Ten years of trachoma elimination in rural Western Australia: lessons from the field

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Abstract

Introduction: Trachoma is an important eye infection, responsible for 8 million cases of trichiasis worldwide, a condition which can lead to blindness. The international Alliance for Global Elimination of Trachoma by the year 2020 (GET2020) is a WHO-led initiative which unites countries, including Australia, in a commitment to eliminate trachoma as a public health problem by 2020. Australia has several areas in which endemic trachoma persists, including rural and remote Aboriginal Communities in Western Australia (WA). The WA Trachoma Program was formed by the WA Country Health Service in 2006, and applies evidence based guidelines, and a coordinated strategic approach to reducing trachoma across WA. We review program data and discuss their implications for trachoma elimination in Australia, identifying key lessons learned.

Methods: Reported trachoma screening data from more than 50 Aboriginal Communities across WA were analysed to provide an understanding of program progress. Key challenges and barriers to effective implementation were explored as well as reflections from key stakeholders. The impact of identified program milestones and key program decisions are analysed with respect to the changing rates of trachoma prevalence in WA.

Results: Trachoma prevalence remote Aboriginal Communities in WA has dropped from 23% in 2006 to 2.6% in 2015. Other program measures also improved over this time, with the number of ‘at risk’ communities screened increasing from 75% to 100%, and the number of children in the target group screened increasing from 39% to 89%. Program milestones that facilitated these successes included: clearly identified KPIs; a coordinated approach to screening; innovative workforce solutions; formation of a Program Reference Group; increased funding and excellent relationships with key stakeholders and Aboriginal Communities.

Discussion: As Australia nears its target of eliminating trachoma as a public health problem by 2020, significant challenges to this goal remain. New programmatic issues threaten the achievement of elimination including the limitations of current screening tools, the highly mobile Aboriginal population; decoupling of data analysis from program delivery; and program fatigue. New strategies are required to address these issues: greater coordination between jurisdictional programs; renewed Community engagement with the use of more effective, evidence-based health promotion strategies; and a sharp focus on key social determinants, particularly environmental conditions.

Conclusion: Trachoma is a worldwide problem and Australia is the only developed country with endemic trachoma. The WA Trachoma Program has demonstrated that a flexible but strategic approach reduces trachoma prevalence as we near our target of elimination by 2020.
Introduction

Trachoma is an eye infection caused by the organism *Chlamydia trachomatis*. Repeated infections during childhood, leave the eyelids scarred and lead to trichiasis, a condition which can permanently scar the cornea and cause blindness. An estimated 200 million people are at risk of trachoma in 51 countries and trichiasis is the leading infectious cause of preventable blindness worldwide.

Since 1998, the World Health Organization (WHO) has formed an Alliance for the Global Elimination of Trachoma and adopted the goal of eliminating blinding trachoma as a public health problem, expressed in a worldwide programme called the ‘Global Elimination of Trachoma by the Year 2020’ (GET 2020). Australia being the only developed country with endemic trachoma, has committed to the goals of GET2020, with the Australian Government investing in the elimination of trachoma through surveillance and control activities.

Trachoma is classified by WHO as a neglected tropical disease, a group of communicable diseases that prevail in tropical countries and affect populations living in poverty, without adequate sanitation and in close contact with vectors that readily transmit the infectious disease. It is a disease that was common across Australia more than one hundred years ago, but by the late 1930s had largely disappeared as proper housing, sanitation and adequate sewerage and rubbish removal became normalised. Today in Australia, trachoma is confined to remote Aboriginal communities in which poverty and poor environmental health conditions persist.

The activities recommended by WHO to achieve trachoma elimination are summarised as the “SAFE” strategy: Surgery for trichiasis, Antibiotic treatment, Facial cleanliness and Environmental health improvements. While the former strategies require a medical model intervention, the latter two strategies are more difficult to define in their scope, yet they may hold the key to sustained elimination. Australia has adopted these WHO strategies within the recommendations of our Guidelines for the Public Health Management of Trachoma, yet their implementation is not uniform.

