

# Australian Trachoma Surveillance Report

# 2020



Edited by National Trachoma Surveillance and Reporting Unit



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## Australian Trachoma Surveillance Report 2020

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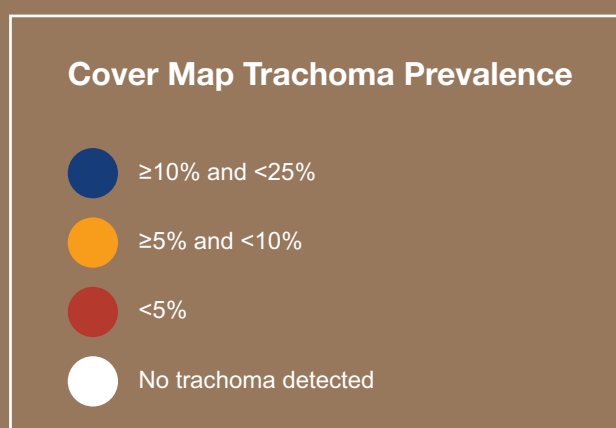
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# Australian Trachoma Surveillance Report 2020

The Kirby Institute, UNSW Sydney  
WHO Collaborating Centre in Trachoma, 2018\*

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

\*The Kirby Institute was made a WHO Collaborating Centre in Trachoma in 2018

# Contents

List of Tables.....	3
List of Figures.....	4
Acknowledgements.....	6
Technical terms and definitions.....	7
Abbreviations.....	8
Preface.....	9
Executive summary.....	10
Background.....	12
Methodology.....	14
Findings and interpretation.....	18
National results.....	20
<b>Jurisdictional-specific results</b> .....	32
Northern Territory results.....	32
Figures and Tables – Northern Territory.....	36
Queensland results.....	48
Figures and Tables – Queensland.....	49
South Australia results.....	52
Figures and Tables – South Australia.....	54
Western Australia results.....	64
Figures and Tables – Western Australia.....	67
References.....	78
Appendix.....	80



# List of Tables

Table 1.1	Trachoma control delivery in at-risk* communities by jurisdiction, Australia 2020	26
Table 1.2	Trachoma screening coverage, trachoma prevalence and clean face prevalence in children aged 5-9 years by jurisdiction, Australia 2020	27
Table 1.3	Number and proportion* of at-risk communities according to level of trachoma prevalence in children aged 5-9 years, Australia 2007 – 2020	28
Table 1.4	Treatment strategies by jurisdiction, Australia 2020	28
Table 1.5	Trachoma treatment coverage, Australia 2020	29
Table 1.6	Trachoma-related trichiasis screening coverage, prevalence and treatment among Indigenous adults, Australia 2020	30
Table 1.7	Trachoma-related trichiasis surgery data collected from MBS item 42588, Australia 2020	30
Table 2.1	Trachoma control delivery in at-risk* communities by region, Northern Territory 2020	41
Table 2.2	Trachoma screening coverage, trachoma prevalence and clean face prevalence by region, Northern Territory 2020	42
Table 2.3	Number and proportion of at-risk communities according to level of trachoma prevalence* in children aged 5-9 years, Northern Territory 2007 – 2020	43
Table 2.4	Treatment strategies by region, Northern Territory 2020	43
Table 2.5	Trachoma treatment coverage by region,* Northern Territory 2020	44
Table 2.6	Trichiasis screening coverage, prevalence and treatment among Indigenous adults by region, Northern Territory 2020	45
Table 2.7	Health promotion activities by region, Northern Territory 2020	46
Table 3.1	Trachoma screening coverage, prevalence of clinical features consistent with trachomatous inflammation - follicular and clean face prevalence, Queensland 2020	50
Table 3.2	Trichiasis screening coverage, prevalence and treatment among Indigenous adults, Queensland 2020	50
Table 3.3	Health promotion activities Queensland 2020	51
Table 4.1	Trachoma control delivery in at-risk* communities by region, South Australia 2020	59
Table 4.2	Trachoma screening coverage, trachoma prevalence and clean face prevalence by region, South Australia 2020	60
Table 4.3	Number and proportion* of at-risk communities according to level of trachoma prevalence in children aged 5-9 years, South Australia 2007 – 2020	60
Table 4.4	Treatment strategies by region, South Australia 2020	61
Table 4.5	Trachoma treatment coverage by region, South Australia 2020	61
Table 4.6	Trichiasis screening coverage, prevalence and treatment among Indigenous adults by region, South Australia 2020	62
Table 4.7	Health promotion activities by region, South Australia 2020	62
Table 5.1	Trachoma control delivery by region, Western Australia 2020	72
Table 5.2	Trachoma screening coverage, trachoma prevalence and clean face prevalence by region, Western Australia 2020	73
Table 5.3	Number and proportion of at-risk communities* according to level of trachoma prevalence in children aged 5-9 years, Western Australia 2007 – 2020	74
Table 5.4	Treatment strategies by region, Western Australia 2020	74
Table 5.5	Trachoma treatment coverage by region, Western Australia 2020	75
Table 5.6	Trichiasis screening coverage, prevalence and treatment* among Indigenous adults by region, Western Australia 2020	75
Table 5.7	Health promotion activities by region, Western Australia 2020	76
Table 5.8	Soap distribution by region, Western Australia 2020	76

# List of Figures

<i>Figure 1.1</i>	Overall trachoma prevalence in children aged 5-9 years in all at-risk communities by region, Australia 2020*	20
<i>Figure 1.2</i>	Number of communities designated at risk by jurisdiction, Australia 2007 – 2020	21
<i>Figure 1.3</i>	Number of at-risk communities according to trachoma control strategy implemented by jurisdiction, Australia 2020	21
<i>Figure 1.4</i>	Population screening coverage in children aged 5-9 years in communities that were screened for trachoma by jurisdiction, Australia 2020	22
<i>Figure 1.5</i>	Proportion of screened children aged 5-9 years who had a clean face by jurisdiction, Australia 2007 – 2020	22
<i>Figure 1.6 a.</i>	Observed prevalence of clinical findings consistent with trachomatous inflammation - follicular among screened children aged 5-9 years by jurisdiction, Australia 2007 – 2020	23
<i>Figure 1.6 b.</i>	Estimated prevalence of trachoma among children aged 5-9 years by jurisdiction, Australia* 2007 – 2020	23
<i>Figure 1.6 c.</i>	Overall prevalence of trachoma among children aged 5-9 years by jurisdiction, Australia* 2007 – 2020	24
<i>Figure 1.7</i>	Number of at-risk communities* according to level of trachoma prevalence in children aged 5-9 years by jurisdiction, Australia 2020	24
<i>Figure 1.8</i>	Proportion of at-risk communities with zero prevalence of trachoma by jurisdiction, Australia 2007 – 2020	25
<i>Figure 1.9</i>	Proportion of at-risk communities with endemic (> 5%) levels of trachoma by jurisdiction, Australia 2007 – 2020	25
<i>Figure 1.10</i>	Number of doses of azithromycin administered for the treatment of trachoma by jurisdiction, Australia 2007 – 2020	26
<i>Figure 2.1</i>	Overall trachoma prevalence in children aged 5-9 years in all at-risk communities by region, Northern Territory 2020	36
<i>Figure 2.2</i>	Number of at-risk communities by region, Northern Territory 2007 – 2020	37
<i>Figure 2.3</i>	Number of at-risk communities by region and trachoma control strategy, Northern Territory 2020	37
<i>Figure 2.4</i>	Population screening coverage of children aged 5-9 years in communities that required screening for trachoma by region, Northern Territory 2020	38
<i>Figure 2.5</i>	Proportion of screened children aged 5-9 years who had a clean face by region, Northern Territory 2007 – 2020	38
<i>Figure 2.6 a.</i>	Observed prevalence of clinical findings consistent with trachomatous inflammation - follicular among children aged 5-9 years in communities that were screened by region, Northern Territory 2007 – 2020	39
<i>Figure 2.6 b.</i>	Estimated prevalence of trachoma among children aged 5-9 years in all at-risk communities* by region, Northern Territory 2007 – 2020	39
<i>Figure 2.6 c.</i>	Overall prevalence of trachoma* among children aged 5-9 years by region, Northern Territory 2007 – 2020	40
<i>Figure 2.7</i>	Number of at-risk communities* according to level of trachoma prevalence in children aged 5-9 years by region, Northern Territory 2020	40
<i>Figure 2.8</i>	Number of doses of azithromycin administered for the treatment of trachoma by region, Northern Territory 2007 – 2020	41
<i>Figure 3.1</i>	Overall trachoma prevalence in children aged 5-9 years in all at-risk communities by region, Queensland 2020	49
<i>Figure 4.1</i>	Trachoma prevalence in children aged 5-9 years in all at-risk communities by region, South Australia, 2020	54
<i>Figure 4.2</i>	Number of at-risk communities by region, South Australia 2007 – 2020	55
<i>Figure 4.3</i>	Number of at-risk communities according to trachoma control strategy implemented by region, South Australia 2020	55

Figure 4.4	Population screening coverage of children aged 5-9 years in at-risk communities that required screening for trachoma by region, South Australia 2020.....	56
Figure 4.5	Proportion of screened children aged 5-9 years who had a clean face by region, South Australia 2007 – 2020.....	56
Figure 4.6 a.	Observed prevalence of clinical findings consistent with trichomatous inflammation - follicular among children aged 5-9 years in at-risk communities by region, South Australia 2007 – 2020.....	57
Figure 4.6 b.	Estimated prevalence of trachoma among children aged 5-9 years in all at-risk communities* by region, South Australia 2007 – 2020.....	57
Figure 4.6 c.	Overall prevalence of trachoma among children aged 5-9 years in all communities* by region, South Australia 2007 – 2020.....	58
Figure 4.7	Number of at-risk communities according to level of trachoma prevalence in children aged 5-9 years by region, South Australia 2020.....	58
Figure 4.8	Number of doses of azithromycin administered for the treatment of trachoma by region, South Australia 2007 – 2020.....	59
Figure 5.1	Overall trachoma prevalence in children aged 5-9 years in all at-risk communities by region, Western Australia 2020.....	67
Figure 5.2	Number of at-risk communities by region, Western Australia 2007 – 2020.....	68
Figure 5.3	Number of at-risk communities according to trachoma control strategy implemented by region, Western Australia 2020.....	68
Figure 5.4	Population screening coverage in children aged 5-9 years in communities that required screening for trachoma by region, Western Australia 2020.....	69
Figure 5.5	Proportion of screened children aged 5-9 years who had a clean face by region, Western Australia 2007 – 2020.....	69
Figure 5.6 a.	Observed prevalence of clinical findings consistent with trichomatous inflammation - follicular among children aged 5-9 years in communities that were screened by region, Western Australia 2007 – 2020.....	70
Figure 5.6 b.	Estimated prevalence* of trachoma among children aged 5-9 years in all at-risk communities by region, Western Australia 2007 – 2020.....	70
Figure 5.6 c.	Overall prevalence of trachoma among children aged 5-9 years in all communities* by region, Western Australia 2007 – 2020.....	71
Figure 5.7	Number of at-risk communities* according to level of trachoma prevalence in children aged 5-9 years by region, Western Australia 2020.....	71
Figure 5.8	Number of doses of azithromycin administered for the treatment of trachoma by region, Western Australia 2007 – 2020.....	72

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# Technical terms and definitions

Definitions are from the Communicable Diseases Network Australia's (CDNA) 2014 *National guidelines for the public health management of trachoma in Australia*.<sup>1</sup>

## **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) 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 1-9 years or a prevalence of trichiasis of at least 0.1% in the adult population.

## **Hyperendemic trachoma**

Prevalence of trachoma of 20% or more in children aged 1-9 years.

## **Prevalence of trachoma**

Proportion of people found in a screening program to have trachoma.

## **Screening coverage**

Proportion of Aboriginal and Torres Strait Islander children aged 5-9 years in a community who were screened for trachoma 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).

## **Trachomatous inflammation - follicular (TF)**

Presence of five 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)**

Evidence of the recent removal of in-turned eyelashes or at least one eyelash rubbing on the eyeball.

## **Treatment coverage**

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.

# Abbreviations

<b>ABS</b>	Australian Bureau of Statistics
<b>APY</b>	Anangu Pitjantjatjara Yankunytjatjara
<b>ACCHS</b>	Aboriginal Community Controlled Health Service
<b>AHCSA</b>	Aboriginal Health Council of South Australia
<b>CDC</b>	Centre for Disease Control, NT Department of Health
<b>CDNA</b>	Communicable Diseases Network Australia
<b>EH&amp;CDSSP</b>	Eye Health and Chronic Disease Specialist Support Program
<b>MBS</b>	Medicare Benefits Schedule
<b>NSW</b>	New South Wales
<b>NT</b>	Northern Territory
<b>NTSCRG</b>	National Trachoma Surveillance and Control Reference Group
<b>NTSRU</b>	National Trachoma Surveillance and Reporting Unit
<b>PCR</b>	Polymerase chain reaction
<b>QLD</b>	Queensland
<b>SA</b>	South Australia
<b>SAFE</b>	Surgery, Antibiotics, Facial cleanliness and Environment
<b>WA</b>	Western Australia
<b>WACHS</b>	WA Country Health Service
<b>WHO</b>	World Health Organization

# 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, which also funds the NTSRU.

Trachoma program data for 2020 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 *CDNA National guidelines for the public health management of trachoma in Australia*.<sup>1</sup>

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

# Executive summary

Trachoma prevalence in children aged 5-9 years remained stable in 2020 in all jurisdictions except WA where there has been a slight decrease. There was a decrease in 2020 in the number of communities designated at risk for trachoma (98 in 2020 and 115 in 2019) and a decrease in the number of communities with hyperendemic trachoma (16 in 2020 compared to 24 in 2019), but an increase in the number of communities with endemic trachoma (53 in 2020 compared to 45 in 2019). While the proportion of children with clean faces increased in 2020, only 38% of regions (5/13) and 28% of communities screened (26/94) reached the goal of clean faces in 85% of children aged 5-9 years.

Endemic trachoma and 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 2020, jurisdictions designated 98 remote Indigenous communities as at risk of endemic trachoma, a decrease from 115 in 2019 (Table 1.1).
- The number of communities at risk of trachoma in Australia has declined since 2009. (Figure 1.2).
- Of the 98 communities designated by jurisdictions to be at risk at the start of 2020, 96 (98%) were determined to require screening, antibiotic distribution or both according to the CDNA Guidelines (Table 1.1).
- The remaining 2 at-risk communities did not require screening or treatment as per Guidelines.
- Of the communities requiring screening, treatment or both as per CDNA Guidelines, 98% (94/96) received the designated services (Table 1.1).
- In the NT, 2 communities that required screening as per CDNA Guidelines could not receive the services due to COVID-19 staffing constraints.

### Screening coverage

- Jurisdictions undertook screening for 98% (94/96) of the communities determined to require screening in 2020 (Table 1.1, Table 1.2).
- Within the screened communities, 2177 (91%) of an estimated 2384 resident children aged 5-9 years were screened (Table 1.2).
- Screening coverage of children aged 5-9 years in the screened communities was 88% for the NT, 96% for QLD, 94% for SA and 96% for WA (Table 1.2, Figure 1.4).

### Facial cleanliness

- A total of 2276 children aged 5-9 years in at-risk communities were examined for clean faces (Table 1.2).
- The overall prevalence of clean faces in children aged 5-9 years was 78%, at 79% in the NT, 83% in QLD, 84% in SA and 69% in WA.
- The prevalence of clean faces increased in 2020 in all jurisdictions except SA where, despite a slight decrease, reported the highest rate of facial cleanliness among the jurisdictions (Table 1.2, Figure 1.5).
- Clean face rates in children aged 5-9 years vary widely at the regional level ranging from 66% to 100% (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 and in QLD by the presence of both TF and a positive test result for *C. trachomatis* on swabbing.
- Overall, trachoma prevalence in 5-9-year-olds decreased slightly, from 4.5% in 2019 to 3.8% in 2020 (Table 1.2, Figure 1.6c).
- The overall prevalence of trachoma in children aged 5-9 years was 5.3% in the NT, 4.6% in WA and 0% in SA and QLD.
- Trachoma was reported among children aged 5-9 years in 68% (65/96) of the at-risk communities screened in 2020 (Table 1.3), an increase from 2019 where trachoma was reported in 48% 53/111 of at-risk communities screened.
- Trachoma was at endemic levels (prevalence at or above 5% in 5-9-year-olds) in 55% (53/96) of the at-risk communities screened in 2020 (Table 1.3), an increase from 2019 when 41% of at-risk communities had endemic levels.
- Hyperendemic levels of trachoma (at or above 20%) were found in 17% (16/96) of at-risk communities screened in 2020 (Table 1.3), a decrease from 2019 when 22% of at-risk communities reported hyperendemic levels.

## Antibiotic distribution and coverage

- Antibiotic distribution took place in all 63 communities that required antibiotics according to the CDNA Guidelines (Table 1.4).
- Treatment coverage for cases detected in screening activities was 99% with 202/205 cases treated (Table 1.5).
- Coverage for community members requiring treatment under CDNA Guidelines was 69%, compared to 88% in 2019.
- Jurisdictional trachoma programs delivered a total of 3752 doses of azithromycin in 2020 (Table 1.5), a reduction compared to 2019 when 4711 doses were delivered.
- In 2020, 299 (6%) community members eligible for antibiotic treatment under CDNA Guidelines declined to receive the treatment, compared to 219 (4%) in 2019.

## Trachoma-related trichiasis

- Overall, 14 485 adults aged 15 years and over in an estimated population of 36 161 in 113 at-risk and previously at-risk communities were screened for trichiasis (Table 1.6).
- There were 15 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 0.10% and in adults aged 40 years and older was 0.16% (Table 1.6) compared to 0.08% and 0.14% in 2019.
- Surgery for trachoma-related trichiasis in the past 12 months was reported by jurisdictional teams to have been undertaken for 7 adults in 2020 (Table 1.6).
- Surgery for trachoma-related trichiasis in the past 12 months reported under the Medical Benefits Scheme Item 42 588 was undertaken for 23 adults aged 15 years and over (Table 1.7). These cases may also be reported in the jurisdictional totals.

## Health promotion and environmental health improvement activities

- Public health and environmental health teams conducted over 281 health promotion activities in at least 109 remote Indigenous communities, including school visits, soap distribution and bathroom assessments.

# Background

Trachoma is a disease of the eye, caused by infection with the *Chlamydia trachomatis* bacteria, particularly its serovars A, B, Ba and C. It is the world's leading infectious cause of preventable blindness. Based on reporting by the World Health Organization (WHO) in March 2021, trachoma remains endemic in 43 countries in which approximately 1.9 million people have visual impairment due to trachoma, worsening the quality of life in those who are already disadvantaged. 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. Trachoma generally occurs in dry, dusty environments and is strongly associated with poor living conditions and sanitation. Crowding of 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. Children have more frequent and longer-lasting episodes of infection than adults and are believed to be the main community reservoirs of infection.<sup>2-4</sup>

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) and papillae (red spots) on the inner upper eyelid. Repeated infections with *C. trachomatis*, especially during childhood, may lead to scarring of the eyelid, causing it to contract and distort, leading to the eyelashes turning inwards, 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.<sup>1,5,6</sup> 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. The SAFE acronym highlights the key components of the strategy, which are Surgery for trichiasis, Antibiotic treatment regimens via the use of azithromycin at the individual, household or community levels, the promotion of Facial cleanliness and Environmental improvements. The strategy is designed to be implemented within a community health framework to ensure consistency and continuity of approach in the required screening, control measures, data collection and reporting, as well as building community capacity.<sup>7-9</sup>

WHO has set new targets for the elimination of trachoma as a public health problem through the new initiative *Ending the neglect to attain the Sustainable Development Goals: a road map for neglected tropical diseases 2021–2030*.<sup>10</sup> Under this initiative the requirements of elimination remain unchanged as (i) a prevalence of trachomatous trichiasis “unknown to the health system” of < 0.2% in ≥ 15-year-olds in each formerly endemic district; (ii) a prevalence of trachomatous inflammation - follicular in children aged 1-9 years of < 5% in each formerly endemic district; and (iii) written evidence that the health system is able to identify and manage incident cases of trachomatous trichiasis, using defined strategies, with evidence of appropriate financial resources to implement those strategies.<sup>10</sup>

WHO guidelines recommend that clinical trachoma is treated by 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, where trachoma prevalence is lower, and Australia defines community coverage based on the treatment of households with at least one child aged 15 years or under.<sup>11,12</sup>

## 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. In 2008, cases were also found in NSW and QLD, where trachoma was thought to have been eliminated. People with trichiasis are present in all jurisdictions.<sup>10,13</sup> 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. Since 2006 the Australian Government has funded the National Trachoma Surveillance and Reporting Unit to provide a national mechanism for monitoring and evaluating trachoma control.<sup>14</sup>

The surveillance and management of trachoma in 2020 in all jurisdictions were guided by the CDNA 2014 *National guidelines for the public health management of trachoma in Australia* (the Guidelines).<sup>1</sup> The 2014 guidelines were an update to the 2006 version,<sup>15</sup> with one of the main changes being the option not to screen all endemic communities every year, with jurisdictions allocating 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.

Trachoma is defined by the NT, SA and WA as the presence of TF. In QLD trachoma is defined by the presence of TF and a positive test result for the presence of *C. trachomatis* detected in an eye swab.

### **The National Trachoma Surveillance and Reporting Unit**

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,<sup>16-25</sup> with the Centre for Eye Research Australia<sup>26-28</sup> and the Centre for Molecular, Environmental, Genetic and Analytic Epidemiology at the University of Melbourne,<sup>29,30</sup> responsible for earlier years. The NTSRU operates under a contract between UNSW Sydney and the Australian Government Department of Health.

# 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. These activities take place under the guidance of the 2014 CDNA Guidelines, which recommend specific treatment strategies depending on the prevalence of trachoma detected through screening.<sup>1</sup>

In 2006, when the National Trachoma Management Program was initiated, each jurisdiction 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. 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 there is close geographic or cultural proximity to at-risk communities.

WHO simplified trachoma grading criteria<sup>6,31</sup> 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 included:

- 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 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, feasibility of eye examination and a presumption that prevalence in 5-9-year-olds would be similar to prevalence in 1-4-year-olds. Screening in communities has also included children 1-4 (as well as those 10-14) years but opportunistically rather than systematically. In 2018, in anticipation of 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.

Trachoma control programs in Australia in all jurisdictions except QLD undertook trachoma grader training to ensure rigorous and accurate trachoma grading. QLD engages an ophthalmologist experienced in trachoma assessment for its screening activities. 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 2020. Historical data provided derive from NSW Health, focused on screening in potentially at-risk communities in north western and far western NSW, with the most recent screening conducted in 2014. No population-level trichiasis screening was conducted in NSW in 2020.

## Northern Territory

From 2013, the NT followed the screening and treatment schedule recommended in the 2014 CDNA Guidelines. Trachoma screening and management in the NT were a collaboration between the Department of Health (Centre for Disease Control and Primary Health Care [Outreach/Remote]); 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 health-care 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 health-care services.

In 2020, 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 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 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 has been a priority in SA.

A combination of opportunistic, community-wide and routine screening was 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 provided opportunistic screening by visiting optometrists and ophthalmologists. AHCSA delivered 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 interpretation of time trends for SA reports.

## Queensland

The Communicable Diseases Branch within the QLD Department of Health coordinates trachoma prevention and control activities across the state in collaboration with Hospital and Health Services. Trachoma screening involves an ophthalmologist, who conducts a more detailed ocular examination than required for the WHO simplified grading tool, including an assessment for the presence of Herbert's pits and corneal pannus. The examination also involves collection of conjunctival swabs from children with any tarsal follicles for laboratory testing to detect the presence of *C. trachomatis*.

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.

In 2020, trachoma screening occurred in 2 communities in the North-Western region.

## 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 collaboration with local primary health-care 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 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 clustering of cases. In 2020, 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. From 2016, data from 4 communities in the Pilbara region have been similarly reported as one. These reporting changes need to be considered in interpretation of time trends for WA reports.

### ***Trichiasis methodology***

The WHO simplified trachoma grading criteria are used to diagnose and classify trichomatous 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 with 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.

### ***Regional specific procedures***

**Kimberley:** trichiasis screening is conducted by the public health team before the trachoma screening when in community to provide education during trachoma screening, during the influenza vaccination campaign and by visiting optometry services and health clinic staff in remote communities.

Clients are referred by the service provider to the ophthalmology clinics and regular optometrists. Trichiasis referrals to ophthalmology services are triaged by the optometrist service in liaison with the ophthalmologist who visits every 3 months. The visiting optometrist group manages the priority of recall, and specialist clerks use their individual recall systems.

For follow-up post-surgery, Lions Outback Vision ensures that the information from specialists in Perth is conveyed to the appropriate community clinic and adds this information to the optometric database for follow-up in communities.

