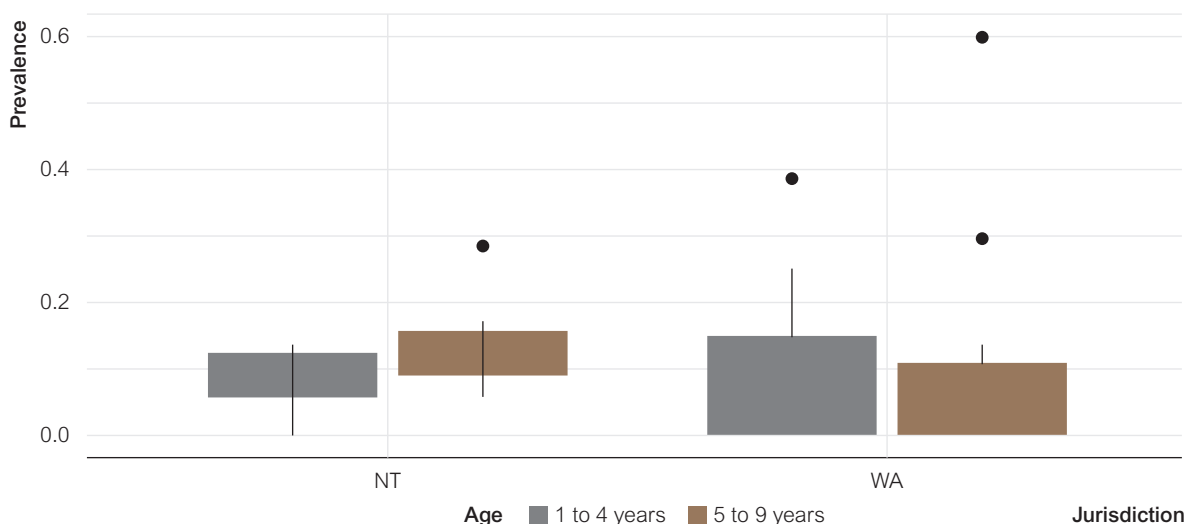


Table A1 Comparison of trachoma prevalence between 1-4 and 5-9 year olds in Western Australia among 11 communities that met screening coverage inclusion criteria

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 7 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: 0.32.

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: 1.44.



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All information in this publication is correct as at November 2023