In Western Australia (WA), endemic trachoma is limited to about 50 communities and towns in the Kimberley, Pilbara, Midwest and Goldfields regions, where less than 15,000 people are at risk of the disease. The existence of trachoma has been documented in WA over many years, with trachoma a common finding among Aboriginal populations in these four regions in the late 1970s. Various trachoma surveillance and control efforts have been implemented in remote Aboriginal communities since this time. By late 1980s/early 1990s, trachoma control programs were established in the four regional Population Health Units (PHUs), which implemented similar but independent programs for trachoma screening, treatment and health education. A coordinated state-wide approach was taken in 2006 when the WA Trachoma Program was formed as a distinct program within the WA Country Health Service. Since inception, this program has applied evidence based guidelines, and a coordinated strategic approach to reducing trachoma across all four regions in WA.

It has been observed by Hopkins that disease eradication programs are difficult, risky and require more effort, time and money than initially expected. Australia faces the many challenges inherent in elimination programs and as the goal of trachoma elimination as a public health problem draws closer, it is important to reflect on lessons from the WA Trachoma Program. The extent to which the WA Trachoma Program is able to face the unique challenges incumbent in an elimination program has not been previously examined. We review program data from 2006 to 2015 and discuss their implications for trachoma elimination in WA, identifying key enablers and the challenges to achieving and sustaining GET 2020.
Methods

Previously published national trachoma reports since 2006 were analysed to glean programmatic changes over time, with regard to screening and treatment activities, as well as adjunctive health promotion and environmental health programs. Reported trachoma and trichiasis screening data from more than 50 Aboriginal Communities across WA were collated and are presented to provide an understanding of program progress.

Program records were reviewed, with respect to the identification of specific challenges or barriers to effective implementation. Current reflections of the WA Trachoma Reference Group were sought which reveal the existing enablers and challenges to the trachoma program in WA.

The collection and analysis of data was undertaken as part of routine program activities for the WA Trachoma Program; patient and health service identified data were available only to staff who normally have access to these data for the purpose of fulfilling their work responsibilities so ethical approval was not required.

Results

Trachoma prevalence

In Australia, risk of trachoma is confined to Aboriginal people living in remote Aboriginal communities in which there is historic or current evidence of trachoma infection. The target group for the National trachoma program is 5-9 year old children living in such communities.

Prior to 2014, mass drug administration (MDA) of antibiotics to whole communities was not a recommended intervention in Australian Aboriginal Communities, where it was feasible to treat cases and their direct household contacts. If prevalence of trachoma was found to be high, MDA to school children only was sometimes undertaken, in addition to treatment of household contacts of the case/s. Treatment adherence is presented in Table 1, as it relates to recommendations documented in the Communicable Disease Network Australia National Guidelines for the Public Health Management of trachoma. These guidelines changed during the study period, in 2014, when MDA was introduced as one of the treatment options to be used when prevalence was found to be high (>5%).

Trachoma in remote Aboriginal Communities of WA has reduced, from 23% to 2.6% between 2006 and 2015. Screening coverage and trachoma prevalence data between 2006 and 2015 are shown in Table 1. Inconsistency in screened population cohorts between years makes comparisons problematic. Between 2011 and 2015 screening data has been consistently reported for children aged 5-9 years, using a jurisdictional estimated denominator. The denominator was supplied by the trachoma teams, based on the number of children who were living in the Community (had stayed the night there) at the time of the trachoma screen.

A change in the National Guidelines for the Public Health Management of Trachoma meant that not all communities needed to screen for trachoma every year. Specifically, those communities that had a prevalence of less than 5% moved to screening biennially. Furthermore, some communities found to have high rates of trachoma, greater than 5%, were required to undertake mass drug administration within the community, instead of screening. For these non-screening years, a second prevalence for ‘data carried forward’ has been calculated, using the most recent screening data carried forward which is believed to be a conservative upper-bound on average levels of trachoma. The trachoma prevalence in WA in 2015 for communities which screened was 4.4%, and using the screening data carried forward, was 2.6%.
Table 1  Trachoma Screening and Trachoma Prevalence Results, WA Trachoma Program 2006-2015^{12-21}