**Pilbara:** screening is conducted by the Public Health Team at the time of trachoma screening, or during the influenza vaccination campaign or by the primary health-care provider during the Adult Health Check (MBS Item 715).

If required, referrals are made to the general practitioner (GP) or visiting specialists. The GP will also refer to a visiting specialist if required. The referring clinician is responsible for following up on the referral outcome.

**Midwest:** screening is conducted either by the Public Health Team earlier in the year or by the primary health-care provider during the Adult Health Check (MBS Item 715). Referrals to the ophthalmologist are made through the patient's primary health-care provider (Aboriginal Community Controlled Health Organisation [ACCHO] or private GP). The Public Health Unit does not have access to these referrals. If trichiasis is found during screening by a member of the Public Health team, the patient is referred to an ophthalmology service within the region.

**Goldfields:** screening is conducted by the Public Health Team at the time of trachoma screening or a health promotion visit, or during the influenza vaccination campaign or by the primary health-care provider during the Adult Health Check (MBS Item 715).

If trichiasis is suspected during screening by a member of the Public Health team, patients are referred to their local primary health-care provider for referral to an ophthalmology service (or through another preferred pathway such as a client's optometrist). All suspected cases found by primary health-care services are referred to the ophthalmology service for review. Referrals to the ophthalmologist are made via the patient's primary health-care provider (ACCHO, private GP or optometrist). The Public Health Unit does not have access to these referrals nor the outcome of the consultation.

## Data analysis

In NT, SA and WA, trachoma is defined as the presence of trachomatous inflammation - follicular. In QLD, the diagnosis of trachoma is based upon the clinical advice of an experienced ophthalmologist who performs a detailed examination beyond that required by the WHO simplified grading system including collection of conjunctival swabs for PCR testing for *C. trachomatis* if any follicles are present at 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 were 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 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). The prevalence of trachoma was calculated using the number of children screened as the denominator and the number found to have trachoma as the numerator.

Trachoma data were analysed in the age groups 1-4, 5-9 and 10-14 years. Comparisons over time were limited to the age group 5-9 years. Data from 2006 were excluded from 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 implementation of the 2014 Guidelines, annual screening has not been required for at-risk communities. Therefore, for communities not screened in 2020 an *estimated prevalence* of trachoma was calculated by carrying forward the most recent prevalence data, following a method endorsed by the NTSCRG. This method is likely to result in an over-estimate of current prevalence, particularly for communities receiving community-wide treatment with antibiotics. Finally, the *overall prevalence* of trachoma was calculated by combining prevalence from at-risk communities screened during 2020, the most recent prevalence carried forward from at-risk communities that did not screen in 2020 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.

# Findings and interpretation

Despite huge strides towards the elimination of trachoma in Australia, endemic levels in some regions persisted in 2020. Of the 13 regions identified as being at risk at the beginning of Australia's national response to trachoma in 2006, 4 still had endemic trachoma in 2020. Repeated rounds of community treatment were effective in reducing trachoma prevalence from the very high levels seen in the early years but are not sufficient to reach elimination targets in all regions. Continued strengthening of health promotion and environmental improvements must become the mainstay of control in communities.

The Australian Government has extended the target date for elimination of trachoma as a public health problem from 2020 to 2022. This amendment aligns Australia's program with the WHO's new policy framework entitled 'Ending the neglect to attain the Sustainable Development Goals: a road map for neglected tropical diseases 2021–2030'.<sup>10</sup> The extension of the elimination target date to 2022 is intended to provide sufficient time to enhance control efforts and meet WHO targets to validate elimination of trachoma as a public health problem.

## The impact of COVID-19

In 2020, the COVID-19 pandemic caused immediate and cascading disruptions to Australian trachoma control programs. In March 2020 the Biosecurity (Human Biosecurity Emergency) (Human Coronavirus with Pandemic Potential) (Emergency Requirements for Remote Communities) Determination 2020<sup>30,32</sup> was enacted to prevent transmission to vulnerable Aboriginal and Torres Strait Islander populations. This public health policy response restricted non-essential travel to and from remote Indigenous communities and led to the suspension of trachoma screening and treatment, targeted health promotion activities and collaborative programs with public health, environmental health and housing agencies. Essential trachoma program personnel were diverted to COVID-19 public health response. During this time targeted COVID-19 health promotion resources were widely circulated in Indigenous languages in remote communities.<sup>31–34</sup> These resources used diverse communication platforms to promote infection control practices also required to control the spread of trachoma. The Biosecurity Determination was lifted in July 2020 and trachoma control activities resumed at this time. All screening and treatment planned for 2020 was ultimately carried out, but health promotion specific to trachoma was conducted at a greatly reduced level.

## Screening coverage

Under the CDNA Guidelines, jurisdictions can choose to focus resources on control activities, including antibiotic distribution, in high prevalence communities rather than repeated annual screening. At the other end of the spectrum, communities with low levels of trachoma do not require annual screening. Therefore, the proportion of communities screened is not in itself an indicator of the quality or success of the program. In 2020, 98% (96/98) of at-risk communities were screened for trachoma, an increase from 2019 when 96% (111/115) were screened.

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 screening coverage remained stable from the previous year at 91%.

## Facial cleanliness

The proportion of screened children aged 5-9 years who had clean faces increased slightly from 75% in 2019 to 78% in 2020. The increase was reported from NT, QLD and WA but not in SA, where there was a slight decrease, but the overall highest prevalence of facial cleanliness (84%). Normalisation of facial cleanliness has been the goal of much health promotion work in communities and needs to be sustained through continuing messaging and ensuring that children have access to safe and functional washing facilities.

## Trachoma prevalence

Across NT, QLD, SA and WA the overall prevalence of trachoma among children 5-9 years in 2020 was 3.8%, a slight decrease from 4.5% in 2019. At the regional level within jurisdictions, the prevalence of trachoma in children aged 5-9 years in at-risk communities ranged from 0 to 12.7%.

In contrast, the number of communities with prevalence above 5% increased from 45 in 2019 to 53 in 2020, even as the number of communities with hyperendemic trachoma (over 20% prevalence) decreased from 24 in 2019 to 16 in 2020.

The plateauing in trachoma prevalence demonstrates that housing and environmental health measures need to be further enhanced to enable communities to reduce the rate of trachoma. A continuing focus on health promotion is also important for the control of trachoma as well as a range of other infectious diseases that particularly affect children, and lead to long-term disability.



## Antibiotic distribution and coverage

Antibiotic coverage in 2020 decreased to 70% of cases and community members requiring treatment under the CDNA Guidelines compared to the 2019 coverage of 89%. In 2020, 299 community members across 21 communities declined treatment, representing 6% (299/5133) of those considered to require treatment with a median rate of declining treatment of 6% and median trachoma prevalence of 20%; compared to 4% (219/4959) in 14 communities in 2019. The concept of treatment fatigue has been put forward by trachoma team members to explain the increase in refusals. Implications of reduced uptake of antibiotics for trachoma control are not yet understood and require further investigation. What is clear is the ongoing need for housing and environmental improvements combined with health promotion programs as crucial elements of the program.

## Trachoma-related trichiasis

Overall, 14 485 adults aged 15 years and older were reported to have been screened for trichiasis, compared 12 977 in 2019. Among those screened in 2020 aged over 15 years, 11(0.08%) were found to have trichiasis, and 7 underwent trichiasis surgery as reported by jurisdictional teams. Data collected on use of Medicare Item number 42588 identified 23 occasions of trichiasis-related surgery.

## Health promotion and environmental health activities

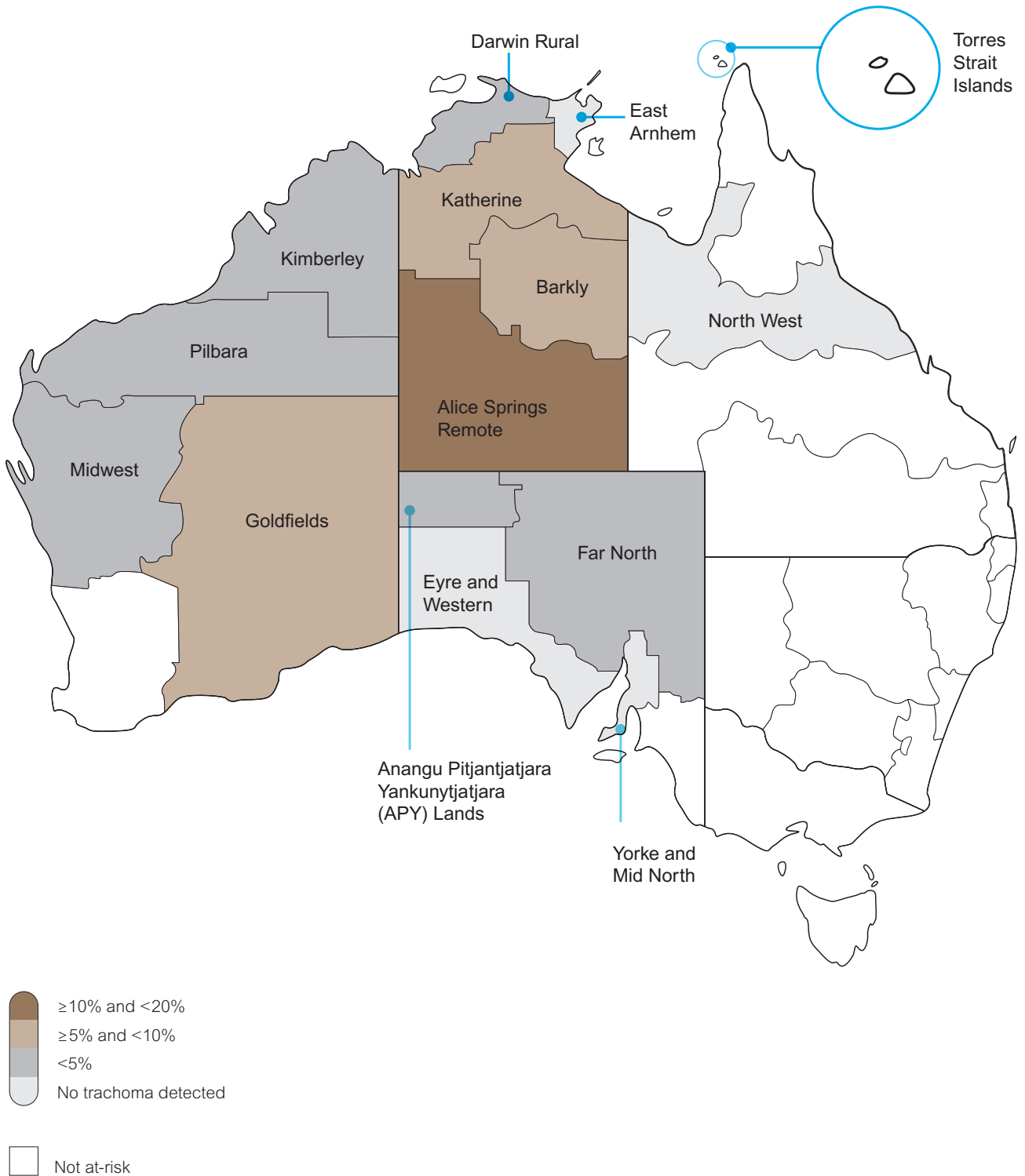
Despite program disruptions due to the COVID-19 pandemic, jurisdictions have continued to support and report health promotion activities that focus on improving infection control practices, particularly facial cleanliness and related measures in children. Targeted health promotion messaging to prevent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

The gap in reporting environmental health improvements at the community or regional level remains. The NTSCRG recognises that improvements in this area, and their monitoring, cannot be driven by the trachoma program alone and will require a concerted effort across relevant disease areas as well as sectors beyond health.

# National results

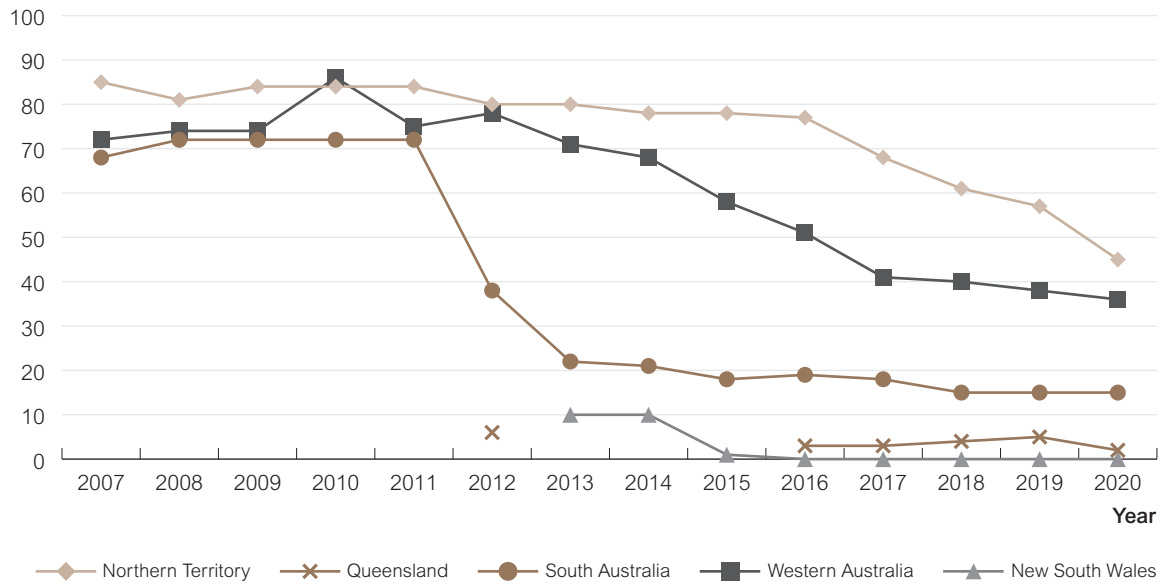
## Figures and Tables

Figure 1.1 Overall trachoma prevalence in children aged 5-9 years in all at-risk communities by region, Australia 2020\*



\* Most recent estimates carried forward in communities that did not screen in 2020.

**Figure 1.2** Number of communities designated at risk by jurisdiction, Australia 2007 – 2020



**Figure 1.3** Number of at-risk communities according to trachoma control strategy implemented by jurisdiction, Australia 2020

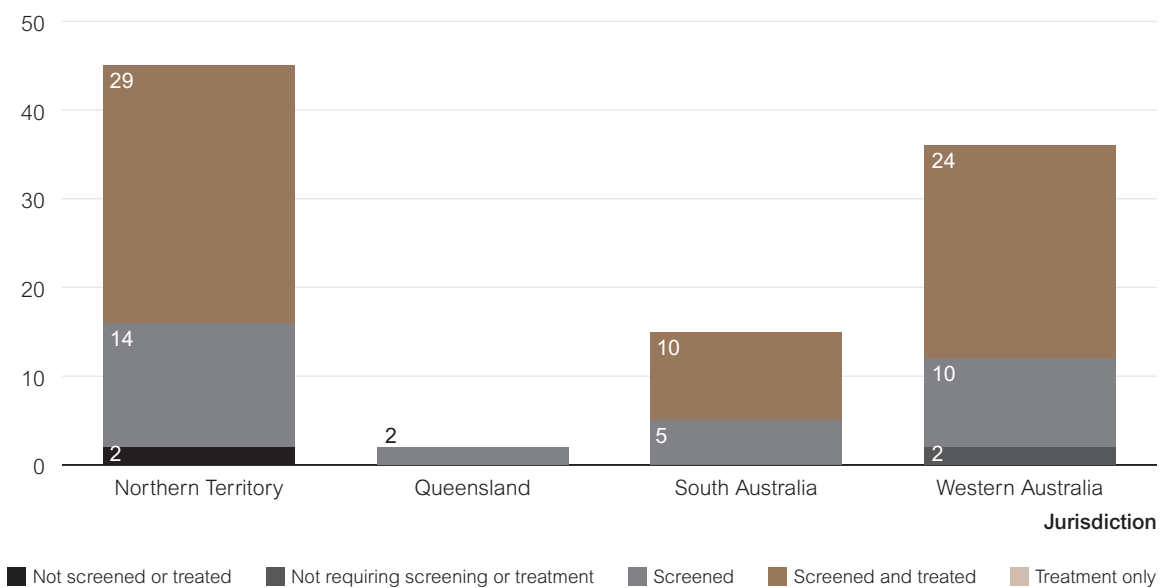


Figure 1.4 Population screening coverage in children aged 5-9 years in communities that were screened for trachoma by jurisdiction, Australia 2020

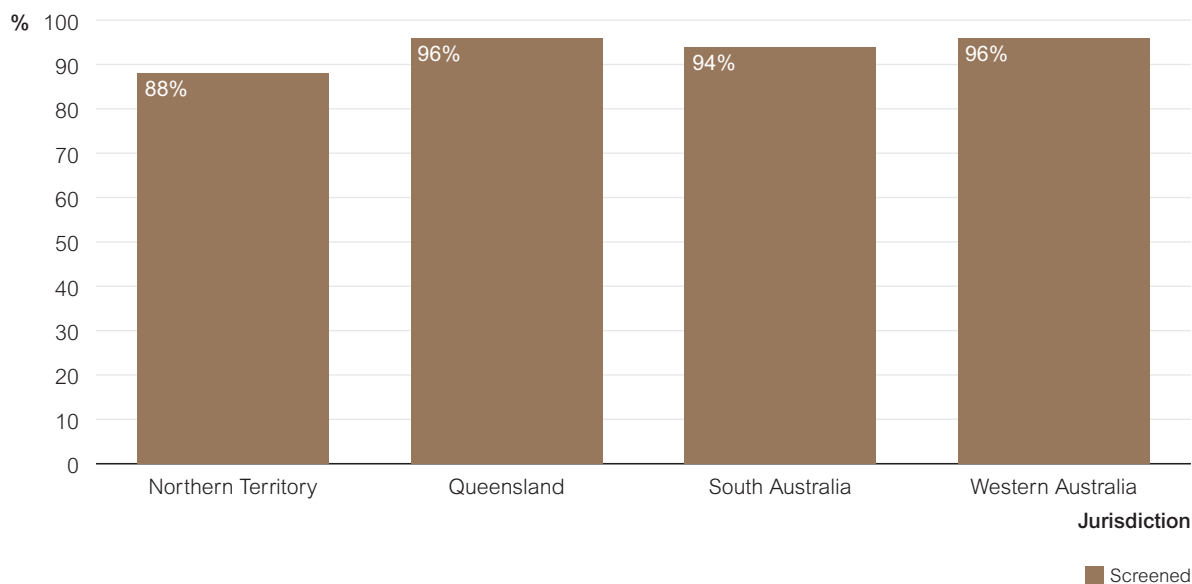


Figure 1.5 Proportion of screened children aged 5-9 years who had a clean face by jurisdiction, Australia 2007 – 2020

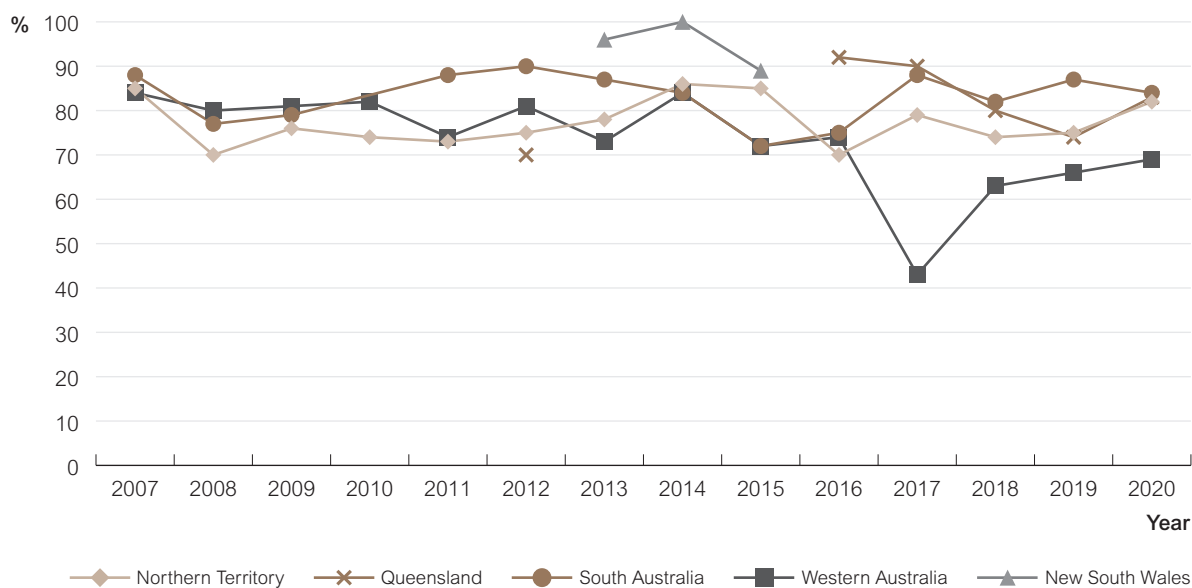


Figure 1.6a. Observed prevalence of clinical findings consistent with trachomatous inflammation - follicular among screened children aged 5-9 years by jurisdiction, Australia 2007 – 2020

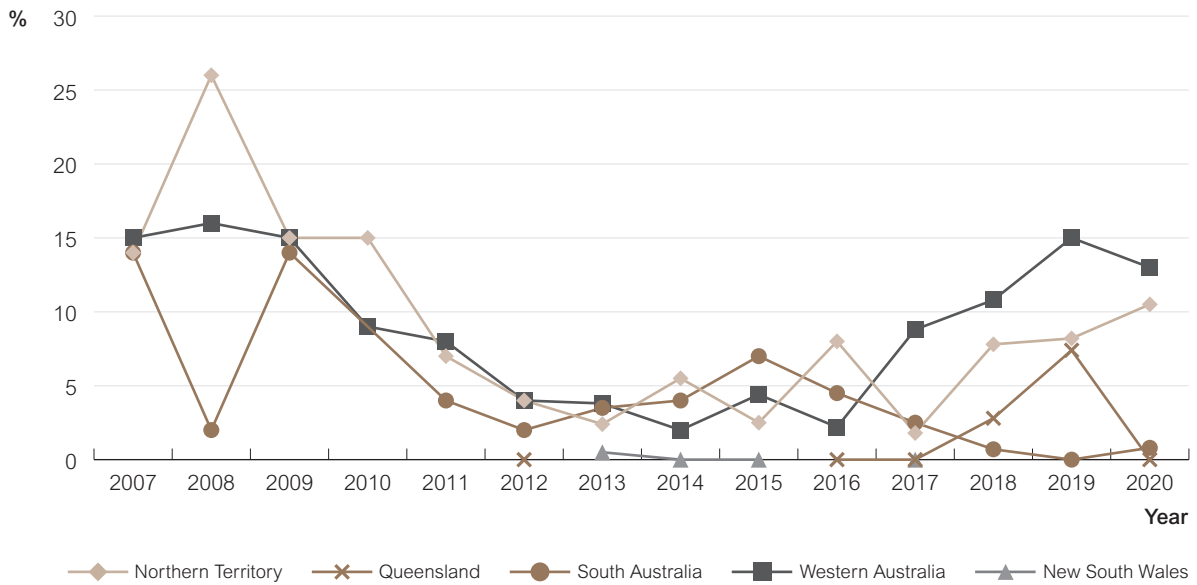


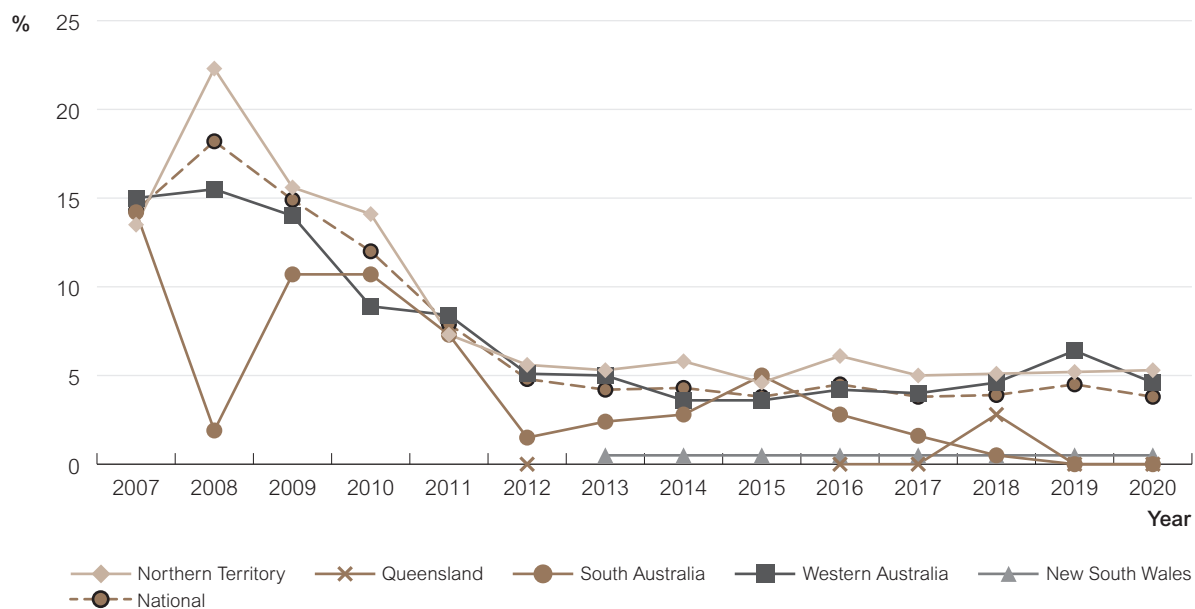
Figure 1.6b. Estimated prevalence of trachoma among children aged 5-9 years by jurisdiction, Australia\* 2007 – 2020



\* Most recent estimates carried forward in at-risk communities that did not screen in 2020.