<table>
<thead>
<tr>
<th>Year</th>
<th>Communities screened</th>
<th>Age group reported</th>
<th>Number Children screened</th>
<th>Denominator* in screened communities</th>
<th>Screening coverage</th>
<th>Children with active trachoma</th>
<th>Observed Trachoma prevalence</th>
<th>Treatment adherence (treatment according to current guidelines)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>53</td>
<td>0-14 years, varied between regions</td>
<td>1,719</td>
<td>4,717</td>
<td>36%</td>
<td>399</td>
<td>23%</td>
<td>84%</td>
<td>Inconsistent guidelines applied between regions for trachoma diagnosis; inconsistent target age groups used for screening and prevalence making regional comparisons difficult</td>
</tr>
<tr>
<td>2007</td>
<td>58</td>
<td>1-9 years</td>
<td>1,666</td>
<td>3,377</td>
<td>49%</td>
<td>250</td>
<td>15%</td>
<td>23%</td>
<td>91% of communities that required treatment received treatment, however, only 23% adhered to current guidelines indicating a lapse in use of best practise guideline</td>
</tr>
<tr>
<td>2008</td>
<td>67</td>
<td>1-9 years</td>
<td>1,823</td>
<td>4,112</td>
<td>44%</td>
<td>278</td>
<td>15%</td>
<td>79%</td>
<td>Treatment of 11 cases did not follow current guidelines</td>
</tr>
<tr>
<td>2009</td>
<td>69</td>
<td>1-9 years</td>
<td>1,684</td>
<td>4,170</td>
<td>40%</td>
<td>247</td>
<td>14.7%</td>
<td>96%</td>
<td>1-9 yr olds screened in 3 regions; 5-9y olds screened in 1 region</td>
</tr>
<tr>
<td>2010</td>
<td>75</td>
<td>1-14 years</td>
<td>2,250</td>
<td>6,858</td>
<td>39%</td>
<td>164</td>
<td>6% (8% for 5-9 years)</td>
<td>85%</td>
<td>Some lack of adherence to CDNA guidelines reported;</td>
</tr>
<tr>
<td>2011</td>
<td>68*</td>
<td>1-14 years</td>
<td>2,647</td>
<td>6,858</td>
<td>39%</td>
<td>164</td>
<td>6% (8% for 5-9 years)</td>
<td></td>
<td>Jurisdiction estimated number of children at risk (population in community); 29 communities (94%) treated according to CDNA guidelines</td>
</tr>
<tr>
<td>2012</td>
<td>77</td>
<td>5-9 years</td>
<td>1,689</td>
<td>2,306</td>
<td>73%</td>
<td>71</td>
<td>4%</td>
<td>93%</td>
<td>In line with CDNA Guidelines, not all communities screened during 2014. Using the most recent prevalence data carried forward in those communities that did not screen in the 2014 calendar year, overall prevalence is 2.9%.</td>
</tr>
<tr>
<td>2013</td>
<td>71</td>
<td>5-9 years</td>
<td>1508</td>
<td>1684</td>
<td>90%</td>
<td>57</td>
<td>3.8%</td>
<td>94%</td>
<td>In line with CDNA Guidelines, not all communities screened during 2014. Using the most recent prevalence data carried forward in those communities that did not screen in the 2014 calendar year, overall prevalence is 2.9%.</td>
</tr>
<tr>
<td>2014</td>
<td>58</td>
<td>5-9 years</td>
<td>1565</td>
<td>1724</td>
<td>91%</td>
<td>32</td>
<td>2.0%</td>
<td>98%</td>
<td>In line with CDNA Guidelines, not all communities screened during 2015. Using the most recent prevalence data carried forward in those communities that did not screen in the 2015 calendar year, overall prevalence is 2.6%.</td>
</tr>
<tr>
<td>2015</td>
<td>15</td>
<td>5-9 years</td>
<td>387</td>
<td>433</td>
<td>89%</td>
<td>17</td>
<td>4.4%</td>
<td>96%</td>
<td></td>
</tr>
</tbody>
</table>

* Between 2006-2010, denominator data for children in Aboriginal Communities were taken from school enrolment data; from 2011-2015, denominator data for children were a jurisdictional estimate based on the number of children known to be present in the community at the time of screening/treatment.

* In 2011 one region aggregated 10 communities into one
Trichiasis prevalence

The trichiasis screening results for WA between 2006 and 2015 are shown in Table 2. Denominator data calculations make comparisons over time difficult prior to 2010\textsuperscript{12-21}. Between 2010 and 2015, the number of people who have been screened for trichiasis has varied from 6\% to 52\% of the regional Aboriginal population of people over 40 years and the prevalence of trichiasis has been consistently less than 1\%\textsuperscript{13,16-21}. The definition of trachomatous trichiasis used for validation of elimination is that the trichiasis cases are to be ‘unknown to the system’, or incident cases\textsuperscript{22}. The extent to which this definition has been followed is not documented and it is possible that in our small WA communities the same cases are found and counted as incident cases for several years.