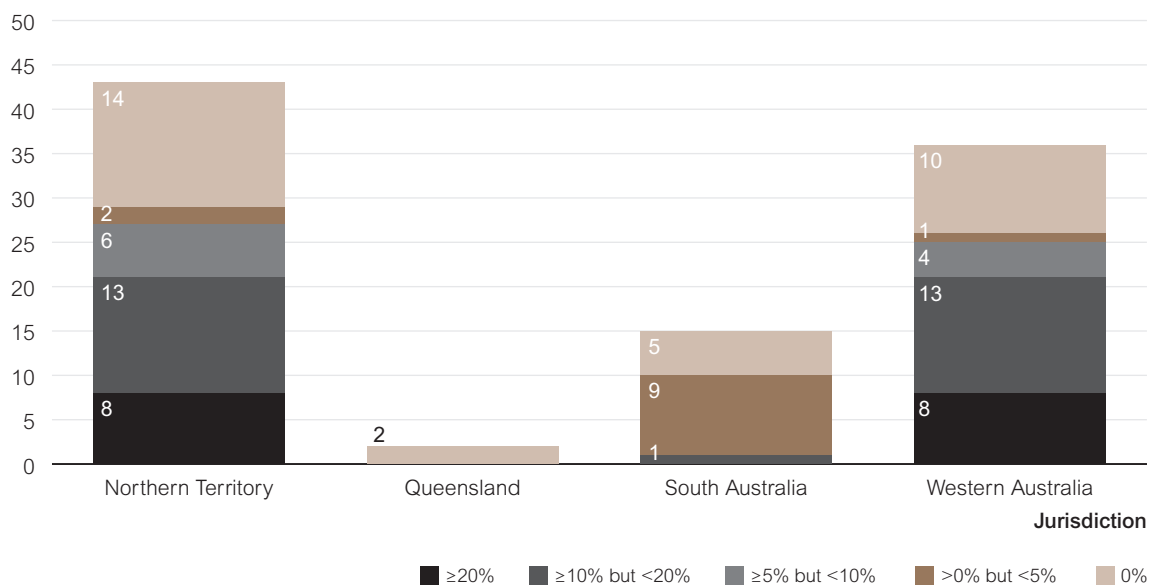


Figure 1.6c. Overall prevalence of trachoma among children aged 5-9 years by jurisdiction, Australia\* 2007 – 2020



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

Figure 1.7 Number of at-risk communities\* according to level of trachoma prevalence in children aged 5-9 years by jurisdiction, Australia 2020



\* Including at-risk communities that did and did not screen in 2020.

Figure 1.8 Proportion of at-risk communities with zero prevalence of trachoma by jurisdiction, Australia 2007 – 2020

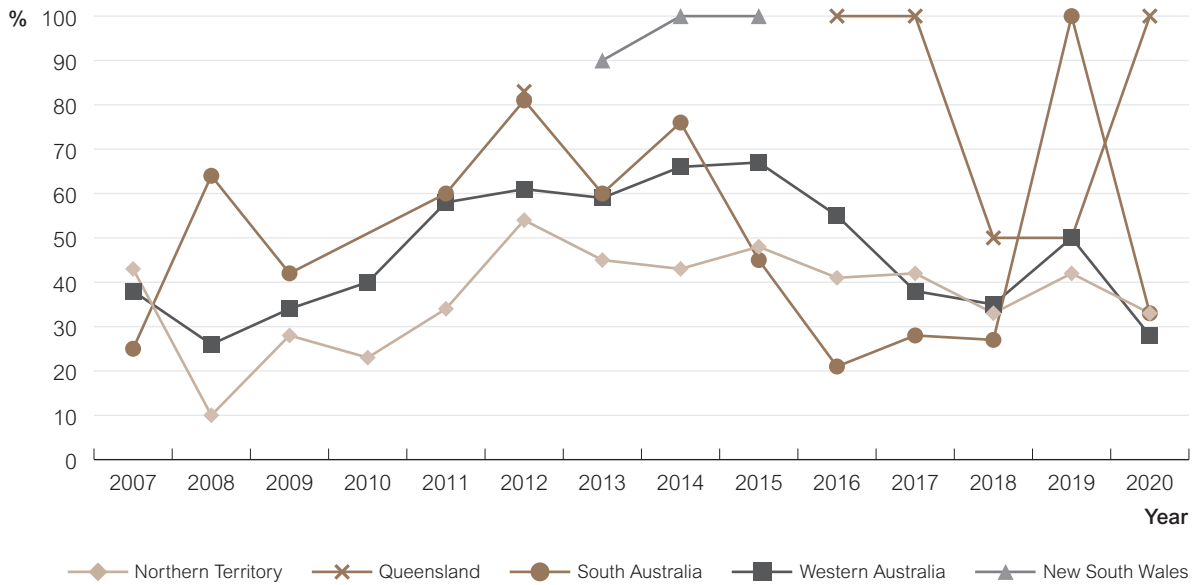
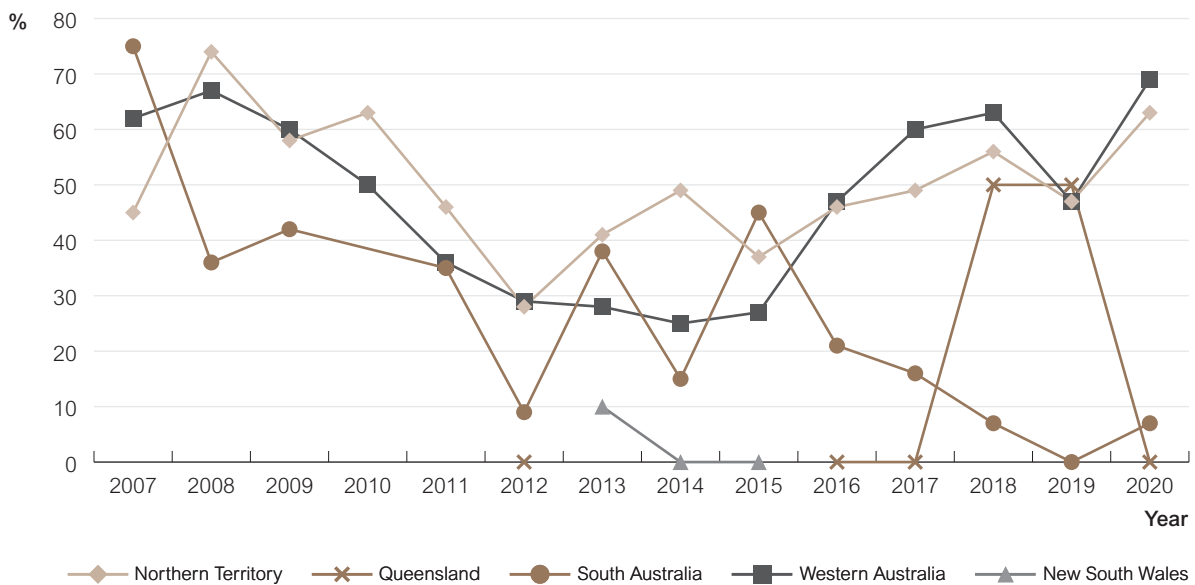
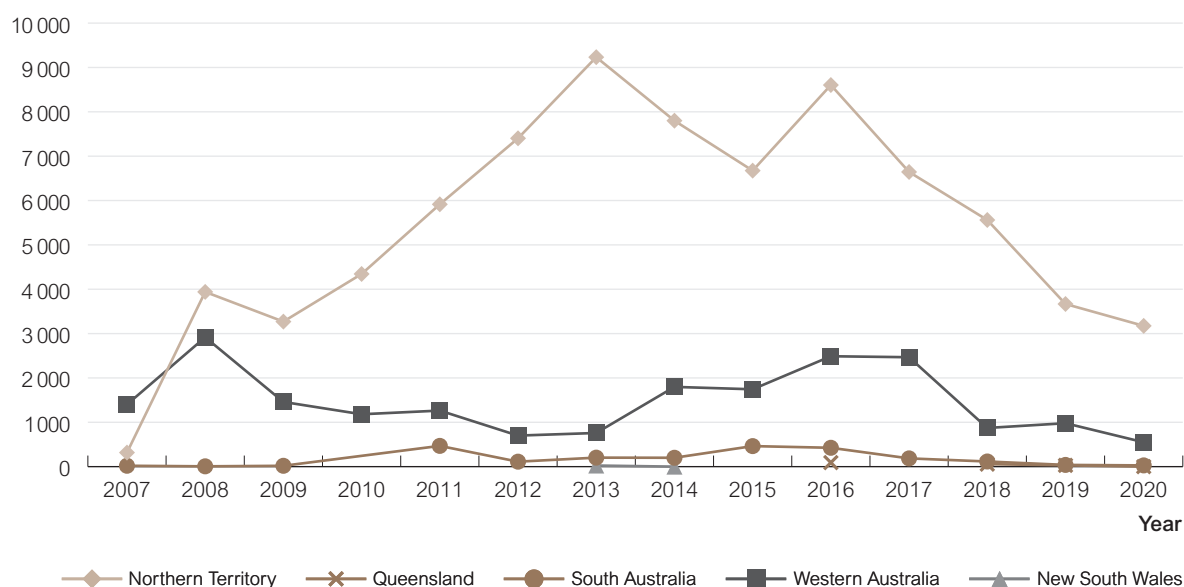


Figure 1.9 Proportion of at-risk communities with endemic (> 5%) levels of trachoma by jurisdiction, Australia 2007 – 2020



**Figure 1.10** Number of doses of azithromycin administered for the treatment of trachoma by jurisdiction, Australia 2007 – 2020



**Table 1.1** Trachoma control delivery in at-risk\* communities by jurisdiction, Australia 2020

Number of communities	Northern Territory	Queensland	South Australia	Western Australia	Total
At risk* (A)	45	2	15	36	98
Requiring screening for trachoma (B)	45	2	15	34	96
Screened for trachoma (C)	43	2	15	34	94
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)	43	2	15	34	94
Requiring neither screening nor treatment for trachoma (G=A-B-D)	0	0	0	2	2

\* As defined by each jurisdiction.

† As per Guidelines.

**Table 1.2 Trachoma screening coverage, trachoma prevalence and clean face prevalence in children aged 5-9 years by jurisdiction, Australia 2020**

	Northern Territory	Queensland*	South Australia	Western Australia	Total
Number of communities screened	43	2	15	34	94
Children examined for clean face	1259	134	392	468	2253
Children with clean face	995	111	329	331	1766
<i>Clean face prevalence (%)</i>	79	83	84	71	78
Estimated number† of Indigenous children in communities‡	1352	140	413	479	2384
Children screened for trachoma	1195	134	387	461	2177
<i>Trachoma screening coverage (%)</i>	88	96	94	96	91
Children with trachoma*	125	8	3	60	196
<i>Observed prevalence of trachoma (%)§</i>	10.5	6	0.8	13	9
<i>Estimated prevalence of trachoma (%)§</i>	5.3	0.0	0.4	4.8	4.3
<i>Overall prevalence of trachoma (%)§</i>	5.3	0.0	0.5	4.6	3.8

\* The QLD data in this table refer to children with upper eyelid follicles consistent with the definition of trachomatous inflammation — follicular. Children found to have this condition are further tested for the presence of *Chlamydia trachomatis* via ocular swab specimens. The findings of this test are presented in the QLD section.

† Jurisdictional estimate.

‡ Communities that were screened for trachoma in 2020.

§ Methods of calculating prevalence rates on page 17.

**Table 1.3** Number and proportion\* of at-risk communities according to level of trachoma prevalence in children aged 5-9 years, Australia 2007 – 2020

	2007		2008		2009		2010		2011		2012		2013		2014		2015		2016		2017		2018		2019		2020	
Communities at risk <sup>†</sup>	229		233		232		244		203		196		183		177		157		150		130		120		115		98	
Communities not screened <sup>‡</sup>	106		102		116		89		51		9		20		0		8		8		1		8		4		2	
Number of communities <sup>§</sup>	123		121		116		152		152		187		163		177		149		142		129		112		111		96	
≥20%	32	26%	54	45%	26	22%	44	29%	21	14%	15	8%	14	9%	17	10%	16	11%	15	11%	17	13%	13	12%	24	22%	16	17%
≥10% but <20%	22	18%	14	12%	13	11%	23	15%	20	13%	13	7%	20	12%	36	20%	27	18%	29	20%	30	23%	34	30%	13	12%	27	28%
≥5% but <10%	11	9%	14	12%	12	10%	15	10%	20	13%	20	11%	21	13%	12	7%	16	11%	12	8%	13	10%	16	14%	8	7%	10	10%
>0% but <5%	7	6%	12	10%	24	21%	16	11%	19	13%	24	13%	17	10%	13	7%	16	11%	21	15%	19	15%	15	13%	8	7%	12	13%
0%	51	41%	27	22%	41	35%	54	36%	72	47%	115	61%	91	56%	99	56%	74	50%	65	46%	50	39%	34	30%	58	52%	31	32%

\* Based on current or most recent year.

† As defined annually by each jurisdiction.

‡ Or treated as required per Guidelines.

§ Screened or receiving ongoing annual treatment as per Guidelines.

**Table 1.4** Treatment strategies by jurisdiction, Australia 2020

Number of communities	Northern Territory	Queensland	South Australia	Western Australia	Total
Required treatment for trachoma	29	0	10	24	63
Treated for trachoma	29	0	10	24	63
Screened and treated	29	0	10	24	63
Received treatment only	0	0	0	0	0
Received 6-monthly treatment	0	0	0	0	0
Did not require treatment	14	2	5	11	32
Treated trachoma and households	14	0	10	23	47
Community-wide treatment	15	0	0	1	16
Not treated according to CDNA Guidelines	0	0	0	0	0

CDNA: Communicable Diseases Network Australia.

**Table 1.5 Trachoma treatment coverage, Australia 2020**

Age group (years)	Northern Territory					Queensland					South Australia					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	0-4	5-9	10-14	15+	All	0-4	5-9	10-14	15+	All
Requiring treatment for trachoma	2	125	10		137	N/A	N/A	N/A		N/A	0	3	1	0	4	0	60	4		64	2	188	15		205
Received treatment for trachoma	2	124	10		136						0	3	1	0	4	0	58	4		62	2	185	15		202
Received treatment for trachoma (%)	100	99	100		99						100	100	100		100		97	100		97	100	98	100		99
Estimated community members* requiring treatment	509	471	490	2916	4386						3	4	3	17	27	76	98	78	468	720	588	573	571	3401	5133
Number of community members* who received treatment	353	378	341	1966	3038						3	4	3	14	24	54	98	64	272	488	410	480	408	2252	3550
Estimated community members who received treatment (%)	69	80	70	67	69						100	100	100	82	89	71	100	82	58	68	70	84	71	66	69
Number of community members that declined treatment	42	21	18	202	283						0	0	0	0	0	4	0	3	9	16	46	21	21	211	299
Total number of doses of azithromycin delivered	355	502	351	1966	3174						3	7	4	14	28	54	156	68	272	550	412	665	423	2252	3752
Estimated overall treatment coverage (%)	69	84	70	67	70						100	100	100	82	90	71	99	83	58	70	70	87	72	66	70

\* Estimated as per Guidelines.



**Table 1.6 Trachoma-related trichiasis screening coverage, prevalence and treatment among Indigenous adults, Australia 2020**

	Northern Territory		Queensland		South Australia		Western Australia		Total		
<b>Number of communities screened for trichiasis</b>	<b>60</b>		<b>2</b>		<b>15</b>		<b>36</b>		<b>113</b>		
<b>Age group (years)</b>	<b>15-39</b>	<b>40+</b>	<b>15-39</b>	<b>40+</b>	<b>15-39</b>	<b>40+</b>	<b>15-39</b>	<b>40+</b>	<b>15-39</b>	<b>40+</b>	<b>15+</b>
Estimated population in region*	12 723	7 298	556	304	3 132	2 192	596	9 360	17 007	19 154	36 161
Number of adults examined†	5 016	4 176	4	5	618	656	239	3 770	5 877	8 607	14 484
Number of adults with trichiasis	0	1	0	0	0	2	1	11	1	14	15
Proportion of adults with trichiasis (%)	0.00	0.02	0.00	0.00	0.00	0.30	0.42	0.29	0.02	0.16	0.10
Surgery in past 12 months‡	0	6	0	0	0	0	0	1	0	7	7

\* Population estimate limited to trachoma endemic regions and does not consider changing endemic regions over time and transiency between regions.

† 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 1.7 Trachoma-related trichiasis surgery data collected from MBS item 42588. Australia 2020**

	Northern Territory		Queensland		South Australia		Western Australia		Total				
<b>Age group (years)</b>	<b>15-39</b>	<b>40+</b>	<b>15-39</b>	<b>40+</b>	<b>15-39</b>	<b>40+</b>	<b>15-39</b>	<b>40+</b>	<b>15-39</b>	<b>40+</b>	<b>15+</b>		
Surgery in past 12 months	1	5	No data	No data	1	5	2	8	1	No data	5	18	23

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# Jurisdictional-specific results

## Northern Territory results

### Trachoma program coverage

- In 2020, the NT identified 45 communities across 5 regions as being at risk of trachoma (Table 2.1, Figure 2.2).
- Of these at-risk communities, 100% required screening or treatment for trachoma according to the current Guidelines (Table 2.1, Figure 2.3).
- Of the communities that required screening and treatment, 96% (43/45) received the required service (Table 2.1).
- Logistical issues in the Alice Springs Remote region led to 2 communities that required screening not receiving these services. These communities were scheduled to be screened in 2021.

### Screening coverage

- In 2020 the NT identified 45 communities in the 5 regions requiring screening for trachoma with 43 of those were screened (Table 2.1).
- The proportion of children aged 5-9 years screened in the 43 communities was 88%, ranging from 86% in the Barkly region to 96% in the Darwin Rural region (Table 2.2, Figure 2.4).

### Facial cleanliness

- Clean face prevalence was assessed in all communities that were screened in 2020.
- The overall prevalence of clean faces among children aged 5-9 years in the communities assessed was 79%, ranging from 68% in the Katherine region, to 100% in the East Arnhem region (Table 2.2, Figure 2.5).

### Trachoma prevalence

- The observed prevalence of trachoma in those aged 5-9 years in 43 communities that were screened in 2020 was 10.5% (125/1195). Prevalence ranged from 0% in Darwin Rural and East Arnhem regions to 16.7% in the Katherine region (Table 2.2, Figure 2.6a).
- The overall prevalence of trachoma in those aged 5-9 years was 5.3%, ranging from 0% in East Arnhem to 12.7% in Alice Springs Remote region (Table 2.2, Figure 2.6c).
- No trachoma was reported in 33% (14/43) of the screened at-risk communities (Table 2.3).
- Endemic levels of trachoma ( $\geq 5\%$ ) were reported in 63% (27/43) of the screened at-risk communities (Table 2.3).
- Hyperendemic levels of trachoma ( $\geq 20\%$ ) were reported in 19% (8/43) of the at-risk communities (Table 2.3).

### Treatment delivery and coverage

- Trachoma treatment strategies were applied in 29 communities (Table 2.4).
- Treatment was delivered to trachoma cases and household contacts in 14 communities, and community wide in 15 communities 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 69% with 3174 doses of azithromycin delivered (Table 2.5, Figure 2.8).
- In 2020 the NT recorded 283 people who declined treatment with 130 in the Alice Springs Remote region, 86 in the Barkly region and 67 in the Katherine region (Table 2.5).

### Trichiasis

- Reporting for trichiasis screening was available for 60 communities (Table 2.6).
- Overall, 9192 adults aged 15 years and older were reported to be screened (Table 2.6).
- The prevalence of trichiasis in adults aged 15 years and over was 0.01%, and 0.02% in adults aged 40 years and over (Table 2.6).
- Surgery for trichiasis was reported to be undertaken for 6 adults aged 40 years or over (Table 2.6).

## Health promotion and environmental health

Trachoma-related health promotion activities occurred in 45 communities in the Alice Springs Remote, Barkly, Darwin Rural and Katherine regions, with many service providers contributing. Table 2.7 provides a summary of the type and number of activities conducted.

Due to the COVID-19 pandemic, face-to-face health promotion and community engagement activities largely ceased as biosecurity measures were enacted to keep remote communities safe. Regions were effectively shut down and all non-essential visits stopped for several months.

NT Trachoma Program staff were deployed to pandemic-related public health activities from March-June 2020, and intermittently since then, further limiting our trachoma-related activities. On the positive side, the pandemic provided the impetus for emphasising the hygiene aspects of health promotion activities in the broader context of reducing the level of childhood infections and their impact. Communication continued to focus on the Milpa character with the *Clean Faces, Strong Eyes* message integrated into *Milpa's Six Steps to Stop Germs*. A summary of partnerships and working groups in trachoma-related health promotion in the NT is provided at the end of this section.

## Health promotion

During screening and treatment visits, clinical staff and Indigenous Eye Health (IEH), University of Melbourne staff made health promotion presentations to school groups and other stakeholders in community. Life Education NT partnered with Katherine West Health Board to run interactive group sessions with school groups using the characters Healthy Harold and Milpa to promote hygiene and healthy living throughout the communities served by the Health Board. The NT Trachoma Program conducted interactive group sessions during screening and treatment visits with school groups in Central Australia and Barkly regions, including visits by Milpa and presentations on hygiene, school-based activity such as colouring-in activities with children, and in-service training sessions with clinic and school staff.

### **Social marketing and communications**

From January to November there were 106 Facebook posts on the Facebook Clean Faces Strong Eyes site, with a reach of 55 944 people. Several 4WD vehicles used by IEH and NT Public Health staff in Central Australia have Milpa branding displayed prominently to provide a mobile link to other trachoma-related health promotion including posters displayed in clinics and schools, music and community service announcements (CSAs). New communication initiatives in 2020 include:

- A Milpa CSA developed in collaboration with ICTV and Central Australian Aboriginal Congress and broadcast locally to highlight the need for good hygiene and distancing to support COVID-19 messaging.
- The new Drum Atweme (Aboriginal Drum group of young people from town camps in Central Australia) *Milpa's Six Steps to Stop Germs* CSA.
- *No Germs on Me* CSAs to support hand washing messages.
- Sponsorship of a local TV broadcast of the remote football finals, through Milpa CSAs.
- An article in the University of Melbourne's publication *Pursuit* about the importance of provision of soap in schools.

### **Distribution of soap, sanitiser and other hygiene-related items**

In schools, the Northern Territory Department of Education provided additional soap and hand sanitiser and increased the frequency of cleaning during 2020. IEH staff coordinated the distribution of 25 320 bars of recycled soap donated by SoapAid in April 2020, along with *Milpa's Six Steps to Stop Germs* in health care packages given out by Aboriginal-controlled health and welfare organisations, schools and local government services in Central Australia. Rotary EndTrachoma assisted with distribution of hygiene products for schools in some communities, as described at <https://www.endtrachoma2020.org.au/projects>.

### ***Sporting and community events***

During NAIDOC week in July, IEH had a stall with trachoma and eye health promotion resources to promote good hygiene at the rugby league Deadly Cup Carnival in Darwin with a strong focus on health and wellbeing. IEH and NT Trachoma Program staff attended the Melbourne vs St Kilda AFL match on 29 August in Alice Springs and distributed posters and stickers to children and families.

### ***Structural initiatives***

IEH collaborated with Outback Stores (organisation providing retail management services to remote stores) on a project to promote hygiene and cleaning products in their stores, through increased visibility and lower prices. This initiative stemmed from a submission IEH prepared for the House of Representatives Standing Committee on Indigenous Affairs inquiry into food pricing and remote stores. IEH also worked with NT providers under the Community Development Program to design and implement a program aimed at engaging with adults on good hygiene and clean faces messages and raising awareness about trachoma through an interactive yarnning session. The first of these activities took place in 3 communities in February, when the program paused due to COVID-19.

## **Environmental Health**

### ***Water trailers and low-cost wash stations***

Recognising the need for enhanced hand hygiene under the COVID-19 response, a collaboration was established in 2020 between the regional councils (MacDonnell and Barkly), the NT Department of Health, Rotary, the Alice Springs Correctional Centre, the National Indigenous Advancement Agency and Community Development Program providers. The aim was to rapidly provide 35 communities in Central Australia and Barkly with wash and hygiene infrastructure and consistent hand hygiene and general hygiene messaging. The project aims to provide water trailer wash stations, low-cost temporary wash stations and soap-hygiene education. During 2020, 4 new water trailers were built and prepared for gifting to the Regional Councils; 11 prototype low-cost temporary wash stations were built by Alice Springs Correctional Centre inmates, and a health promotion strategy has been developed to support the project. In addition, Katherine West Health Board and Rotary launched an interactive water trailer with games, music and water sprays for trachoma and hygiene health promotion in the Katherine region in September.

### ***E-Space Project***

This project used an all-of-community approach to prevent childhood hygiene-related infections, combining standardised hygiene messaging with installation of health hardware such as wash stations in 5 services across the community. Main partners were NT Environmental health, regional councils and Rotary EndTrachoma 2020. The project was completed in Tiijikala in 2020, despite delays occurring in 2020 due to COVID-19.

### ***Health hardware maintenance***

IEH worked with ICTV to develop an animation promoting the use of the Safe Bathroom Checklist to remind people to report housing repairs and maintenance issues with their local housing authority. This animation was broadcast on ICTV and Imparja TV.

### ***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); the Aboriginal Medical Services Association Northern Territory (AMSANT); Department of Housing and Community Development; the Families as First Teachers group in the Department of Education; Fred Hollows Foundation; and the University of Melbourne's IEH and the One Disease organisation.

**Trachoma 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 Government Departments of Health, Education, Housing and Infrastructure, 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 provided additional soap and hand sanitiser to schools and increased the frequency of cleaning in schools due to COVID-19. This group coordinates efforts across schools in terms of links to curriculum, hygiene routines in schools and Families and First teachers programs and supports the screening and treatment visits to schools.



## 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 2020

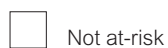
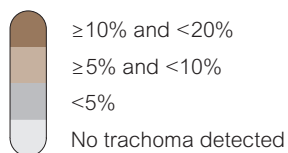


Figure 2.2 Number of at-risk communities by region, Northern Territory 2007 – 2020

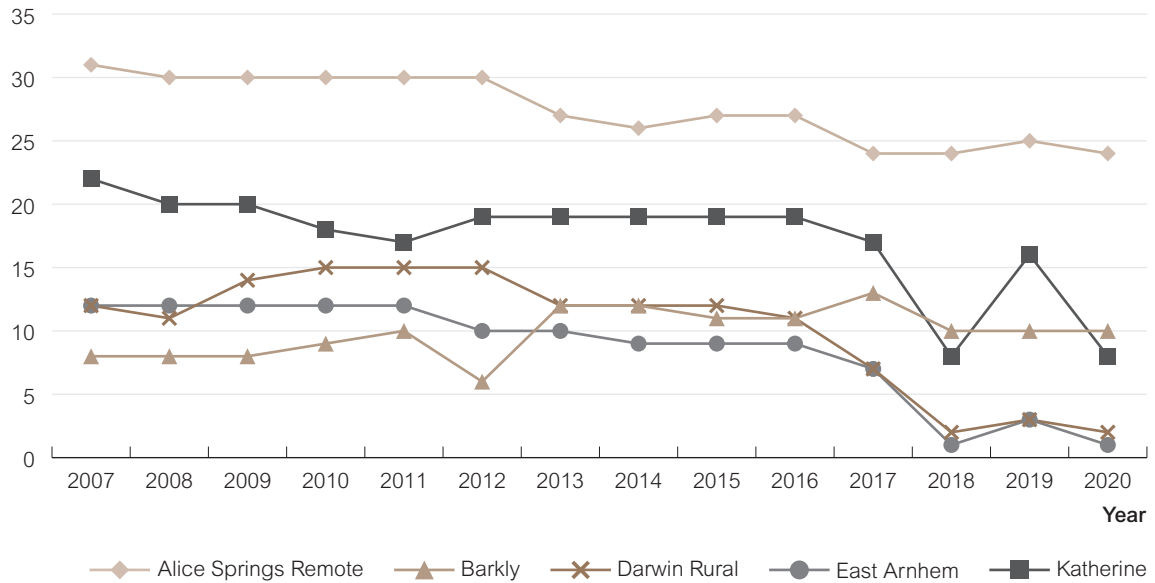
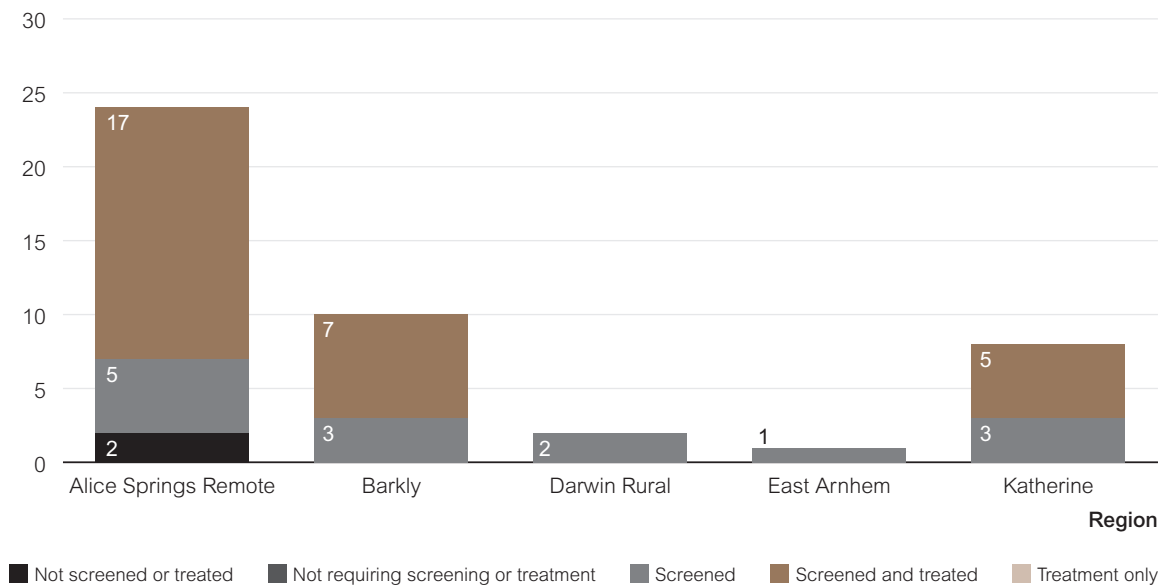
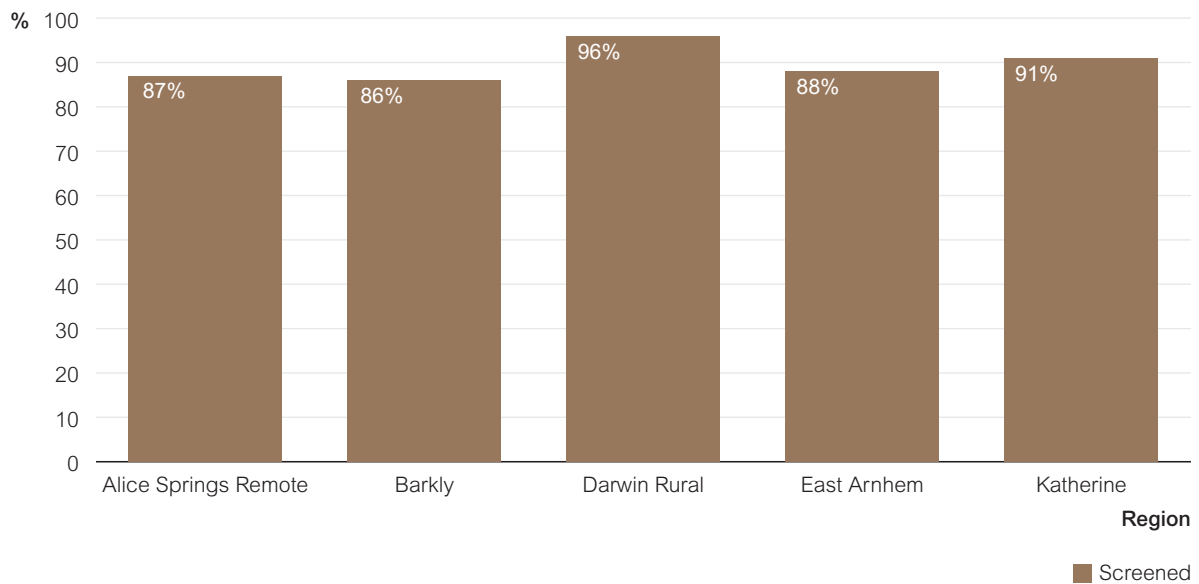


Figure 2.3 Number of at-risk communities by region and trachoma control strategy, Northern Territory 2020



**Figure 2.4** Population screening coverage of children aged 5-9 years in communities that required screening for trachoma by region, Northern Territory 2020



**Figure 2.5** Proportion of screened children aged 5-9 years who had a clean face by region, Northern Territory 2007 – 2020

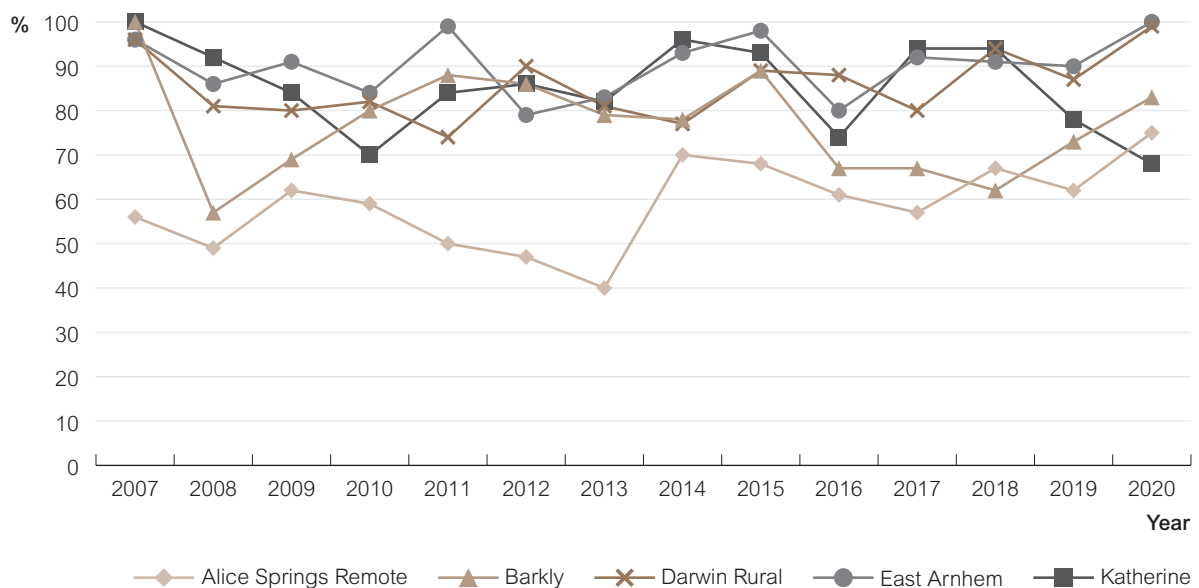


Figure 2.6a. Observed prevalence of clinical findings consistent with trichomatous inflammation - follicular among children aged 5-9 years in communities that were screened by region, Northern Territory 2007 – 2020

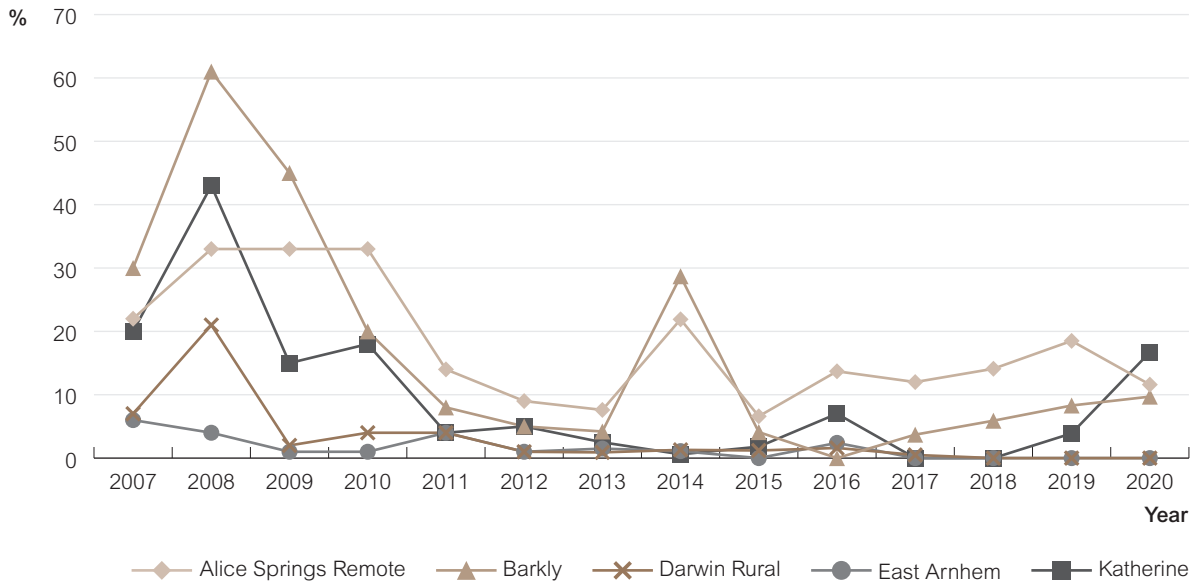
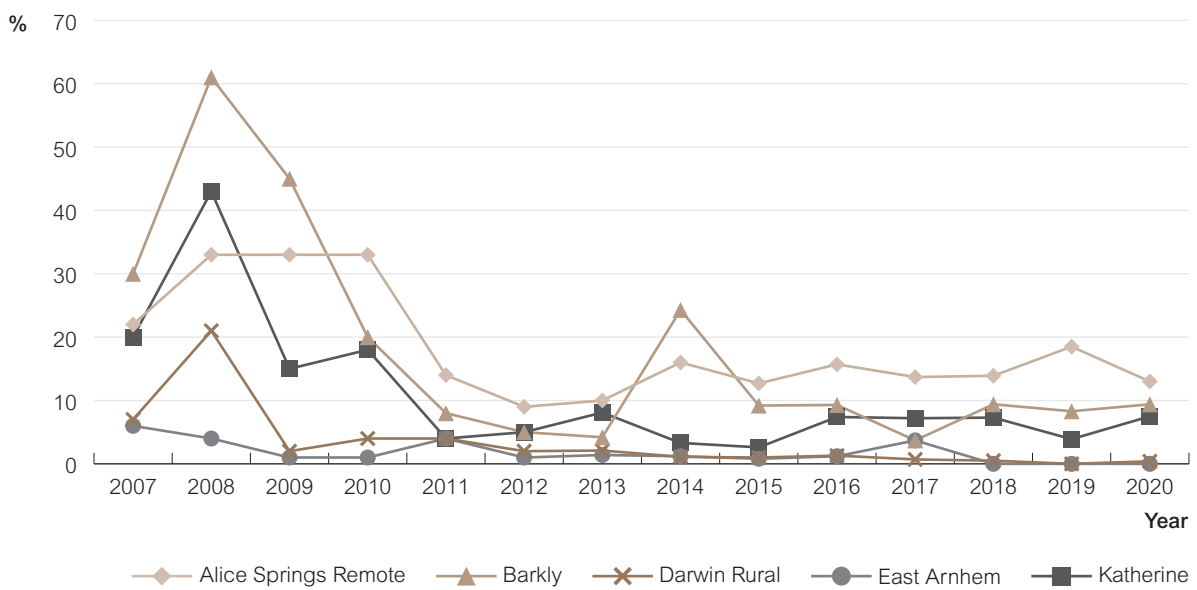
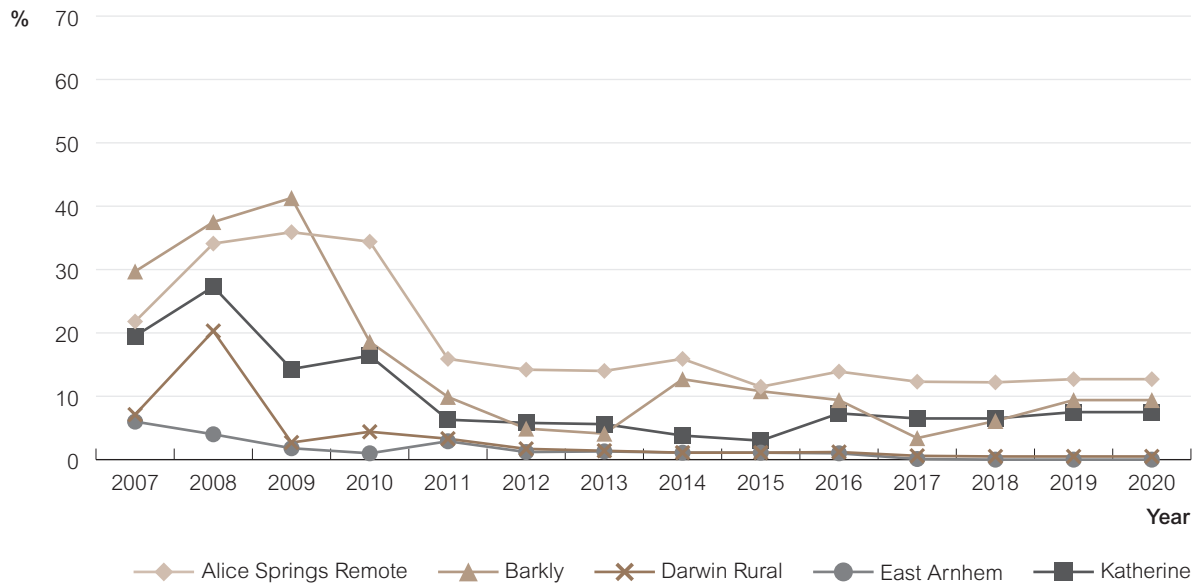


Figure 2.6b. Estimated prevalence of trachoma among children aged 5-9 years in all at-risk communities\* by region, Northern Territory 2007 – 2020



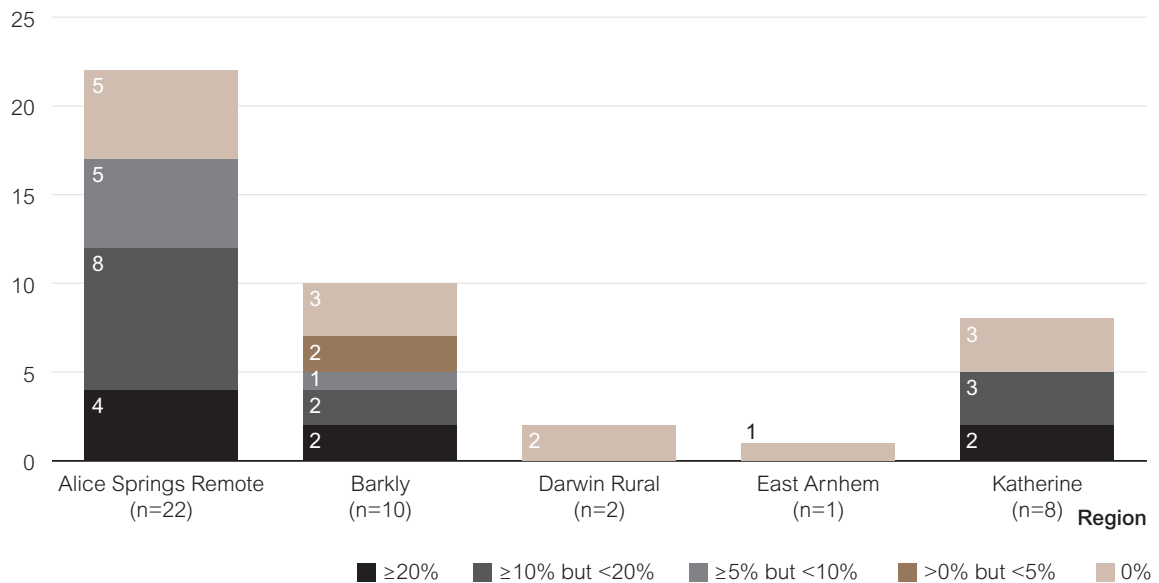
\* Most recent estimates carried forward in at-risk communities that did not screen in 2020.

Figure 2.6c. Overall prevalence of trachoma\* among children aged 5-9 years by region, Northern Territory 2007 – 2020



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

Figure 2.7 Number of at-risk communities\* according to level of trachoma prevalence in children aged 5-9 years by region, Northern Territory 2020



\* Most recent estimates carried forward in at-risk communities that did not screen in 2020.

Figure 2.8 Number of doses of azithromycin administered for the treatment of trachoma by region, Northern Territory 2007 – 2020

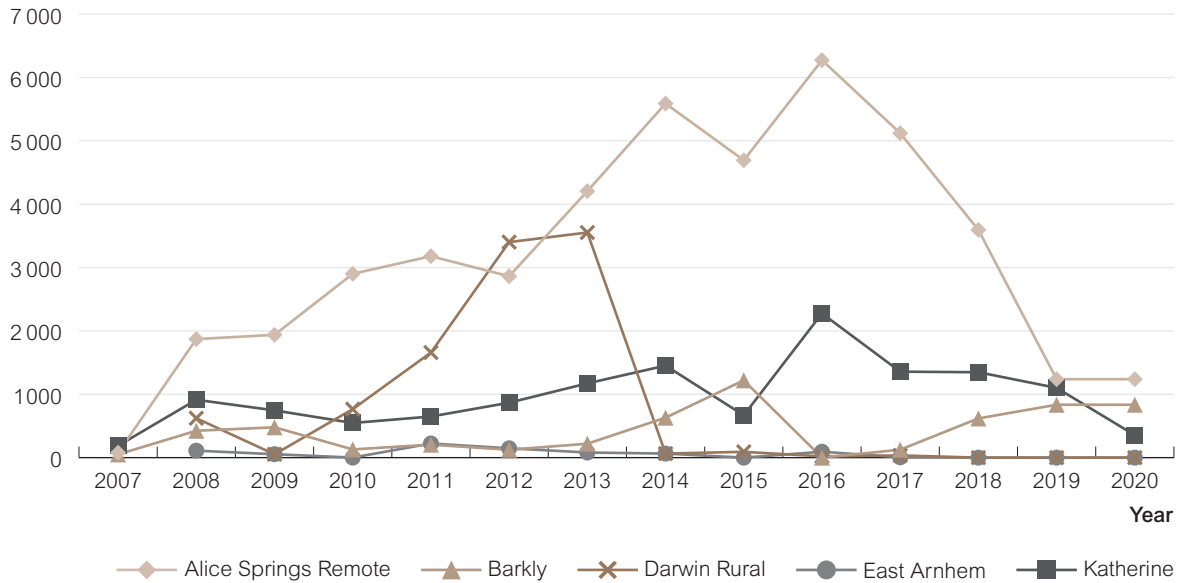


Table 2.1 Trachoma control delivery in at-risk\* communities by region, Northern Territory 2020

Number of communities	Alice Springs Remote	Barkly	Darwin Rural	East Arnhem	Katherine	Total
At risk* (A)	24	10	2	1	8	45
Requiring screening for trachoma (B)	24	10	2	1	8	45
Screened for trachoma (C)	22	10	2	1	8	43
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	10	2	1	8	43
Requiring neither screening nor treatment for trachoma (G=A-B-D)	0	0	0	0	0	0

\* As defined by each jurisdiction.

† As per Guidelines.