Table 2  Results of trichiasis screening, WA Trachoma Program, 2006-2015\textsuperscript{12-21}

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of people &gt;40 years screened for trichiasis (%)</th>
<th>Number of Trichiasis cases found by screening</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>No data</td>
<td>No data</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>275 (1.3%)</td>
<td>17 cases (6%)</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>903 (13%)*</td>
<td>25 cases (3%)</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>467 (10%)</td>
<td>23 cases (5%)</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>377 (10%)</td>
<td>0 cases</td>
<td>Denominator used is calculated on population residing in communities “at risk” of trachoma and not total regional population</td>
</tr>
<tr>
<td>2011</td>
<td>255 (6%)</td>
<td>2 (1%)</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>2,129 (52%)</td>
<td>22 (1%)</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>1,656 (48%)</td>
<td>8 (0.5%)</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>1,780 (50.3%)</td>
<td>11 (0.4%)</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>810 (23%)</td>
<td>7 (0.9%)</td>
<td></td>
</tr>
</tbody>
</table>

* Figure includes all people >30 years who were screened for trichiasis

Clean faces, health promotion and environmental health

Results for clean face screening between 2006 and 2015 range from 74\% to 82\%\textsuperscript{12-21} (Table 3). Anecdotal reports from program staff indicate that this ‘snap shot’ picture of clean faces within a school population is often determined by the teaching staff who may ask their students to ‘wash faces’ prior to seeing the trachoma team on the day of the screening. It is the widely held belief of the WA Trachoma Reference Group that this measurement is of limited value either as an indicator of trachoma risk or program outcome.

Health promotion programs have been implemented through regional PHUs since 2006, with activities dependent largely on each PHU’s overall operational budget and human resources, rather than trachoma program-specific funding. Most health promotion has targeted children through schools and playgroups with education about trachoma and key hygiene messages provided throughout the calendar year. Provision of soap and face washers and other practical hygiene resources has often occurred, although inconsistently between regions, and mostly on a once-off, yearly basis. Table 3 shows reporting for these activities during calendar years and (where available) number of communities involved.

Between 2006 and 2015, there was an increase in the number of reported health promotion programs targeting facial cleanliness, with 21 communities having a health promotion program in 2007\textsuperscript{12}, to 48 communities in 2011\textsuperscript{17} and 59 in 2015\textsuperscript{13}. Information about the quality, duration or content of the programs was not reported nationally, and evaluation of specific health promotion programs is lacking.
### Table 3
Results Clean Face Data and Health Promotion/Environmental Health program reporting, WA Trachoma Program, 2006-2015

<table>
<thead>
<tr>
<th>Year</th>
<th>Number Communities Screened</th>
<th>Prevalence of Clean Faces from screening</th>
<th>Health Promotion (HP) and/or Environmental Health (EH) programs</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>53</td>
<td>No jurisdictional data available</td>
<td>No data reported</td>
<td>88% clean face prevalence reported for Kimberley</td>
</tr>
<tr>
<td>2007</td>
<td>51</td>
<td>82%</td>
<td>HP: Health education program in 21 communities; EH: environmental health activities in six communities</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>67</td>
<td>78%</td>
<td>HP: Facial cleanliness resources used; facial cleanliness programs implemented; EH: Environmental health conditions reported: good (13%); variable (55%), very poor (13%)</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>69</td>
<td>78%</td>
<td>HP: Facial cleanliness programs reported to be available in 30 communities (43%); EH: conditions reported as: good (4%); variable (52%), very poor (4%)</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>75</td>
<td>81%</td>
<td>HP: Reported increase in Health Promotion with 75% of communities having facial cleanliness program; EH: conditions reported as: good (29%), variable (20%) and poor (21%)</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>68</td>
<td>78%</td>
<td>HP: 58% of communities using face cleanliness resources; 71% have programs; EH: conditions reported as: good (49%), variable (13%) and poor (6%); no report for 32%</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>77</td>
<td>81%</td>
<td>HP: 263 HP initiatives reported in total of 73 communities; interactive group sessions (n=74) made up 28%, then print material 24%, then presentations to group (19%); EH: no report</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>71</td>
<td>74%</td>
<td>HP: 169 activities conducted in total of 71 communities; majority were print material (n=62), presentations to groups (n=59) or interactive group sessions (n=53); EH: no report</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>58*</td>
<td>79%</td>
<td>179 activities reported in total of 59 communities; methods included print material (n=113), presentation to group (n=84); interactive group session (n=59); EH: no report</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>49*</td>
<td>72%</td>
<td>Total of 136 health promotion activities in 49 communities; EH: no report</td>
<td></td>
</tr>
</tbody>
</table>