Table 2.2 Trachoma screening coverage, trachoma prevalence and clean face prevalence by region, Northern Territory 2020

	Alice Springs Remote				Barkly				Darwin Rural				East Arnhem				Katherine				Total			
Number of communities screened	22				10				2				1				8				43			
Age group (years)	0-4	5-9	10-14	0-14	0-4	5-9	10-14	0-14	0-4	5-9	10-14	0-14	0-4	5-9	10-14	0-14	0-4	5-9	10-14	0-14	0-4	5-9	10-14	0-14
Children examined for clean face	26	<b>493</b>	75	594	17	<b>331</b>	29	377	0	<b>75</b>	5	80	1	<b>101</b>	4	106	73	<b>259</b>	24	356	117	<b>1259</b>	137	1513
Children with clean face	13	<b>368</b>	66	447	8	<b>275</b>	29	312	0	<b>74</b>	5	79	1	<b>101</b>	4	106	50	<b>177</b>	21	248	72	<b>995</b>	125	1192
Clean face prevalence (%)	50	<b>75</b>	88	75	47	<b>83</b>	100	83	0	<b>99</b>	100	99	100	<b>100</b>	100	100	68	<b>68</b>	88	70	62	<b>79</b>	91	79
Estimated number* of Indigenous children in communities†	474	<b>524</b>	660	1658	180	<b>368</b>	193	741	66	<b>76</b>	74	216	111	<b>114</b>	155	380	261	<b>270</b>	266	797	1092	<b>1352</b>	1348	3792
Children screened for trachoma	10	<b>458</b>	64	532	1	<b>318</b>	22	341	0	<b>73</b>	5	78	1	<b>100</b>	4	105	3	<b>246</b>	6	255	15	<b>1195</b>	101	1311
Trachoma screening coverage (%)	2	<b>87</b>	10	32	1	<b>86</b>	11	46	0	<b>96</b>	7	36	1	<b>88</b>	3	28	1	<b>91</b>	2	32	1	<b>88</b>	7	35
Children with trachoma‡	2	<b>53</b>	6	61	0	<b>31</b>	2	33	0	<b>0</b>	0	0	0	<b>0</b>	0	0	0	<b>41</b>	2	43	2	<b>125</b>	10	137
Observed prevalence of trachoma‡ (%)	20.0	<b>11.6</b>	9.4	11.5	0.0	<b>9.7</b>	9.1	9.7	0.0	<b>0.0</b>	0.0	0.0	0.0	<b>0.0</b>	0.0	0.0	0.0	<b>16.7</b>	33.3	16.1	13.3	<b>10.5</b>	9.9	10.5
Estimated prevalence of trachoma‡ (%)		<b>13.9</b>				<b>9.4</b>				<b>0.4</b>				<b>0</b>				<b>7.5</b>				<b>5.3</b>		
Overall prevalence of trachoma‡ (%)		<b>12.7</b>				<b>9.4</b>				<b>0.5</b>				<b>0</b>				<b>7.5</b>				<b>5.3</b>		

\* Jurisdiction provides estimate for children aged 5-9 years only; number of children in communities aged 0-4 and 10-14 years are based on convenience sampling.

† In communities that were screened for trachoma in 2020.

‡ Methods of calculating prevalence rates on page 17.

**Table 2.3** Number and proportion of at-risk communities according to level of trachoma prevalence\* in children aged 5-9 years, Northern Territory 2007 – 2020

	2007		2008		2009		2010		2011		2012		2013		2014		2015		2016		2017		2018		2019		2020	
Communities at-risk†	89		87		86		86		86		82		80		78		78		77		68		61		57		45	
Communities not screened‡	25		25		33		21		19		4		12		0		8		8		1		8		2		2	
Number of communities§	60		43		53		64		65		76		68		78		70		69		67		53		55		43	
≥20%	12	20%	25	58%	19	36%	27	42%	9	14%	5	7%	5	7%	14	18%	11	16%	11	16%	10	15%	7	13%	12	22%	8	19%
≥10% but <20%	8	13%	6	14%	8	15%	4	6%	9	14%	9	12%	14	21%	14	18%	11	16%	13	19%	12	18%	21	40%	10	18%	13	30%
≥5% but <10%	4	7%	4	9%	3	6%	9	14%	11	17%	9	12%	9	13%	10	13%	7	10%	8	12%	9	13%	7	13%	4	7%	6	14%
>0% but <5%	7	12%	4	9%	9	17%	9	14%	14	22%	13	17%	9	13%	6	8%	10	14%	9	13%	8	12%	4	8%	6	11%	2	5%
0%	29	48%	4	9%	14	26%	15	23%	22	34%	40	53%	31	46%	34	44%	31	44%	28	41%	28	42%	14	26%	23	42%	14	33%

\* Based on current or most recent year.

† As defined annually by each jurisdiction.

‡ Or treated as required per Guidelines.

§ Screened or receiving ongoing annual treatment as per Guidelines.

**Table 2.4** Treatment strategies by region, Northern Territory 2020

	Alice Springs Remote	Barkly	Darwin Rural	East Arnhem	Katherine	Total
Required treatment for trachoma	17	7	0	0	5	29
Treated for trachoma*	17	7	0	0	5	29
Screened and treated	17	7	0	0	5	29
Received treatment only	0	0	0	0	0	0
Received 6-monthly treatment	0	0	0	0	0	0
Did not require treatment	5	3	2	1	3	14
Treated trachoma and households	10	3	0	0	1	14
Community-wide treatment	7	4	0	0	4	15
Not treated according to CDNA Guidelines*	0	0	0	0	0	0

\* One community in the Alice Springs Remote region did not receive the treatment which was required by the CDNA Guidelines due to time constraints.

CDNA: Communicable Diseases Network Australia.

Table 2.5 Trachoma treatment coverage by region,\* Northern Territory 2020

	Alice Springs Remote					Barkly					Darwin Rural					East Arnhem					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	0-4	5-9	10-14	15+	All	0-4	5-9	10-14	15+	All	
Requiring treatment for trachoma	2	53	6		61	0	31	2		33	0	0	0		0	0	0	0		0	0	0	41	2		43	2	125	10		137
Received treatment for trachoma	2	52	6		60	0	31	2		33	0	0	0		0	0	0	0		0	0	0	41	2		43	2	124	10		136
Received treatment for trachoma (%)	100	98	100		98	N/A	100	100		100	N/A	N/A	N/A		N/A	N/A	N/A	N/A		N/A	N/A	N/A	100	100		100	100	99	100		99
Estimated community members* requiring treatment	217	199	234	1440	2090	138	137	127	643	1045	0	0	0	0	0	0	0	0	0	0	0	154	135	129	833	1251	509	471	490	2916	4386
Number of community members* who received treatment	128	137	140	773	1178	97	111	90	504	802	0	0	0	0	0	0	0	0	0	0	0	128	130	111	689	1058	353	378	341	1966	3038
<i>Estimated community members who received treatment (%)</i>	59	69	60	54	56	70	81	71	78	77	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	83	96	86	83	85	69	80	70	67	69
Number of community members who declined treatment	16	12	6	96	130	16	8	9	53	86	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10	1	3	53	67	42	21	18	202	283
Total number of doses of azithromycin delivered	130	189	146	773	1238	97	142	92	504	835	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	128	171	113	689	1101	355	502	351	1966	3174
<i>Estimated overall treatment coverage (%)</i>	59	75	61	54	58	70	85	71	78	77	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	83	97	86	83	85	69	84	70	67	70

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

Table 2.6 Trichiasis screening coverage, prevalence and treatment among Indigenous adults by region, Northern Territory 2020

	Alice Springs Remote		Barkly		Darwin Rural		East Arnhem		Katherine		Total		
<b>Number of communities screened for trichiasis</b>	19		5		15		10		11		60		
<b>Age group (years)</b>	<b>15-39</b>	<b>40+</b>	<b>15-39</b>	<b>40+</b>	<b>15-39</b>	<b>40+</b>	<b>15-39</b>	<b>40+</b>	<b>15-39</b>	<b>40+</b>	<b>15-39</b>	<b>40+</b>	<b>15+</b>
Estimated population in region*	1 896	1 248	542	320	5 052	2 943	3 854	1 973	1 379	814	12 723	7 298	20 021
Number of adults examined†	818	843	299	245	2 300	1 846	853	649	746	593	5 016	4 176	9 192
Number of adults with confirmed trichiasis	0	1	0	0	0	0	0	0	0	0	0	1	1
<i>Proportion of adults with trichiasis (%)</i>	<i>0.00</i>	<i>0.12</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>0.02</i>	<i>0.01</i>
Surgery in past 12 months‡	0	5	0	1	0	0	0	0	0	0	0	6	6

\* Population estimate limited to trachoma endemic regions and does not consider changing endemic regions over time and transiency between regions.

† 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 2.7 Health promotion activities by region, Northern Territory 2020

	Alice Springs Remote	Barkly	Darwin Rural	East Arnhem	Katherine	Total
Number of communities that reported health promotion activities	24	10	2	1	6	43
Total number of programs reported	57	24	4	3	6	94
<b>Methods of health promotion</b>						
One-on-one discussion	35	17	2	3	1	58
Presentation to group	14	7	3	1	4	29
Interactive group session	21	10			2	33
Social marketing	1					1
Print material/mass media	23	15			5	43
Sporting/community events	1					1
Other	2	1				3
<b>Target audience</b>						
Health professionals/staff	12	4	2	1	1	20
Children	34	16	2	1	3	56
Youth	8	1				9
Teachers/childcare/preschool staff	23	10	1	1	4	39
Caregivers/parents	17	2				19
Community members	19	3		1		23
Community educators/health promoters	1	1		1		3
Interagency members	2	0				2
<b>Frequency of health promotion activities</b>						
Once	8	1	2		1	12
Occasional*	49	23	2	3	5	82
Regular†	0	0				0
Ongoing/routine	0	0				0

\* 2-4 times per year.

† 5-12 times per year.

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# Queensland results

## Trachoma program coverage

- In 2020 QLD undertook screening for trachoma in 2 communities in North West QLD identified as being potentially at risk of trachoma (Table 3.1).

## Screening coverage

- Population screening coverage of children aged 5-9 years was 96% (Table 3.1).

## Facial cleanliness

- The prevalence of clean faces among children aged 5-9 years was 83% (Table 3.1).

## Presence of upper eyelid follicles meeting the definition for trichomatous inflammation - follicular (TF)

- The observed prevalence of clinical signs consistent with TF in children aged 5-9 years in the 2 communities that were screened in 2020 was 6%. (Table 3.1).
- In North West QLD 8 children aged 5-9 years met the WHO simplified grading system for TF. All were PCR negative for *C. trachomatis*. 1/9 children had evidence of corneal pannus; no child was found to have Herbert's pits.

## Treatment delivery and coverage

- Trachoma treatment strategies were applied in one community in North West QLD in 2020 with treatment of one case only.

## Trichiasis

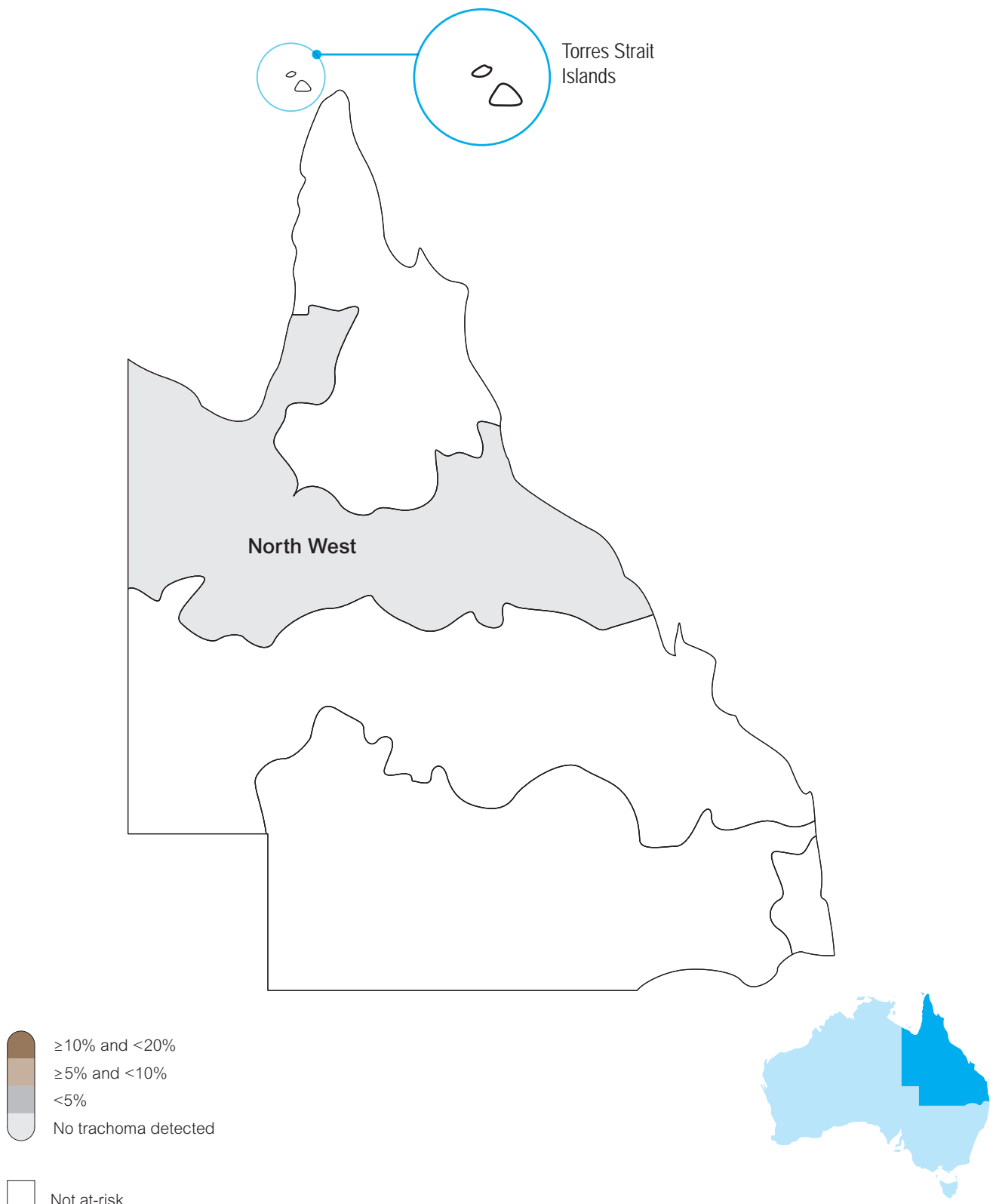
- Trichomatous trichiasis screening was undertaken in 2 communities in 2020 with 9 adults screened for trichiasis (Table 3.2).
- No trichomatous trichiasis was detected in QLD in 2020.

## Health promotion

- Health promotion activities occurred in 2 communities in the north-western region of QLD (Table 3.3) (Table 3.4).
- A total of 7 health promotion activities were reported (Table 3.3) (Table 3.4).

## Figures and Tables – Queensland

Figure 3.1 Overall trachoma prevalence in children aged 5-9 years in all at-risk communities by region, Queensland 2020



**Table 3.1 Trachoma screening coverage, prevalence of clinical features consistent with trachomatous inflammation - follicular and clean face prevalence, Queensland 2020**

	North West Queensland			
Number of communities screened	2			
<b>Age group (years)</b>	<b>0-4*</b>	<b>5-9</b>	<b>10-14*</b>	<b>0-14</b>
Children examined for clean face	39	134	46	219
Children with clean face	20	111	46	177
Clean face prevalence (%)	51	83	100	81
Estimated number <sup>†</sup> of Aboriginal children in communities <sup>†</sup>	102	140	149	391
Children screened for trachoma	39	134	46	219
Trachoma screening coverage (%)	38	96	31	56
Children with clinical findings consistent with TF <sup>†</sup>	0	8	0	8
Observed prevalence of clinical findings consistent with TF (%)	0.0	6.0	0.0	3.7
Estimated prevalence of trachoma <sup>‡</sup> (%)		0.0		
Overall prevalence of trachoma <sup>‡</sup> (%)		0.0		

\* Community population list not provided for the 1-4 and 10-14 age group in 1 one North West QLD community, therefore Census 2016 data were used as an approximate denominator for these age groups.

**Table 3.2 Trichiasis screening coverage, prevalence and treatment among Indigenous adults, Queensland 2020**

	North West Queensland		
Number of communities screened for trichiasis	2		
<b>Age group (years)</b>	<b>15-39</b>	<b>40+</b>	<b>15+</b>
Estimated population in region*	556	304	860
Adults examined <sup>†</sup>	4	5	9
With trichiasis	0	0	0
With trichiasis (%)	0.0	0.0	0.0
Surgery in past 12 months <sup>‡§</sup>	0	0	0

\* No population numbers were available for these age groups in one of the communities in North West Queensland, therefore Census 2016 data used as an approximate denominator for these age groups.

† Population estimate limited to trachoma endemic regions and does not take into account changing endemic regions over time and transiency between regions.

‡ 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 3.3 Health promotion activities Queensland 2020

	Queensland
Number of communities that reported health promotion activities	2
Total number of programs reported	7
<b>Method of health promotion activities</b>	
One-on-one discussion	4
Presentation to group	4
Interactive group session	
Social marketing	
Print material/mass media	4
Sporting/community events	
Other	2
<b>Target audience</b>	
Health professional/staff	4
Children	1
Youth	
Teachers/childcare/preschool staff	6
Caregivers/parents	2
Community members	5
Community educators/health promoters	4
Interagency members	4
<b>Frequency of health promotion activities</b>	
Once	7
2-4 times per year	
5-12 times per year	
Ongoing/routine	

# South Australia results

## Trachoma program coverage

- In 2020 SA identified 15 communities in three regions as being at risk of trachoma (Table 4.1, Figure 4.2).
- Due to no evidence of trachoma since 2013, Yorke and Mid North region is no longer considered at risk of trachoma (Figure 4.2).
- 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 15 at-risk communities screened was 94%, ranging from 92% in Far North, 93% in the Eyre and Western region and 96% in the APY Lands (Table 4.2, Figure 4.4).

## Facial cleanliness

- Clean face prevalence was assessed in all communities that were screened.
- The overall prevalence of clean faces among children aged 5-9 years in the screened communities was 84%, ranging from 71% in the APY Lands, 95% in the Eyre and Western region and 97% in the Far North region (Table 4.2, Figure 4.5).

## Trachoma prevalence

- The observed prevalence of trachoma in children aged 5-9 years screened was 0.8%.
- The overall prevalence of trachoma in children aged 5-9 years screened was 0.5%.
- No trachoma was reported in the 5-9 age group in 33% (5/15) of the at-risk communities (Table 4.3, Figure 4.7).
- Endemic levels of trachoma ( $\geq 5\%$ ) were reported in 7% (1/15) of the at-risk communities (Table 4.3, Figure 4.7).

## Treatment delivery and coverage

- Trachoma treatment strategies were applied in the APY Lands and Far North Region with cases and household contacts treated (Table 4.4).
- Total treatment coverage for trachoma cases and community members requiring treatment was 90% with 28 doses of azithromycin delivered (Table 4.5, Figure 4.8).

## Trichiasis

- Screening for trichiasis was undertaken in 15 communities (Table 4.6).
- Overall, 1274 adults aged 15 years and over were screened (Table 4.6).
- The prevalence of trichiasis in adults aged 15 years and over was 0.2%, and 0.3% in adults aged 40 years with 2 cases of trichiasis detected (Table 4.6).

## Health promotion and environmental health activities

EFN LHN in conjunction with its key partners continues with the implementation of the “Health Promotion and Environmental Health Improvements Activities Plan” across rural SA, which aims to implement sustainable environmental health improvement measures, improve health literacy, influence the behaviours that are contributing to the persistence of trachoma and other infectious diseases, as well as promote remediation measures in the scope regions.

A communication strategy has been implemented using television and radio to provide a trachoma prevention awareness campaign promoting eye health, and healthy living practices across country S.A.

The Trachoma training activities were conducted by AHCSA. The training included an overview of the “Guidelines for the Public Health Management of Trachoma in Australia 2014” and practical training activities.

The Department for Health and Wellbeing (Public Health) continues to deliver environmental health activities across regional SA such as human waste and wastewater control, health risk assessments and remediation measures.

The Aboriginal Community Services (ACS) continues with the implementation of the “Kuru Malpa Program” in the APY Lands to increase community engagement and eye health awareness and to promote health-enhancing behaviours within households, as well as ACS is working with Melbourne School of Population and Global Health, University of Melbourne in the Trachoma/Hygiene education space. Some of these initiatives are:

- *Updating the Trachoma Story Kit* and program, which it is 10 years old and has helped thousands of schools, clinics and community work settings across Australia to address blinding trachoma.
- *Milpa's Six Steps to Stop Germs* is the new suite of resources of best accepted practice for preventing infections. Community members and staff in the APY Lands were some of dozens who reviewed the key messages and imagery for Indigenous audiences. The materials are now available as resources and games and are used for community discussion prompts to encourage hygiene related behaviour change. They have been translated into Ngaanyatjarra language and include Covid safety.
- *Train the Trainer Package*: Training package available for Indigenous staff in schools and community settings to help educate local community members about how they can support children to stop germs and reduce infections in their communities.
- *Curriculum Aligned Teacher Book and Student Activity Book: The Trachoma Story Kit Teacher and Student booklets* have been used in most schools and would be updated to incorporate the Six Steps.
- *3D Augmented Reality App*: This app will encourage hygiene behaviour change by making it more interactive and fun in remote Aboriginal schools and communities. The App creates a 3D animation of *Milpa's Six Steps to Stop Germs* colouring-in sheet images that come to life in front of the kids.

Mirrors were installed at all Health Clinics at the APY Lands in the waiting areas and bathrooms for children to see their faces when they are washing their hands and faces. As well, Hand-washing facilities were set up in various locations on the Lands and in the yards of houses. Water trailers providing hand and face washing facilities were positioned at various gatherings Nganapa like funerals.

Goods 360 partnering with Woolworths to donate items such as clothing, sanitisers, towels, soaps and cleaning products which were delivered to the Aboriginal communities in SA.

# Figures and Tables – South Australia

Figure 4.1 Trachoma prevalence in children aged 5-9 years in all at-risk communities by region, South Australia, 2020

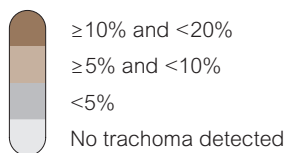
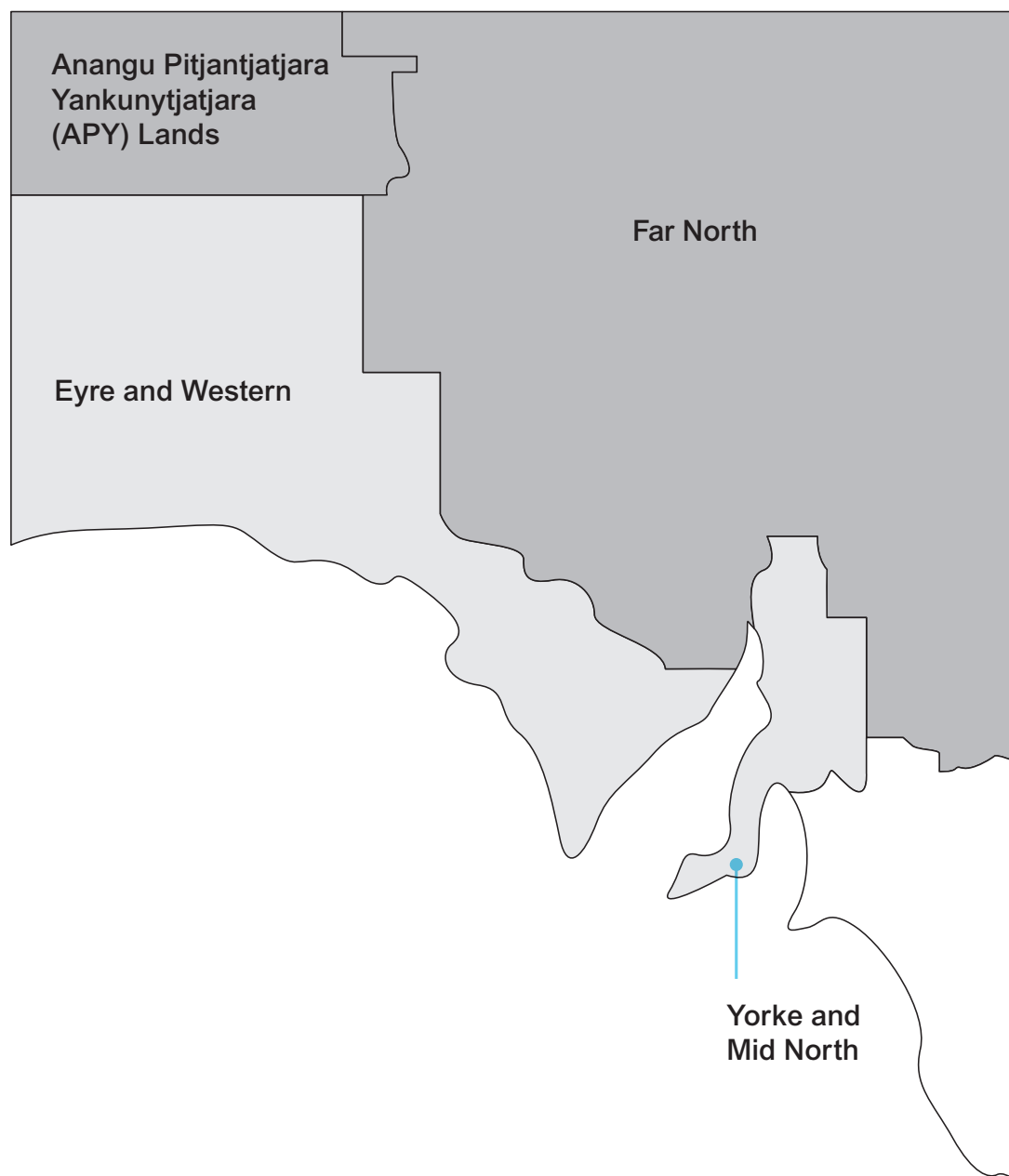
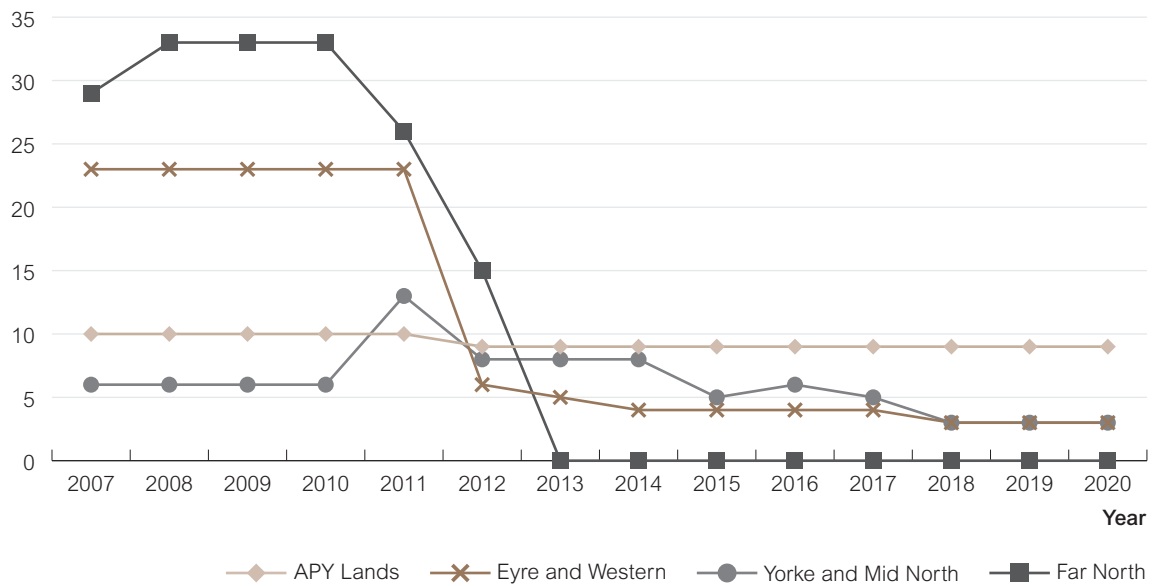


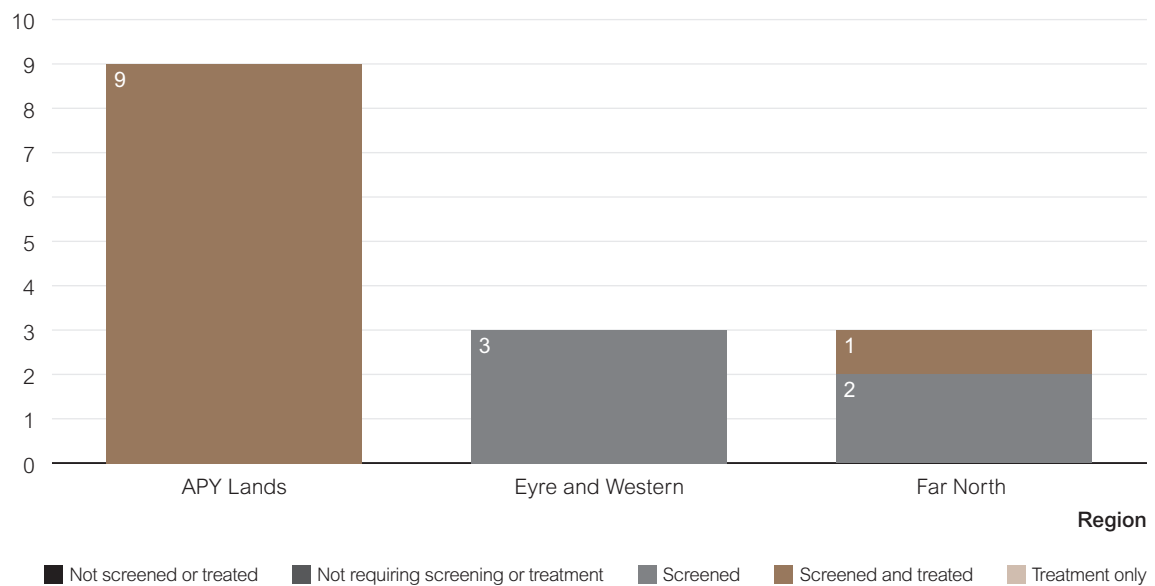


Figure 4.2 Number of at-risk communities by region, South Australia 2007 – 2020



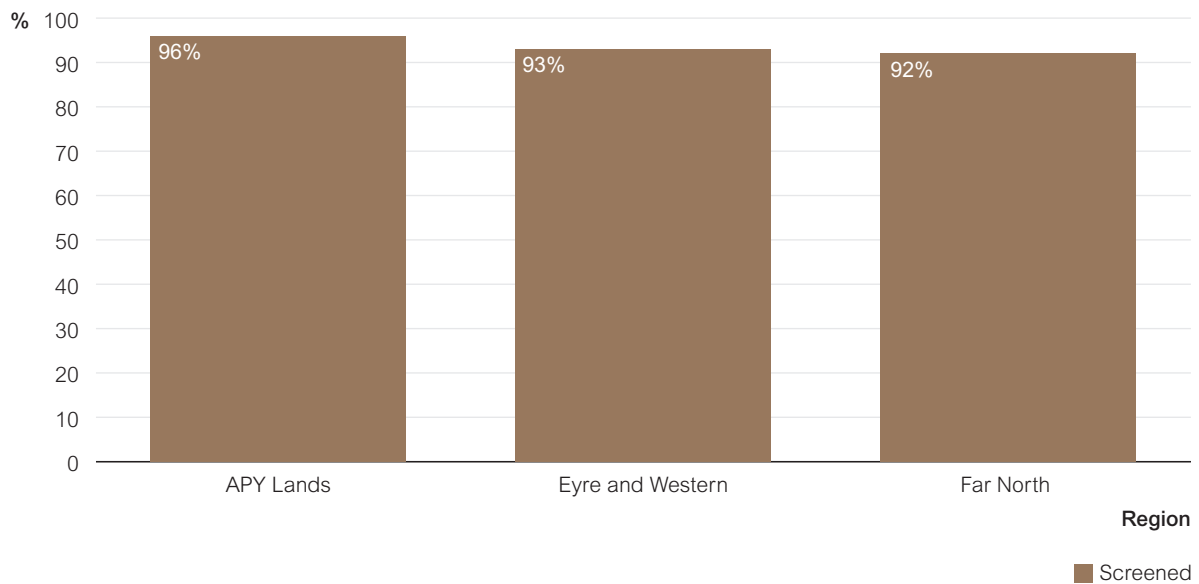
APY: Anangu Pitjantjatjara Yankunytjatjara.

Figure 4.3 Number of at-risk communities according to trachoma control strategy implemented by region, South Australia 2020



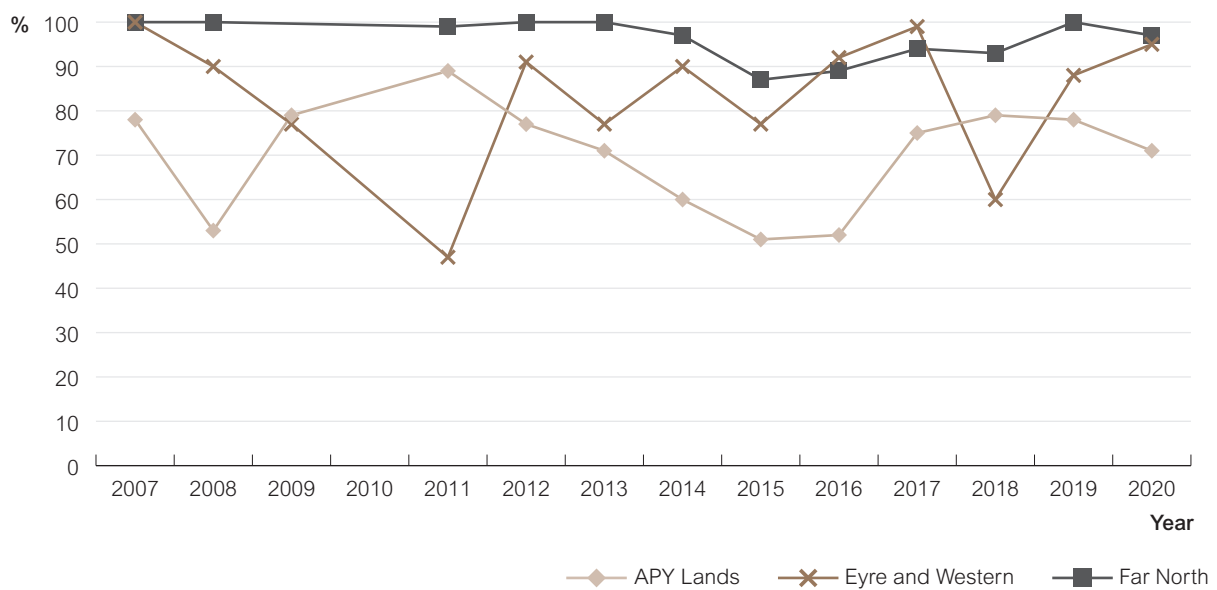
APY: Anangu Pitjantjatjara Yankunytjatjara.

**Figure 4.4** Population screening coverage of children aged 5-9 years in at-risk communities that required screening for trachoma by region, South Australia 2020



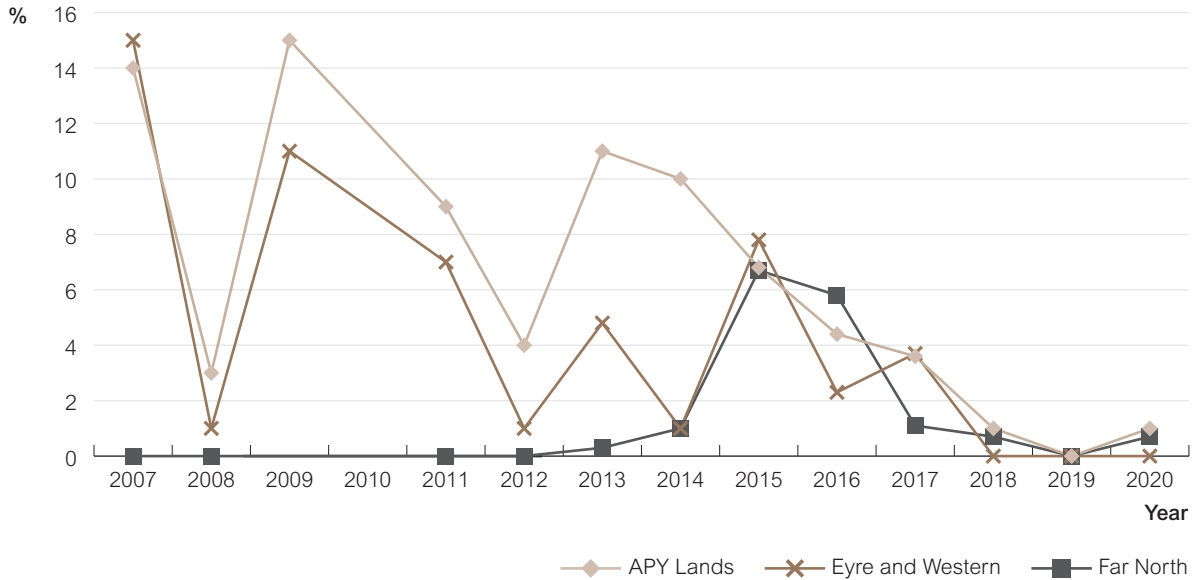
APY: Anangu Pitjantjatjara Yankunytjatjara.

**Figure 4.5** Proportion of screened children aged 5-9 years who had a clean face by region, South Australia 2007 – 2020



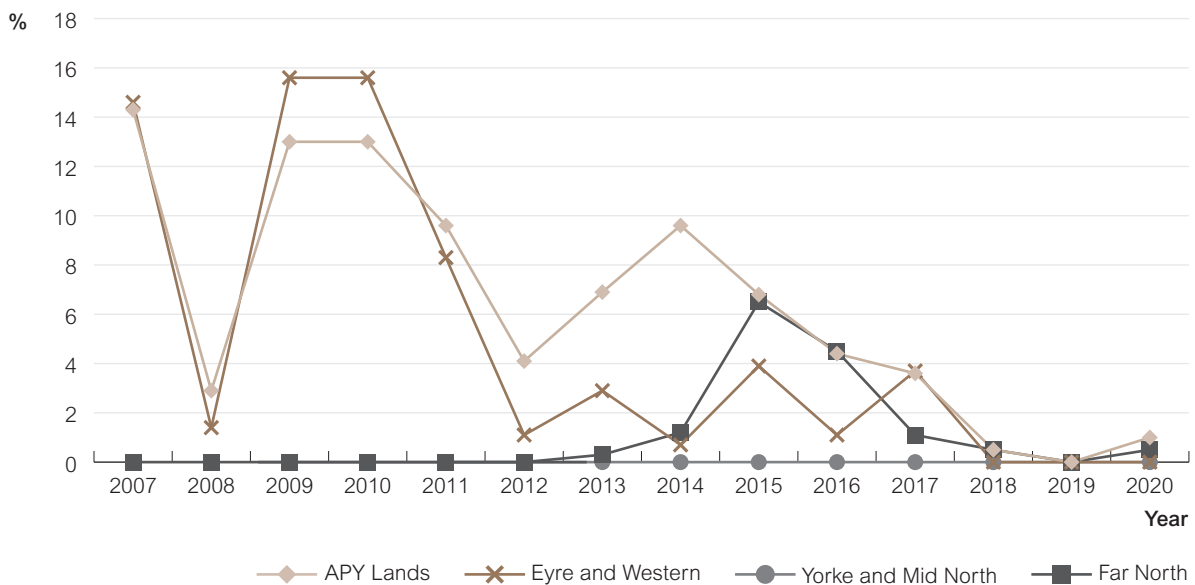
APY: Anangu Pitjantjatjara Yankunytjatjara.

Figure 4.6a. Observed prevalence of clinical findings consistent with trichomatous inflammation - follicular among children aged 5-9 years in at-risk communities by region, South Australia 2007 – 2020



APY: Anangu Pitjantjatjara Yankunytjatjara.

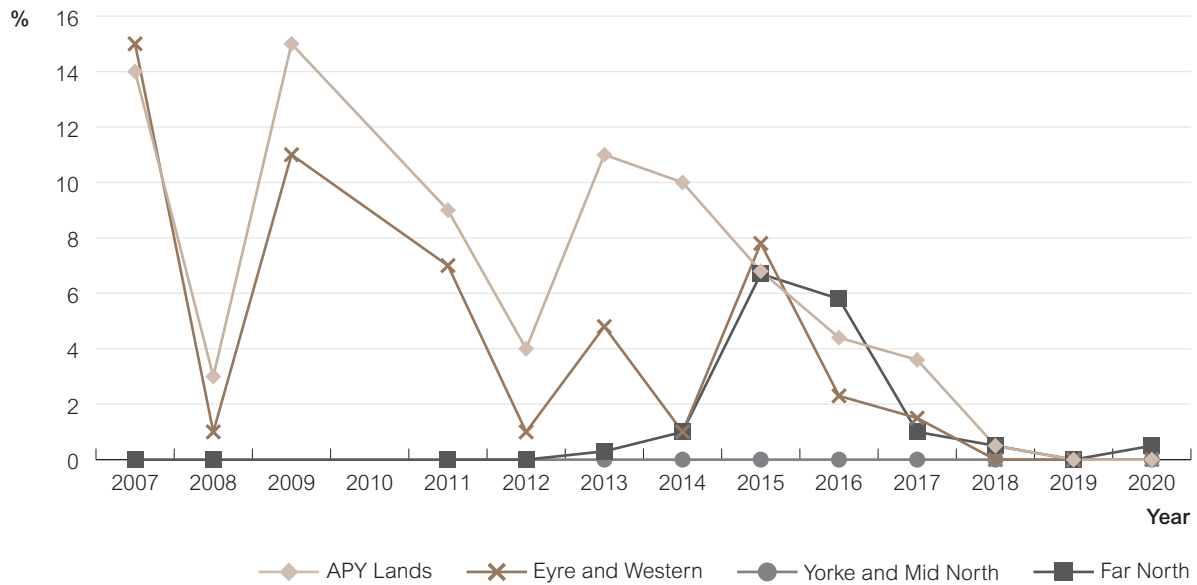
Figure 4.6b. Estimated prevalence of trachoma among children aged 5-9 years in all at-risk communities\* by region, South Australia 2007 – 2020



APY: Anangu Pitjantjatjara Yankunytjatjara.

\* Most recent estimates carried forward in at-risk communities that did not screen in 2020.

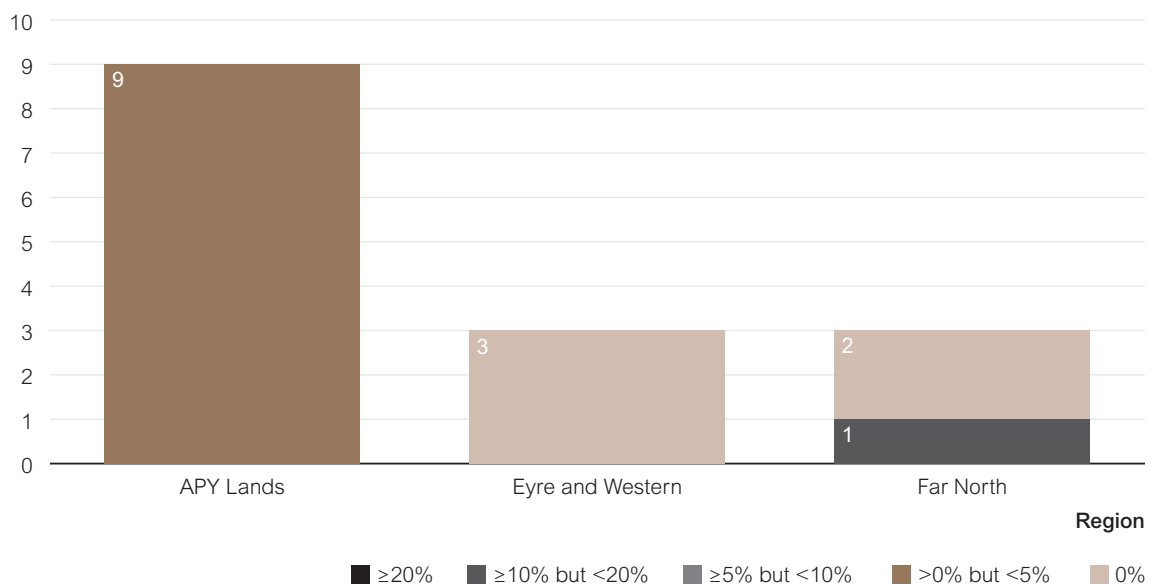
Figure 4.6c. Overall prevalence of trachoma among children aged 5-9 years in all communities\* by region, South Australia 2007 – 2020



APY: Anangu Pitjantjatjara Yankunytjatjara.

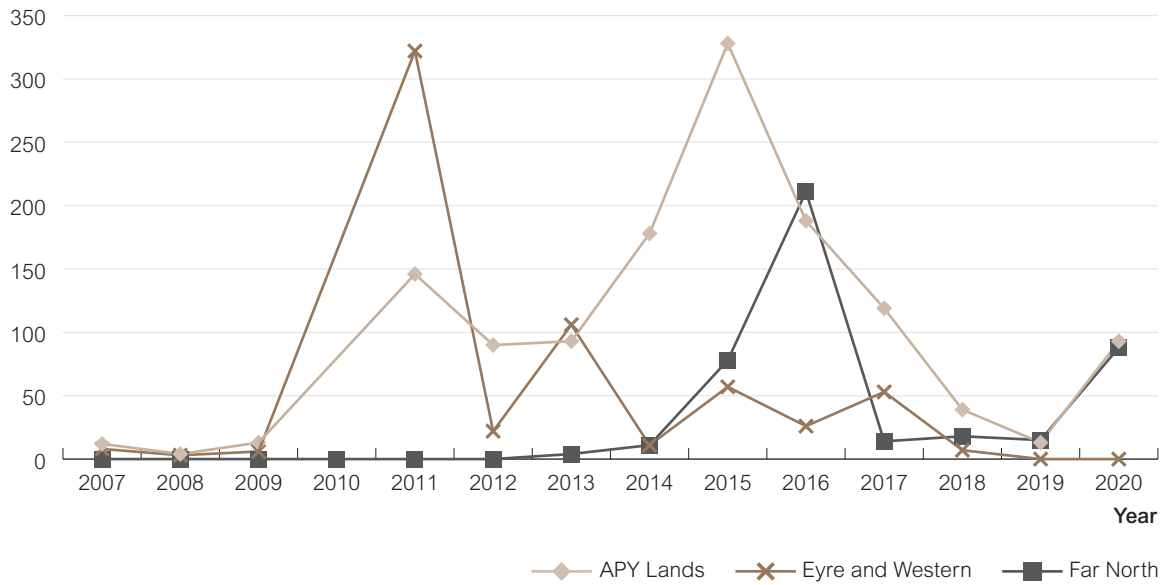
\* Calculated carrying forward most recent data in all communities considered at risk of trachoma at some time since 2007.

Figure 4.7 Number of at-risk communities according to level of trachoma prevalence in children aged 5-9 years by region, South Australia 2020



APY: Anangu Pitjantjatjara Yankunytjatjara.

**Figure 4.8** Number of doses of azithromycin administered for the treatment of trachoma by region, South Australia 2007 – 2020



APY: Anangu Pitjantjatjara Yankunytjatjara.

**Table 4.1** Trachoma control delivery in at-risk\* communities by region, South Australia 2020

Number of communities	APY Lands	Eyre and Western	Far North	Total
At risk* (A)	9	3	3	15
Requiring screening for trachoma (B)	9	3	3	15
Screened for trachoma (C)	9	3	3	15
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	3	3	15
Requiring neither screening nor treatment for trachoma (G=A-B-D)	0	0	0	0

\* As defined by each jurisdiction.

† As per Guidelines.

APY: Anangu Pitjantjatjara Yankunytjatjara.

**Table 4.2 Trachoma screening coverage, trachoma prevalence and clean face prevalence by region, South Australia 2020**

	APY Lands				Eyre and Western				Far North				Total			
Number of communities screened	9				3				3				15			
Age group (years)	0-4	5-9	10-14	0-14	0-4	5-9	10-14	0-14	0-4	5-9	10-14	0-14	0-4	5-9	10-14	0-14
Children examined for clean face	50	194	97	341	13	40	21	74	16	158	132	306	79	392	250	721
Children with clean face	30	138	96	264	10	38	21	69	13	153	132	298	53	329	249	631
Clean face prevalence (%)	60	71	99	77	77	95	100	93	81	97	100	97	67	84	100	88
Estimated number* of Indigenous children in communities†	267	203	239	709	40	43	45	128	22	167	156	345	329	413	440	1182
Children screened for trachoma	50	194	100	344	13	40	21	74	13	153	129	295	76	387	250	713
Trachoma screening coverage (%)	19	96	42	49	33	93	47	58	59	92	83	86	23	94	57	60
Children with trachoma‡	0	2	1	3	0	0	0	0	0	1	0	1	0	3	1	4
Observed prevalence of trachoma‡ (%)	0.0	1.0	1.0	0.9	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.3	0.0	0.8	0.4	0.6
Estimated prevalence of trachoma‡ (%)		1				0				0.5				0.4		
Overall prevalence of trachoma‡ (%)		1.0				0.0				0.5				0.5		

\* ABS estimate.

† Communities that were screened for trachoma in 2020.

‡ Methods of calculating the different prevalence rates on page 17.

APY: Anangu Pitjantjatjara Yankunytjatjara.

**Table 4.3 Number and proportion\* of at-risk communities according to level of trachoma prevalence in children aged 5-9 years, South Australia 2007 – 2020**

	2007		2008		2009		2010		2011		2012		2013		2014		2015		2016		2017		2018		2019		2020	
Communities at-risk†	68		72		72		72		46		38		22		21		19		19		18		15		15		15	
Communities not screened‡	60		61		60		60		27		2		6		0		0		0		0		0		0		0	
Number of communities§	8		11		12		11		19		36		16		21		19		19		18		15		15		15	
≥20%	2	25%	0	0%	3	25%	3	27%	2	11%	1	3%	2	13%	1	5%	2	11%	1	5%	1	5%	1	7%	0	0%	0	0%
≥10% but <20%	2	25%	1	9%	2	17%	1	9%	3	16%	1	3%	3	19%	9	43%	3	16%	1	5%	1	6%	0	0%	0	0%	1	7%
≥5% but <10%	2	25%	2	18%	1	8%	0	0%	2	11%	1	3%	1	6%	0	0%	9	47%	2	11%	3	17%	0	0%	0	0%	0	0%
>0% but <5%	0	0%	1	9%	1	8%	0	0%	1	5%	4	11%	0	0%	1	5%	1	5%	11	58%	10	56%	10	66%	0	0%	9	60%
0%	2	25%	7	64%	5	42%	7	64%	11	58%	29	81%	10	63%	10	48%	4	21%	4	21%	3	17%	4	27%	15	100%	5	33%

\* Based on current or most recent year.