* In 2014 and 2015, one region aggregated 10 communities into one

Environmental health status of communities was reported until 2010\textsuperscript{12,14-17}. However, very few specific environmental health programs were implemented as part of the WA Trachoma Program due to a lack of resources. No data were available regarding the evaluation of environmental health programs for trachoma in national reports. Strong partnerships exist between some regional PHUs and local Environmental Health organisations and/or workers, as well as WACHS and the State’s Department of Health Environmental Health Directorate and collaborative work is carried out where possible.

**Programmatic KPIs**

In 2006, Australia’s first National Guidelines for the Public Health Management of Trachoma were published\textsuperscript{6}, providing recommendations for a consistent and evidence based approach to trachoma.
control. These guidelines were adopted for use by all four regional PHUs in 2007. This included aligning their trachoma Key Performance Indicators (KPIs) for screening and treatment with the recommendations in the Guidelines. Also in 2007, all WA regions committed to a coordinated approach to screening for trachoma, by conducting screening during the same two week period in August/September. Program KPIs improved over the ensuing eight years, with the number of ‘at risk’ communities screened increasing from 75% to 100%\textsuperscript{13-21}, and there was an overall increase in both screening and treatment coverage.

**Financial resources**

In 2006 the WA Country Health Service implemented the WA Trachoma Program to provide a state-wide approach for the management of trachoma. In 2007 the Australian Government provided additional funding for jurisdictional trachoma programs to assist with the screening and treatment targets set by the National Guidelines. Between 2007 and 2016, the average yearly financial support provided to the WA Trachoma Program increased twenty-fold. For the four year period 2013-2017, the Australian Government has committed $16.48million towards national trachoma elimination efforts, and in 2017 the Commonwealth announced that a further four years of funding will be made available at an increased amount of $20.8million\textsuperscript{23}.

**Review of program enablers and challenges**

Review of minutes from meetings of the WA Trachoma Reference Group and comparison of trachoma prevalence data in WA identified key factors/issues that have been categorised as either enablers or challenges to the program in WA.

Enablers to program success include: increased and dedicated Program funding; clearly identified KPIs; a coordinated approach to screening and treatment being delivered across the State in the same two to four week period which reduces the potential for trachoma cross-infection from untreated to treated communities (this strategy is now being adapted by other jurisdictions); local collaborative planning; innovative workforce solutions including use of medical students during screening and treatment; formation of the Program Reference Group; and excellent relationships with key stakeholders and Aboriginal Communities.

Challenges to the current program include: workforce training and existing screening tools; information sharing and timely data analysis to inform programmatic decision making; a highly mobile Aboriginal population; program and community fatigue; and recognition of the importance of health promotion and environmental health as prerequisites for sustained reduction in trachoma prevalence after treatment strategies have been applied.

**Discussion**

The WA Country Health Service is on track to eliminate blinding trachoma as a public health problem in the state by 2020. Despite the preclusions to comparing data over the last ten years of trachoma control, the WA data are showing a downward trend and recent screening results show levels of less than 5% (the elimination goal) whether or not data from screening pre-MDA is carried forward\textsuperscript{13}. Data for trichiasis also show consistently low prevalence.

**Enablers to success**

Aided by the judicious use of KPIs for screening and treatment, WA has improved the quality of the data produced, with regards to its consistency and comparability. The Guidelines for the Public Health Management of Trachoma\textsuperscript{7} have supported decision making in many situations and the next few
years will see several communities be rescreened after MDA, and the effectiveness of MDA as an elimination tool in this setting will be assessed. The WA Trachoma Program has found that although quite clear, the Guidelines for the Public Health Management of Trachoma are open to interpretation, particularly when decision makers are faced with small population sizes and decisions are based on cohort prevalence which may include only two or three individuals with disease. Program governance provided by WA Trachoma Reference Group has facilitated consistent application of the Guidelines between regions and makes the WA data more comparable between years. The WA Trachoma Reference Group with state and regional multiagency/department representatives works within six guiding principles (Box 1). Two of the WA Trachoma Reference Group members (including the Chair) represent WA on the National Trachoma Reference Group; this ensures timely and accurate information exchange between the two groups.