† As defined annually by each jurisdiction.

‡ Or treated as required per Guidelines.

§ Screened or receiving ongoing annual treatment as per Guidelines.

**Table 4.4 Treatment strategies by region, South Australia 2020**

	APY Lands	Eyre and Western	Far North	Total
Required treatment for trachoma	9	0	1	10
Treated for trachoma*	9	0	1	10
Screened and treated	9	0	1	10
Received treatment only	0	0	0	0
Received 6-monthly treatment	0	0	0	0
Did not require treatment	0	3	2	5
Treated trachoma and households	9	0	1	10
Community-wide treatment	0	0	0	0
Not treated according to CDNA Guidelines*	0	0	0	0

\* In 2020 APY Lands aggregated 9 communities into one community for 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 treatment coverage by region, South Australia 2020**

	APY Lands					Eyre and Western					Far North					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 trachoma	0	2	1		3	N/A	N/A	N/A	N/A	N/A	0	1	0		1	0	3	1	0	4
Received treatment for trachoma	0	2	1		3						0	1	0		1	0	3	1	0	4
<i>Received treatment for trachoma (%)</i>	0	100	100		100						0	100	100		100	100	100	100		100
Estimated community members* requiring treatment	1	1	0	9	11						2	3	3	8	16	3	4	3	17	27
Number of community members* who received treatment	1	1	0	8	10						2	3	3	6	14	3	4	3	14	24
<i>Estimated community members who received treatment (%)</i>	100	100		89	91						100	100	100	75	88	100	100	100	82	89
Number of community members who declined treatment	0	0	0	0	0						0	0	0	0	0	0	0	0	0	0
Total number of doses of azithromycin delivered	1	3	1	8	13						2	4	3	6	15	3	7	4	14	28
<i>Estimated overall treatment coverage (%)</i>	100	100	100	89	93						100	100	100	75	88	100	100	100	82	90

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

APY: Anangu Pitjantjatjara Yankunytjatjara.



**Table 4.6 Trichiasis screening coverage, prevalence and treatment among Indigenous adults by region, South Australia 2020**

	APY Lands		Eyre and Western		Far North		Total		
<b>Number of communities screened for trichiasis</b>	9		3		3		15		
<b>Age group (years)</b>	<b>15-39</b>	<b>40+</b>	<b>15-39</b>	<b>40+</b>	<b>15-39</b>	<b>40+</b>	<b>15-39</b>	<b>40+</b>	<b>15+</b>
Estimated population in region*	1084	594	724	509	1324	1089	3132	2192	5324
Number of adults examined†	543	408	50	118	25	130	618	656	1274
Number of adults with trichiasis	0	1	0	1	0	0	0	2	2
<i>Proportion of adults with trichiasis (%)</i>	<i>0.0</i>	<i>0.2</i>	<i>0.0</i>	<i>0.8</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.3</i>	<i>0.2</i>
Surgery in past 12 months‡	0	0	0	0	0	0	0	0	0

\* Population estimate limited to trachoma endemic regions and does not consider changing endemic regions over time and transiency between regions.

† 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 4.7 Health promotion activities by region, South Australia 2020**

	APY Lands	Eyre and Western	Far North	Total
Number of communities that reported health promotion activities	5	4	1	10
Total number of programs reported	5	11	1	17
<b>Methods of health promotion</b>				
One-on-one discussion	5	11	1	17
Presentation to group	5	2	1	8
Interactive group session	5	2	1	8
Social marketing	5	2	1	8
Print material/mass media	2	11	1	14
Sporting/community events	2	9	1	12
Other	3		0	3
<b>Target audience</b>				
Health professionals/staff	5	2	1	8
Children	5	9	1	15
Youth	5	10	1	16
Teachers/childcare/preschool staff	5	8	1	14
Caregivers/parents	5	11	1	17
Community members	5	11	1	17
Community educators/health promoters		1	0	1
Interagency members	5	3	1	9
<b>Frequency of health promotion activities</b>				
Once		0	1	1
Occasional*		5		5
Regular†		2		2
Ongoing/routine	5	4		9

\* 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 2020 WA identified 36 communities in four regions as being at risk of trachoma (Table 5.1, Figure 5.2).
- Of these at-risk communities 34 communities required and received screening (Table 5.1, Figure 5.3).

## Screening coverage

- The proportion of children aged 5-9 years screened in the 34 communities screened was 96%, ranging from 84% in the Midwest region to 100% in the Kimberley and Pilbara regions (Table 5.2, Figure 5.4).

## Facial cleanliness

- Clean face prevalence was assessed in all communities that were screened.
- The overall prevalence of clean faces among children aged 5-9 years was 71%, ranging from 66% in the Kimberley region to 86% in the Midwest region (Table 5.2, Figure 5.5).

## Trachoma prevalence

- The observed prevalence of trachoma in children aged 5-9 years in 34 communities that screened in 2020 was 13% (60/461). Prevalence ranged from 2.4% in the Midwest region to 18.4% in the Kimberley region (Table 5.2, Figure 5.6a).
- The overall prevalence of trachoma in children aged 5-9 years was 4.6% ranging from 1.1% in the Midwest region to 7.3% in the Goldfields region (Table 5.2, Figure 5.6c)
- No trachoma was reported in 28% (10/36) of the at-risk communities (Table 5.3, Figure 5.7).
- Endemic levels of trachoma ( $\geq 5\%$ ) were reported in 69% (25/36) of the at-risk communities (Table 5.3, Figure 5.7).
- Hyperendemic levels of trachoma ( $\geq 20\%$ ) were reported in 22% (8/36) of the at-risk communities (Table 5.3, Figure 5.7).

## Treatment delivery and coverage

- Trachoma treatment strategies were required in 24 communities (Table 5.4).
- Treatment was delivered for trachoma cases and household contacts in 23 communities, and community wide in 1 community as per Guidelines (Table 5.4).
- Total treatment coverage for trachoma cases and community members, and community-wide treatment in all region's requiring treatment was 70% with 550 doses of azithromycin delivered (Table 5.5, Figure 5.8).

## Trichiasis

- Data for trichiasis screening were provided from three distinct sources. Public health units undertook opportunistic screening of adults in remote communities during trachoma screening and treatment and flu vaccinations activities. Outputs from the MBS Item 715 adult health checks and visiting optometrist services (VOS) are also presented.
- Overall, 4009 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 0.3%, and 0.3% in adults aged 40 years and over (Table 5.6)
- Surgery for trichiasis was reported to be undertaken for one adult (Table 5.6)

## Health promotion

Health promotion is an important component of the WA trachoma control program and is delivered as the Squeaky Clean Kids program. The program was first implemented in 2016 and is now part of core business in many communities in the four WA Country Health Service regions where trachoma is prevalent (Goldfields, Kimberley, Midwest and Pilbara). The Squeaky Clean Kids (SCK) program supports remote Aboriginal communities to overcome barriers that contribute to the environmental and behavioural risk factors for trachoma transmission. The clean faces concept and practice are the main health promotion messages delivered as part of the overall message of the program which has the following key objectives:

- Increase the availability of free bar soap for Aboriginal people living in trachoma-endemic communities and communities at risk of resurgence in WA
- Increase education about hand hygiene and clean faces through delivery of hand hygiene promotion messages delivered in schools, communities and households
- Strengthen environmental health actions through continuous quality improvement processes and working with regional environmental health practitioner groups and other important stakeholder groups including public health teams, Aboriginal Community Councils and schools

The implementation of SCK is a collaborative effort coordinated by WA Country Health Service (WACHS) Central Office with the Public Health Units in the Goldfields, Midwest, Pilbara and Kimberley regions, Environmental Health Directorate (EHD), Soap Aid Ltd, Aboriginal Health Council of WA (AHCWA), Public Health Advocacy Institute and the Melbourne University Indigenous Eye Health (IEH). SCK focuses on the F and E elements of the SAFE strategy as the S and A are well embedded in the regional trachoma programs.

In 2020, school and community-based education sessions were undertaken in the 34 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. The regional teams reported over 5000 individual contacts delivered in schools, communities and households directly related to trachoma-related health promotion and education.

In planning 2021 health promotion activities, the regions also undertook an audit of regional specific core business programs in which facial cleanliness has been embedded. Relevant programs include school health hygiene programs such as the *Glitterbugs* for hand hygiene and *Breathe, Blow, Cough* for respiratory hygiene as well as related programs such as Nutrition (Food Safety), Child and Maternal Health programs, Rheumatic Heart Disease (RHD), COVID-19, Environmental Health and Acute post-streptococcal glomerulonephritis (APSGN) across the relevant trachoma endemic communities. Health promotion and Public Health teams provide education on facial cleanliness and personal hygiene at community events and in schools as part of wider youth and school programs. They also support and provide resources to assist school nurses and teachers to expand their messaging from hands to including the face and skin.

In addition to the activities of WACHS and the regional public health units, the WA EHD supports trachoma control services and activities in collaboration with the Environmental Health Trachoma Program led by the Public Health Advocacy Institute. Through this partnership a variety of health promotion activities and initiatives and educational resources to increase awareness and knowledge of environmental health referrals have been developed. Specific new initiatives in 2020 include:

- PowerPoint presentations and a training program on environmental health referrals for Aboriginal Environmental Health Workers
- Clinical PowerPoint presentations on environmental health referrals for clinicians
- Audit form for house inspection following referral
- Video showing how to enter a house with permission from occupants
- The [WA Trachoma Storybook](#) which documents the health promotion and prevention-based initiatives that have occurred over the past five years in WA
- [Six steps to stopping germs](#) (30 second video).

## Environmental improvements

The EHD and Public Health Advocacy Institute undertook consultations with Public Health Units, Environmental Health Forums and subgroups as part of the planning for the Environmental Health Trachoma Program (EHTP). In 2020, EHD undertook home and safe bathroom audits with a total of 1235 assessments (72% increase from 2019) in 30 communities completed. Audits included repairing faults or referring to other service providers as required. In addition, EHD provided mattresses and Public Health Advocacy Institute provided household towels with 10 different options of colour pattern to facilitate ownership by individual household members. With support from Rotary a trailer has been built with a washer and dryer to be used within the EHTP.

Referrals were submitted to external agencies as required for housing maintenance that was outside the scope of the environmental health practitioners, and advice was provided to community members on remediation measures. Other services included support to maintain rubbish tips and landfills, pest control treatments to communities including mosquito management, assistance for community-wide clean-up projects and review and updating of over 20 Community Environmental Health Action Plans in consultation with community members

Public Health Units collaborate with the EHD and their regionally based contract providers on initiatives to support communities with environmental health programs. Examples of these are listed below.

**Goldfields Public Health:** A health service in an area of higher trachoma prevalence requested support to develop a trachoma elimination strategy focusing on environmental health. Workshops and consultations began in 2019 and continued into 2020, aimed at building capacity of local environmental health staff to provide interventions effective in reducing prevalence for both trachoma and other childhood infections of burden. Activities in 2020 included the joint initiative with the EHD and Public Health Advocacy Institute to conduct multi-agency housing projects. This activity included the WACHS trachoma team undertaking an audit with each household to scope awareness of childhood infectious disease (including trachoma and RHD), and the impact of environmental health in the home. The team carry out a basic survey to identify barriers to housing maintenance for all stakeholders involved in the housing maintenance process; this information will be used to form the regional environmental health housing plans with our trachoma team and agencies. Support was provided to the health service to seek funding for these initiatives.

**Pilbara Public Health** visited households that had children diagnosed with trachoma, to offer education on trachoma prevention and hygiene-related practices. An important component of this discussion with households was environmental health referrals.

**Kimberley Public Health:** Planning took place in collaboration with a regional environmental health provider to conduct training to enhance staff familiarity with referral processes for environmental improvement within communities. A specific focus is understanding the roles and responsibilities of environmental health officers and practitioners in follow-up visits to communities and to include a mandatory orientation process for new environmental health staff. For areas of higher prevalence, a monthly meeting of service providers including WACHS, Aboriginal medical services and Environmental Health services has taken place, to work on culturally appropriate trachoma elimination strategies.

**Midwest Public Health** continued their collaboration with regional environmental health officers and practitioners and key contacts to raise awareness of the environmental health referral process.

## 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 2020

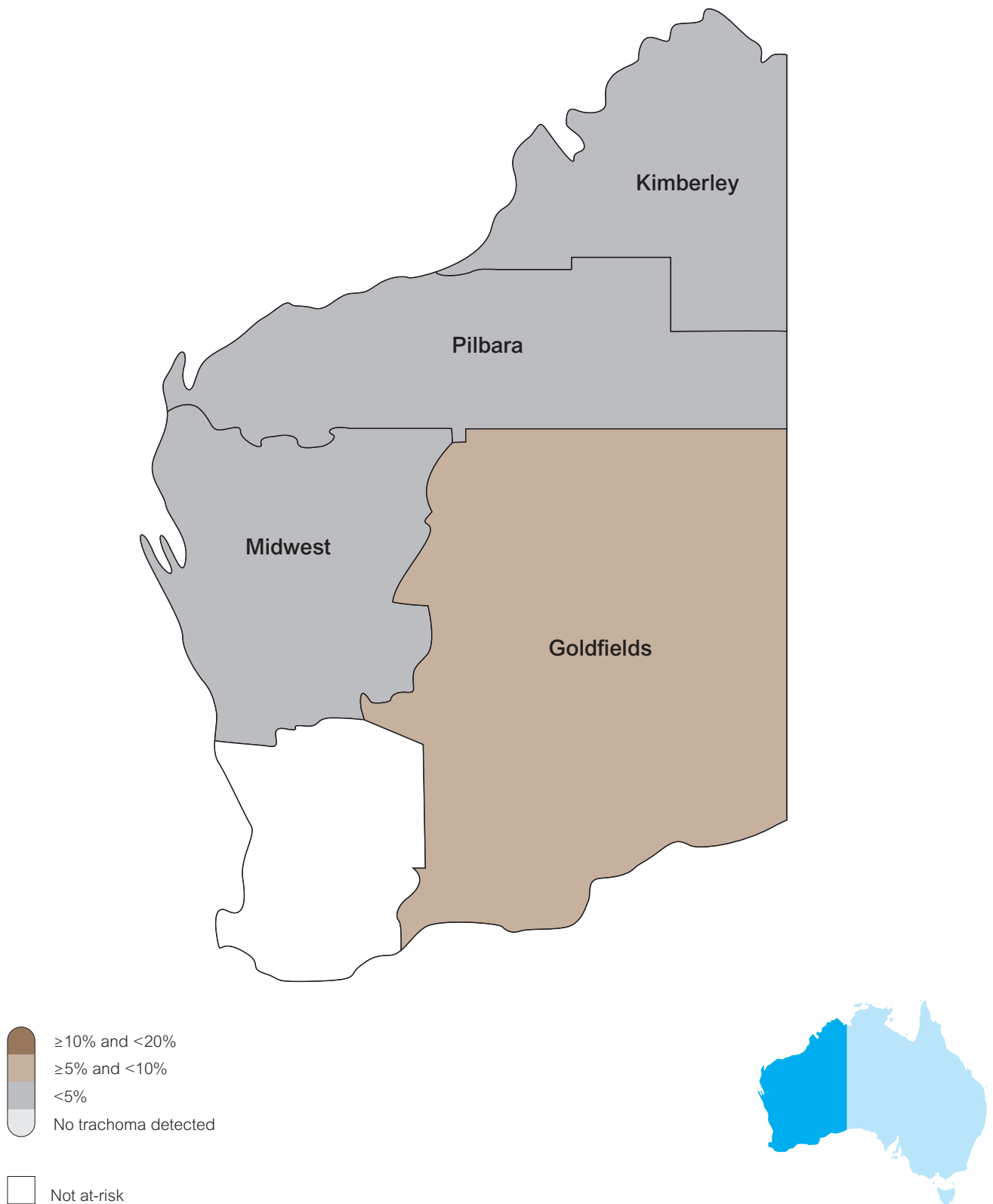


Figure 5.2 Number of at-risk communities by region, Western Australia 2007 – 2020

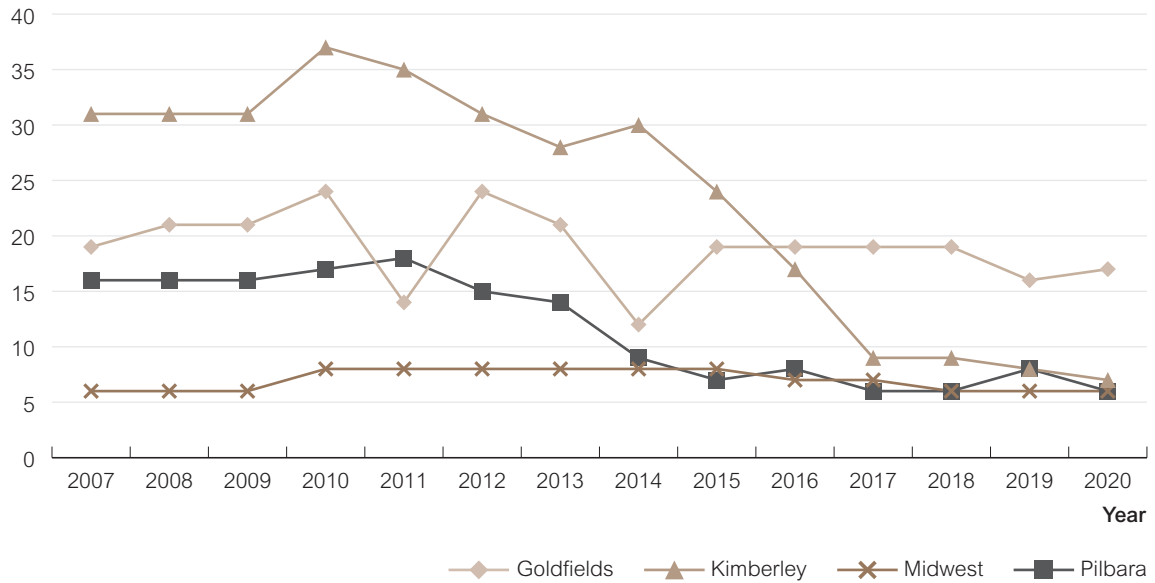


Figure 5.3 Number of at-risk communities according to trachoma control strategy implemented by region, Western Australia 2020

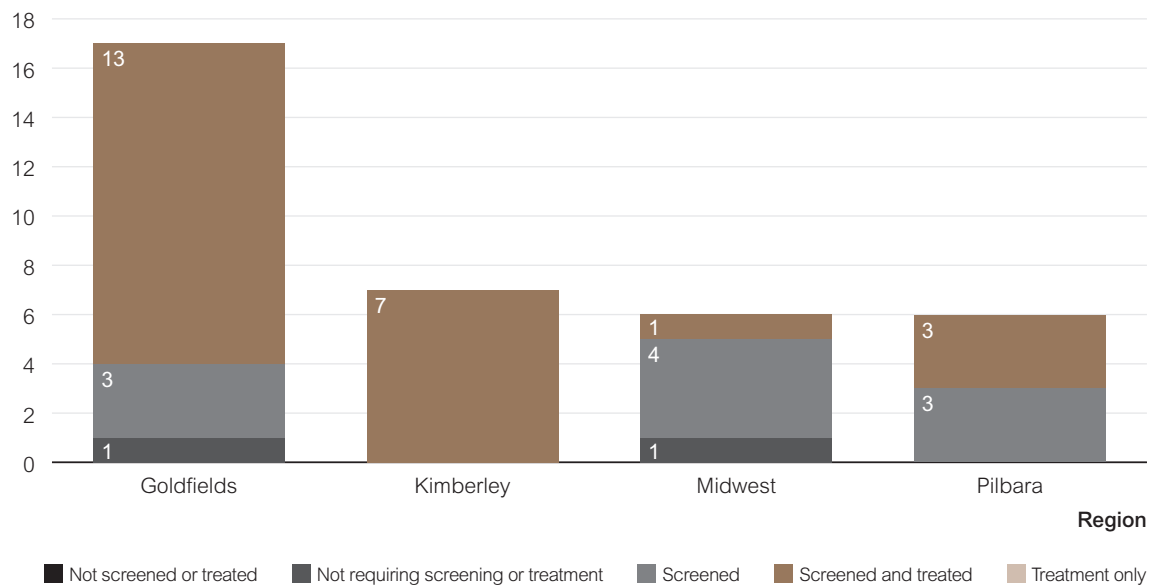


Figure 5.4 Population screening coverage in children aged 5-9 years in communities that required screening for trachoma by region, Western Australia 2020

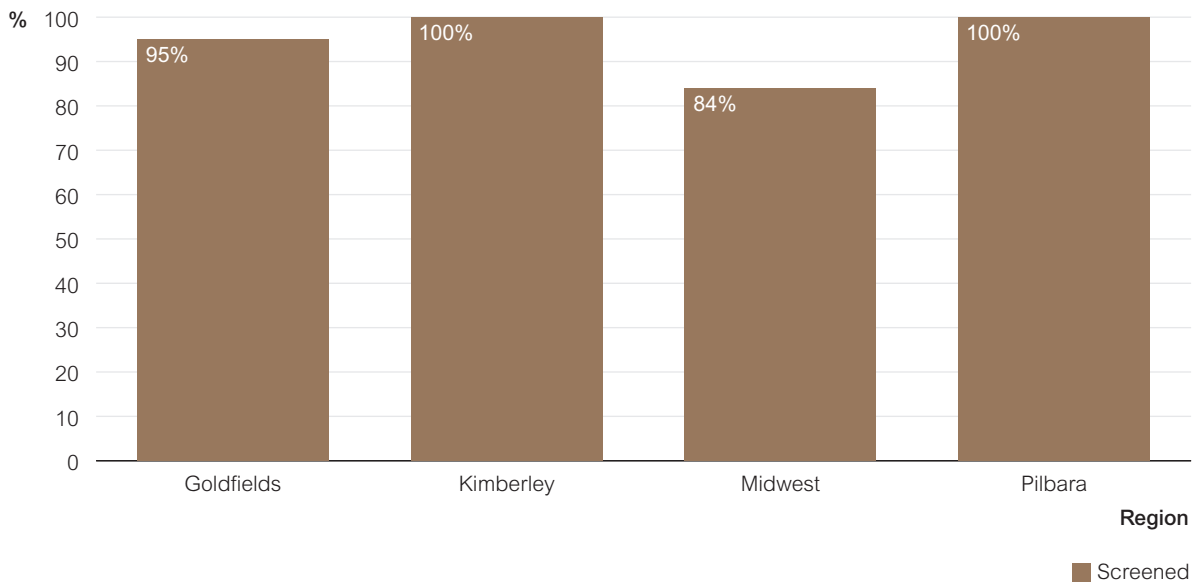


Figure 5.5 Proportion of screened children aged 5-9 years who had a clean face by region, Western Australia 2007 – 2020

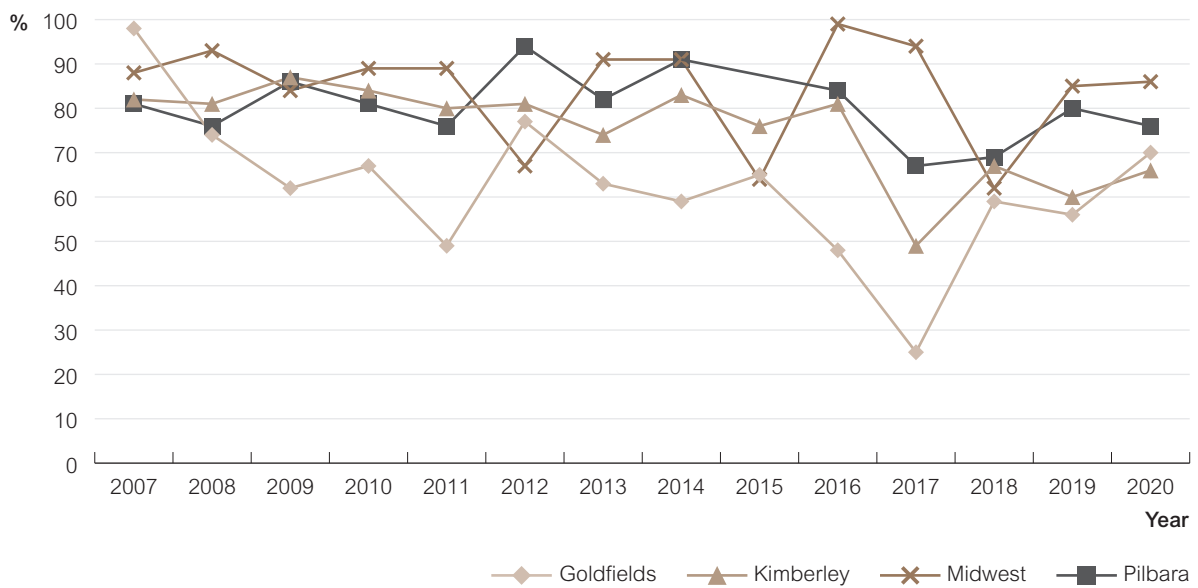




Figure 5.6a. Observed prevalence of clinical findings consistent with trachomatous inflammation - follicular among children aged 5-9 years in communities that were screened by region, Western Australia 2007 – 2020