A well-resourced program is more likely to succeed and the program specific financial assistance provided by the Australian Government is a welcome addition to the significant contribution made by the WA State Government towards the Trachoma Program. Financial resources, although important, are only one resource that facilitates program success. Having a competent and adequately trained workforce to implement the program is vital, yet can be a challenge in rural settings. The WA Trachoma Program has found a novel and successful approach to this challenge by using medical students to supplement usual PHU staffing levels to provide enough staff for all the screening and treatment to occur across the State within the same two-week period.

**Challenges for the WA Trachoma Program**

The challenges evident from the records of the WA Trachoma Program resonate with the common challenges inherent in many elimination or eradication programs. The principles behind programs that aim to eradicate or eliminate disease have been described by Hopkins (2013) and the success of any such program depends largely on the extent to which these principles can be sustained and the challenges overcome. These principles include: the need to intervene everywhere the disease occurs, no matter how difficult access to the area may be or how minor the perceived problem may be to individuals or the area; the importance of monitoring progress closely; the need for flexibility and urgency in response to monitoring; timely operational research; and the need to continue focus on the goal of elimination, even when the cost of treatment per case increases dramatically as the number of cases declines.

The WA Trachoma Program has consistently secured participation of the most remote populations in WA, with 69 discrete Aboriginal communities currently under surveillance as part of the program. Community participation in trachoma surveillance and control is largely dependent on the quality of the relationships forged between individual PHUs and the people living and working in Aboriginal communities. These relationships are built on trust and a common interest to improve health outcomes. The WA Trachoma Program has articulated concerns regarding the maintenance of trust of Aboriginal communities with which they work, particularly as this relates to safeguarding data and ensuring data use remains confined to programmatic decision making. Academic use of program data is supported only with de-identified and aggregated results, consistent with this social contract held with Aboriginal communities.
Box 1: WA Trachoma Reference Group guiding principles

**Guiding principle 1**
Trachoma is a manifestation of poverty, poor built environment and inadequate support and capacity for communities to be engaged.

The WA Trachoma Control Program will support strategies that focus on addressing social and environmental determinants of trachoma as well as the clinical and health dimensions, this includes building community capacity, building service sustainability and improving service integration.

**Guiding principle 2**
WA Trachoma Control Program will be evidence-based. Its decisions about program design, delivery and improvement will refer to the best available evidence.

**Guiding principle 3**
The WA Reference Group will adopt a reflective approach in its work particularly to ensure future National Project Agreements continue to facilitate effective and efficient strategies to eliminate trachoma in endemic areas of WA.

**Guiding principle 4**
Each of the four endemic regions is unique in its history, geography, epidemiology and communicable disease capacity. The WA Reference Group will not impose arbitrary expectations or uniform requirements but facilitate and support local flexibility in program delivery. It will maintain an outcomes orientation in supporting regions in their work. It will endorse alignment of activities to those of Northern Territory and/or South Australia where recommended by local trachoma program teams.

**Guiding principle 5**
Regions seeking to deviate from the accepted policies and protocols will seek the support of the WA Reference Group in advance, allowing peer review of their proposed approaches and a determination of the impact on program effectiveness and efficiency. The WA Reference Group will support regions in implementing endorsed locally flexible efforts in line with the previous guiding principles.

**Guiding principle 6**
The WA Trachoma Reference Group recognises that working in partnership with local service providers and communities is a characteristic that is integral to ensuring the success of local trachoma control programs.

The WA Trachoma Program’s progress is monitored closely at a State level, by a central program management team and the WA Trachoma Reference Group. At a National level, the National Trachoma Surveillance and Reporting Unit collates data and publishes national reports. National program governance is provided by the National Trachoma Surveillance Reference Group. As the target of elimination draws closer, the WA Trachoma Program may need to adapt in response to monitoring or research findings. This is achievable within the current governance structure. A remaining challenge for WA will be how to interpret program evaluation data, given small numbers within many of the communities precludes interpretation of results from single communities over time.
Recent renewed commitment in 2016 by the Australian Government to not only continue, but increase funding, for the trachoma program at a National level provides reassurance that there is political will to ensure this program is successful. With only seventeen cases found in WA in 2015, the cost of treatment per case is rising sharply. With the significant demands on the health dollar some might argue that money dedicated to trachoma elimination would be better spent on a different health concern. However, to shift focus now and reduce trachoma control activities will likely threaten achievements to date and jeopardise elimination targets. Despite this, program and community fatigue can threaten program success. The WA Trachoma Program staff were recently reinvigorated when the Program’s successes were recognised by a WA Health Department award, a recognition amongst peers that buoys program staff. Maintaining community enthusiasm is in focus, particularly in the face of competing health priorities many of which are also preventable. Sharing information about the success of the program with the community, is as important as recognising and celebrating staff contributions.