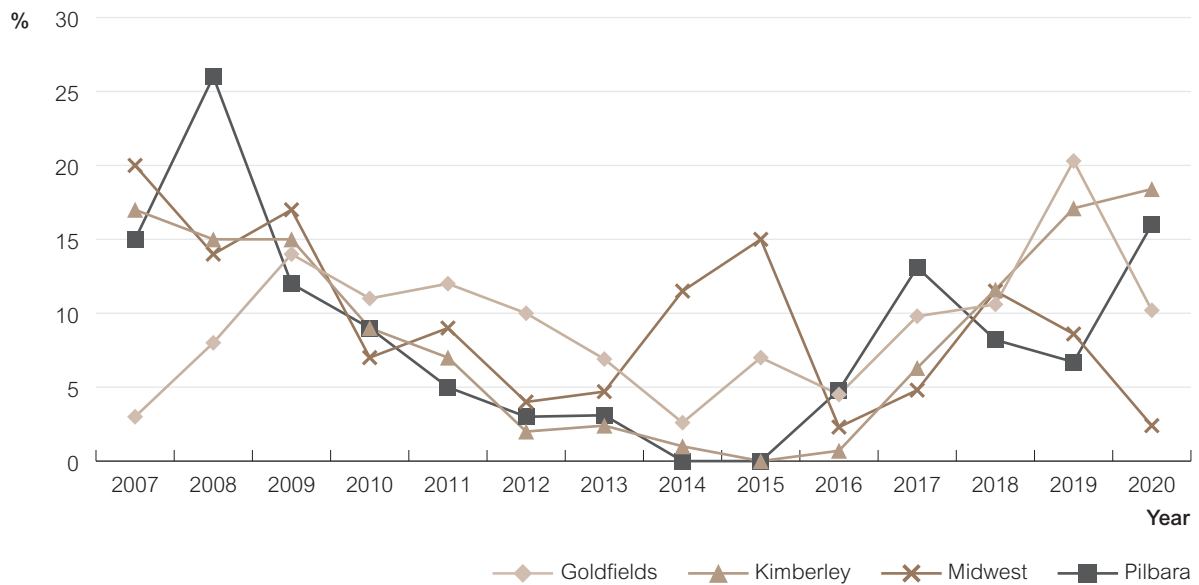
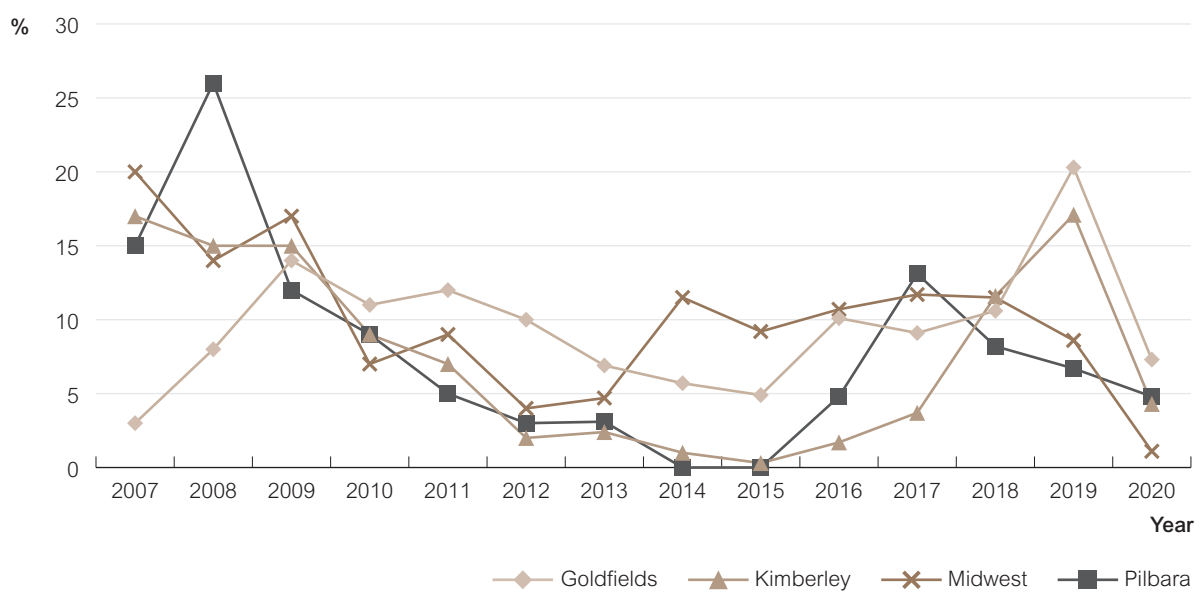
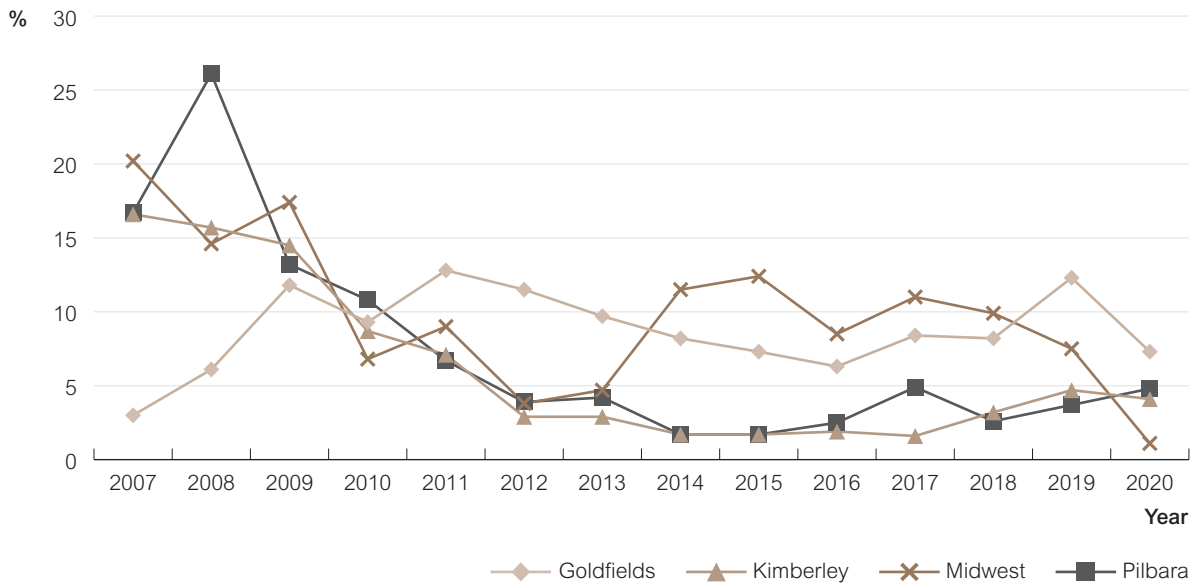


Figure 5.6b. Estimated prevalence\* of trachoma among children aged 5-9 years in all at-risk communities by region, Western Australia 2007 – 2020



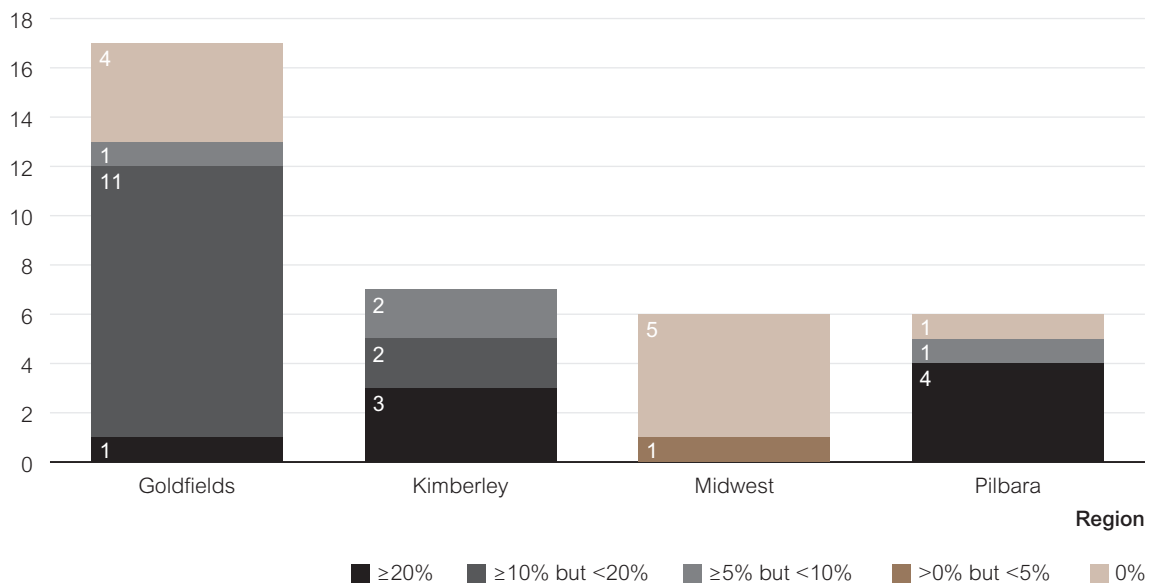
\* Most recent estimates carried forward in at-risk communities that did not screen in 2016.

Figure 5.6c. Overall prevalence of trachoma among children aged 5-9 years in all communities\* by region, Western Australia 2007 – 2020



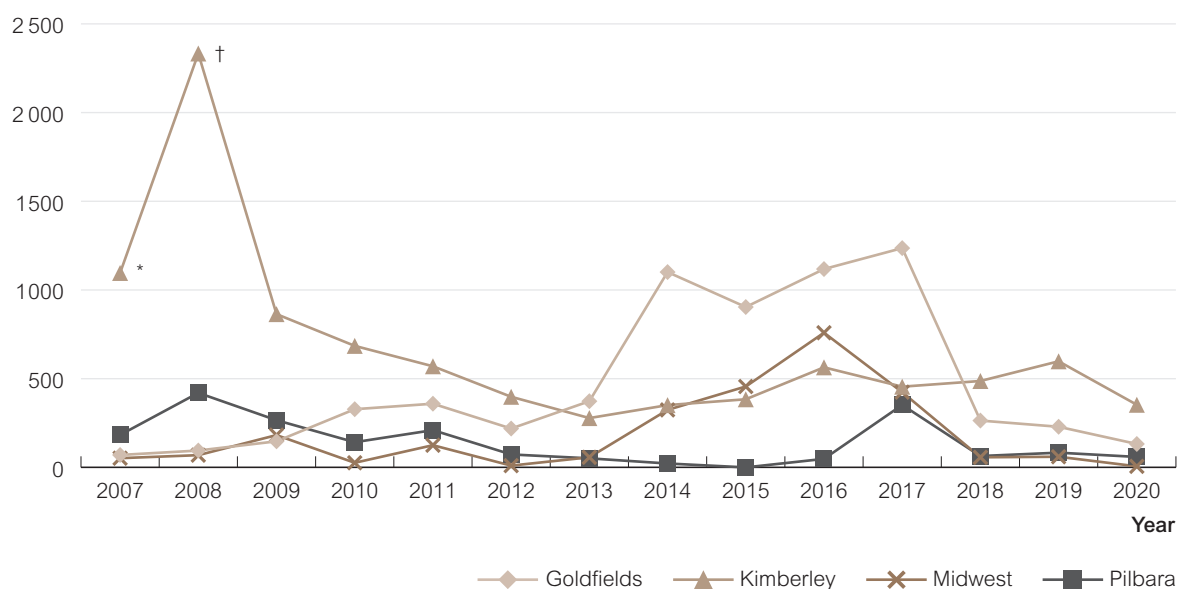
\* Calculated carrying forward most recent data in all communities considered at risk of trachoma at some time since 2007.

Figure 5.7 Number of at-risk communities\* according to level of trachoma prevalence in children aged 5-9 years by region, Western Australia 2020



\* Including at-risk communities that did and did not screen in 2016.

**Figure 5.8** Number of doses of azithromycin administered for the treatment of trachoma by region, Western Australia 2007 – 2020



\* 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 seven in 2009.

**Table 5.1** Trachoma control delivery by region, Western Australia 2020

Number of communities	Goldfields	Kimberley	Midwest	Pilbara	Total
At risk (A)	17	7	6	6	36
Requiring screening for trachoma (B)	16	7	5	6	34
Screened for trachoma (C)	16	7	5	6	34
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)	16	7	5	6	34
Requiring neither screening nor treatment for trachoma (G=A-B-D)	1	0	1	0	2

\* Communities treated without screening in 2020 as per Guidelines.

**Table 5.2 Trachoma screening coverage, trachoma prevalence and clean face prevalence by region, Western Australia 2020**

	Goldfields				Kimberley				Midwest				Pilbara				Total			
Number of communities screened	16				7				5				6				34			
Age group (years)	1-4	5-9	10-14	1-14	1-4	5-9	10-14	0-14	1-4	5-9	10-14	0-14	1-4	5-9	10-14	0-14	1-4	5-9	10-14	0-14
Children examined for clean face	15	<b>212</b>	16	243	18	<b>163</b>	23	204	9	<b>43</b>	14	66	14	<b>50</b>	34	98	56	<b>468</b>	87	611
Children with clean face	9	<b>149</b>	12	170	2	<b>107</b>	10	119	5	<b>37</b>	14	56	10	<b>38</b>	31	79	26	<b>331</b>	67	424
Clean face prevalence (%)	60	<b>70</b>	75	70	11	<b>66</b>	43	58	56	<b>86</b>	100	85	71	<b>76</b>	91	81	46	<b>71</b>	77	69
Estimated number* of Aboriginal children in communities†	23	<b>216</b>	2	241	0	<b>163</b>	0	163	14	<b>50</b>	15	79	12	<b>50</b>	34	96	49	<b>479</b>	51	579
Children screened for trachoma	15	<b>206</b>	15	236	0	<b>163</b>	0	163	9	<b>42</b>	14	65	12	<b>50</b>	34	96	36	<b>461</b>	63	560
Trachoma screening coverage (%)	65	<b>95</b>	75	98		<b>100</b>		100	64	<b>84</b>	93	82	100	<b>100</b>	100	100	73	<b>96</b>	124	97
Children with trachoma‡	0	<b>21</b>	1	22	0	<b>30</b>	0	30	0	<b>1</b>	0	1	0	<b>8</b>	3	11	0	<b>60</b>	4	64
Observed prevalence of trachoma‡ (%)	0.0	<b>10.2</b>	6.7	9.3		<b>18.4</b>		18.4	0.0	<b>2.4</b>	0.0	1.5	0.0	<b>16.0</b>	8.8	11.5	0.0	<b>13.0</b>	6.3	11.4
Estimated prevalence of trachoma‡ (%)		<b>7.3</b>				<b>4.3</b>				<b>1.1</b>				<b>4.8</b>				<b>4.8</b>		
Overall prevalence of trachoma‡ (%)		<b>7.3</b>				<b>4.1</b>				<b>1.1</b>				<b>4.8</b>				<b>4.6</b>		

\* Jurisdiction provides estimate for children aged 5-9 years only; number of children in communities aged 0-4 and 10-14 years are based on convenience sampling.

† In communities that were screened for trachoma in 2020.

‡ Methods of calculating the different prevalence rates on page 17.

**Table 5.3** Number and proportion of at-risk communities\* according to level of trachoma prevalence in children aged 5-9 years, Western Australia 2007 – 2020

	2007		2008		2009		2010		2011		2012		2013		2014		2015		2016		2017		2018		2019		2020	
Communities at-risk†	72		74		74		86		75		78		71		59		49		51		41		40		38		36	
Communities not screened‡	17		7		5		8		7		3		2		0		0		0		0		0		0		0	
Number of communities§	55		67		69		78		68		75		69		59		49		51		41		40		36		36	
≥20%	18	33%	29	43%	22	32%	14	18%	10	15%	9	12%	7	10%	2	3%	3	6%	3	6%	6	15%	5	13%	11	31%	8	22%
≥10% but <20%	12	22%	7	10%	3	4%	18	23%	8	12%	3	4%	3	4%	4	7%	2	4%	15	29%	17	41%	12	30%	3	8%	13	36%
≥5% but <10%	5	9%	8	12%	8	12%	7	9%	7	10%	10	13%	10	14%	2	3%	0	0%	2	4%	1	2%	8	20%	3	8%	4	11%
>0% but <5%	0	0%	7	10%	14	20%	7	9%	4	6%	7	9%	8	12%	6	10%	5	11%	1	2%	1	2%	1	3%	1	3%	1	3%
0%	20	36%	16	24%	22	32%	32	41%	39	57%	46	61%	41	59%	45	76%	39	79%	30	59%	16	39%	14	35%	18	50%	10	28%

\* Based on current or most recent year.

† As defined annually by each jurisdiction.

‡ Or treated as required per Guidelines.

§ Screened or receiving ongoing annual treatment as per Guidelines.

**Table 5.4** Treatment strategies by region, Western Australia 2020

	Goldfields	Kimberley	Midwest	Pilbara	Total
Required treatment for trachoma	13	7	1	3	24
Treated for trachoma	13	7	1	3	24
Screened and treated	13	7	1	3	24
Received treatment only	0	0	0	0	0
Received 6-monthly treatment	0	0	0	0	0
Did not require treatment	4	0	4	3	11
Treated trachoma cases and households	13	6	1	3	23
Community-wide treatment	0	1	0	0	1
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 2020**

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	21	1		22	0	30	0		30	0	1	0		1	0	8	3		11	0	60	4		64
Received treatment for trachoma	0	19	1		20	0	30	0		30	0	1	0		1	0	8	3		11	0	58	4		62
Received treatment for trachoma (%)		90	100		91		100			100		100			100		100	100		100		97	100		97
Estimated community members* requiring treatment	13	17	11	74	115	59	71	56	361	547	0	1	0	4	5	4	9	11	29	53	76	98	78	468	720
Number of community members* who received treatment	13	17	11	71	112	38	71	42	172	323	0	1	0	4	5	3	9	11	25	48	54	98	64	272	488
Estimated community members who received treatment (%)	100	100	100	96	97	64	100	75	48	59		100		100	100	75	100	100	86	91	71	100	82	58	68
Number of community members who declined treatment	0	0	0	4	4	3	0	3	3	9	0	0	0	0	0	1	0	0	2	3	4	0	3	9	16
Total number of doses of azithromycin delivered	13	36	12	71	132	38	101	42	172	353	0	2	0	4	6	3	17	14	25	59	54	156	68	272	550
Estimated overall treatment coverage (%)	100	95	100	96	96	64	100	75	48	61		100		100	100	75	100	100	86	92	71	99	83	58	70

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

**Table 5.6 Trichiasis screening coverage, prevalence and treatment\* among Indigenous adults by region, Western Australia 2020**

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		7		6		6		36		
Estimated population in region†		1470	442	3930	154	1980		1980	596	9360	9956
Number of adults examined		445	189	2367	15	324	35	634	239	3770	4009
Number of adults with trichiasis		0	1	5	0	0	0	6	1	11	12
Proportion of adults with trichiasis (%)		0.0	0.5	0.2	0.0	0.0	0.0	0.9	0.4	0.3	0.3
Surgery in past 12 months‡		0	0	0	0	0	0	1	0	1	1

\* Data includes opportunistic screening during trachoma screening, treatment and flu vaccination activities, MBS Item 715 data and optometrist services data.

† Population estimate limited to trachoma endemic regions and does not consider changing endemic regions over time and transiency between regions.

‡ Surgery cases may include cases identified in previous years.

**Table 5.7 Health promotion activities by region, Western Australia 2020**

	Goldfields	Kimberley	Midwest	Pilbara	Total
Number of communities that reported health promotion activities	16	16	8	14	54
Total number of programs reported	63	36	22	42	163
<b>Methods of health promotion</b>					
One-on-one discussion	63	22	14		99
Presentation to group		22	14	7	43
Interactive group session		2	13	20	35
Social marketing					0
Print material/mass media		27	22	19	68
Sporting/community events					0
Other		1		5	6
<b>Target audience</b>					
Health professionals/staff	12			10	22
Children	15		15	35	65
Youth		3		3	6
Teachers/childcare/preschool staff	14	8	15	4	41
Caregivers/parents					0
Community members	20	27		9	56
Community educators/health promoters					0
Interagency members	2		1		3
<b>Frequency of health promotion activities</b>					
Once	63	36	23	42	164
Occasional*					
Regular†					
Ongoing/routine					

\* 2-4 times per year.

† 5-12 times per year.

**Table 5.8 Soap distribution by region, Western Australia 2020**

Region	Milpa bar soap	Liquid soap refills
Kimberley	18 769	20
Pilbara	8 237	0
Midwest	9 730	0
Goldfields	18 000	0
<b>Total</b>	<b>54 736</b>	<b>20</b>

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# National Trachoma Surveillance Report 2020

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# Appendix

## 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 (endorsed by the Communicable Diseases Network Australia), screening for trachoma 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 the younger age groups, and that estimation based on 5-9-year-olds alone may underestimate the true prevalence in 1-9-year-olds.<sup>1</sup> To ascertain whether screening of the 5-9-year age group is sufficiently representative, Australian jurisdictions with trachoma undertook enhanced screening in at-risk communities in 2018, to include the 1-4-year age group. Here we present the results of 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, 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

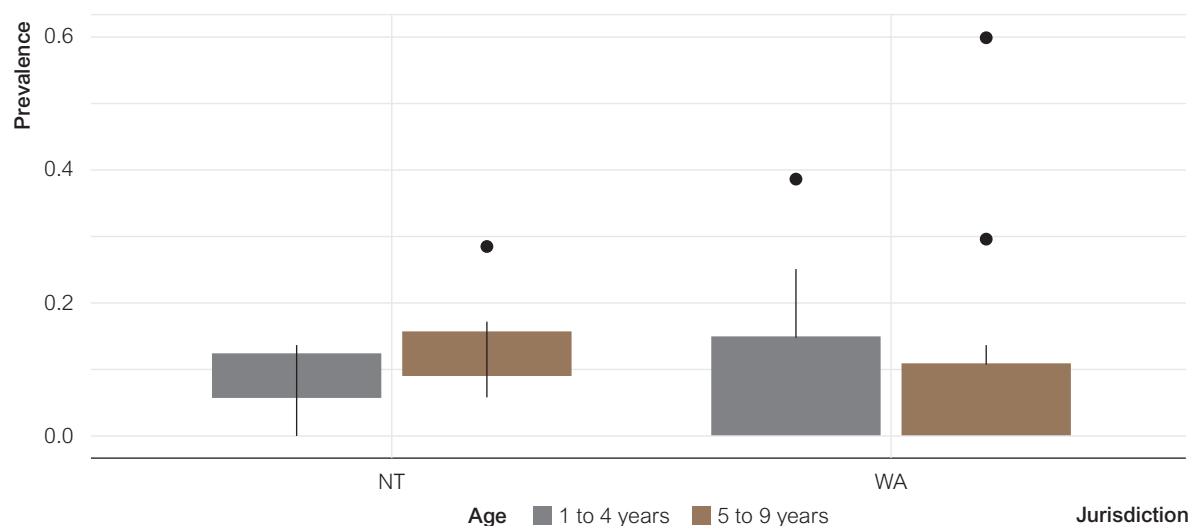
All communities in which screening for active trachoma was conducted during 2018 were eligible for inclusion. To ensure that the comparison of prevalence between younger and older children was based on comparable levels of screening in the 2 groups, in the primary analyses we restricted the analysis 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 5 single year age cohorts in the 5-9-years age group and 4 in the 1-4-years group, the ratio of underlying population numbers in the 2 age groups is approximately 5:4 and 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 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 on 748 children aged 1-9 in 18 communities across the 2 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 4 regions, met the screening coverage inclusion criteria. The difference between the 2 age groups in active trachoma prevalence was not statistically significant ( $p = 0.808$ ), see Table 1 and Figure 1.
- In the NT, 7 communities met the inclusion criteria, all from Alice Springs Remote. 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 (see Table 2 and Figure 1).
- 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 3, Figure 1) or the NT ( $p = 0.144$ ), (Table 4, Figure 1).

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



**Table 1** 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 2** 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 3** 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 4 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

## 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.

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