Another challenge acknowledged by the Trachoma Reference Group is the high mobility of the Aboriginal population in rural WA. A coordinated approach within our own jurisdiction has assisted to overcome this issue; since 2007 screening and treatment has occurred during the same time period across the State. WA now recognises the need to ensure greater inter-jurisdictional coordination and is liaising through the central program management team with other jurisdictions to align our respective programs.

Common to elimination programs is the challenge of screening for a disease that is becoming increasingly rare. As with all screening tests, the positive predictive value of clinical trachoma grading, decreases as the prevalence of trachoma in the population decreases. Furthermore, it has been identified that there are issues with regards to the inter-grader reliability of clinical trachoma grading, a situation that is likely to worsen as there are fewer experienced graders working in the field. As trachoma becomes a rare disease, our workforce faces a situation where many will not have seen a single case. One innovative solution to this challenge could be to send our workforce overseas to developing countries to gain work experience in the field and visualise trachoma, while providing much needed assistance to resource poor countries.

As with other public health programs there is a risk that following an initial success, there can be re-emergence if there is a decrease in program activity. To date, the success of the WA Trachoma Program is largely the result of sustained efforts in screening and treatment of trachoma over many years, without as strong an emphasis on the ‘F’ and the ‘E’ components of the SAFE strategies. Environmental health programs in Aboriginal Communities are generally under-resourced relative to the task at hand, both from a fiscal viewpoint and a human resource perspective. Evidence for effective health promotion programs that may work in this environment is also lacking. For Australia to eliminate trachoma from Aboriginal communities without resurgence, a sustained investment in health promotion and environmental health will be required.

Conclusion

Trachoma is a worldwide problem and Australia is the only developed country with endemic trachoma. Trachoma in WA has reduced, from 23% to 2.6% between 2006 and 2015. Good progress has been made with respect to screening and treatment activities, with the aid of specific enablers. Slower progress has been made in the elimination strategies pertaining to facial cleanliness and environmental health improvements. It is likely that WA will reach the elimination target set for 2020,
but to sustain elimination and avoid resurgence, a greater investment in health promotion and environmental health will need to be made.

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Presenters

Hannah Castledine is the Nutrition Coordinator in the Health Promotion team at WA Country Health Service in the Pilbara. Hannah has led the trachoma health promotion program for the region since 2015. This has enabled her to develop strong partnerships with remote communities and observe the continually declining trachoma rates in the region. Hannah has vast on-the-ground experience with people living in remote communities and has delivered programs on a number of health priority areas to these groups. She is especially passionate about working towards nutritional status improvement in Aboriginal populations.

Alicia Michalanney works for the WA Country Health Service (WACHS) as the Goldfields region’s Director of Population Health. She lives in the regional centre of Kalgoorlie-Boulder, which links the remote and arid Western Desert in the north with the pristine turquoise beaches of the coastal area around Esperance. Alicia enjoys the diversity of the region and is passionate about delivering safe and accessible health services for its entire population, including the Aboriginal communities, which
account for more than 12 per cent. Alicia began her career as a physiotherapist at Royal Perth Hospital before returning to the country more than fifteen years ago with her husband, John. During this time Alicia has led WACHS Goldfields in its clinical service planning, facility redevelopment and clinical reform program. One of the highlights of her career has been overseeing the 10-year, $125 million redevelopment of the region’s two major hospitals and seeing them turned into vital, modern health campuses. While working on the redevelopment program, Alicia had the opportunity to meet local Aboriginal community members to hear their needs and ideas for new health service facilities. These early discussions were the start of what grew into the Yuwa—Art for Welcome and Wayfinding project in Kalgoorlie, an innovative partnership between Aboriginal people, local artists and the health service. This seemingly straightforward project has reaped some surprising benefits and helped to transform the way Aboriginal people relate to the hospital environment. The project was so successful it has been repeated across all the redevelopment projects in the Goldfields.