REGIONAL APPROACHES TO IMPROVING EYE CARE SERVICES AND OUTCOMES FOR ABORIGINAL AND TORRES STRAIT ISLANDER PEOPLES: A SCOPING REVIEW

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Acknowledgement

The authors involved in preparing this scoping review identify the significant effort and contributions made to improve Aboriginal and Torres Strait Islander eye health and care by many organisations, agencies and individuals. We note the remarkable capacity and generosity of the Aboriginal community-controlled sector to participate in activities working to reform systems and collaboratively achieve change. The authors applaud these efforts and thank those that have managed to find the time and resources to publish findings and learnings as a means of supporting further change.

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Summary

Objective/Aim:

This scoping review identifies and describes how regional approaches to improving eye care and eye health outcomes for Aboriginal and Torres Strait Islander peoples have been implemented across Australia, since the launch of The Roadmap to Close the Gap for Vision in 2012. The scoping review forms one element of a broader national evaluation of regional implementation of The Roadmap.

Design/Methods:

A scoping review of publicly available information produced since 2012 was conducted using pre-defined search terms in Medline, ProQuest, PubMed, Google Scholar and searching of relevant websites. Sources were included in the review if they were written in English; focused predominantly on Aboriginal and/or Torres Strait Islander eye health or eye care in Australia; they reported involvement of three or more stakeholder organisations; and they provided detail of activities undertaken at a regional level.

Key characteristics for how regional stakeholders worked together to improve eye care for Aboriginal and Torres Strait Islander people, the issues they addressed, the types of changes reported, and the enablers and barriers to implementation were identified. The role of the Indigenous Eye Health Unit (IEH) at the University of Melbourne, and alignment of regional activity with IEH regional implementation elements was also mapped.

Results/Findings:

A total of 472 sources were identified through the search strategy. After screening for relevance and removal of duplicates, 50 sources were included in the final review. The majority of sources (29) were conference proceedings, the other sources were journal articles (8), reports (8), online ‘Share Your Story’ articles (5), website entries (2), letters to the editor (1), newspaper articles (1), online news articles (1) and a video (1). Sources described activity in every jurisdiction in Australia. The majority of sources were focused on three jurisdictions: Victoria (13), New South Wales (12) and the Northern Territory (11). There were six regional stakeholder groups described by two or more sources. Four peer-reviewed journal articles were identified that described collaborative stakeholder groups working together to address eye care at a regional level.

During the search a large number of sources were identified that discussed regional approaches to improving eye care for Aboriginal and Torres Strait Islander people but which did not provide detail on how approaches were being implemented.

Conclusion:

The scoping review identified a number of sources that describe multiple stakeholders working together at a regional level to improve Aboriginal and Torres Strait Islander eye care in Australia from 2012 onwards). There are a mix of peer-reviewed and grey literature sources, the majority being grey literature in the form of conference presentations. The literature is centred on several jurisdictions and does not represent regions across different parts of the

country. There are also varying levels of detail provided across the different sources, which limits the information the review can assess.

There is evidence within the available literature of regional activity being implemented that aligns with what the Indigenous Eye Health Unit (IEH) describes as ‘regional implementation elements or steps’ and indications of this activity having an impact on both eye care systems and outcomes - most significantly on increased service availability and utilisation. The benefit and importance of partnership and collaboration is also highlighted in many sources, along with the role of coordinators and engagement with communities. Aboriginal Community Controlled Organisations are also central to the work, with a high proportion involved in the work described. There is also evidence of regional approaches in all jurisdictions and remoteness categories – indicating the applicability of a regional approach in a range of settings and locations.

While the literature describes multiple changes to eye care services and systems, there is less evidence of the impacts or outcomes of this work for patients and/or community members who would benefit from the services. The ARTD evaluation conducted at the same time as this review found that improved data collection and monitoring is needed – which is supported by the limited data found in our review.

Regional networks could be better supported with resources to capture and share what they have learnt from their own experiences in a way that can better inform others, shape policy and practice and help those regions to reflect on their own progress and future needs.

Rationale

The Roadmap to Close the Gap for Vision (the Roadmap) [1] was launched in 2012 by the Indigenous Eye Health Unit (IEH) at the University of Melbourne. It is a national sector-endorsed policy document, developed following extensive consultation across the Aboriginal and Torres Strait Islander eye health sector by IEH between 2008-2012 [1].

The Roadmap outlined recommendations to close the vision gap between Aboriginal and Torres Strait Islander people and other Australians. This gap was evidenced by six times higher rates of blindness and vision loss amongst Aboriginal and Torres Strait Islander people compared to other Australians in 2008 [2].

Recommendations included national and jurisdictional level activities, as well as working to improve eye care services and outcomes at a regional or local level. Since 2012, IEH has advocated for and supported implementation of regional approaches to improving eye care across Australia [1].

This advocacy and support has included providing guidance on regional approaches in Roadmap summary documents, annual updates on implementation of the Roadmap to Close the Gap for Vision, published papers, conference presentations and workshops and the development of a Regional Implementation Toolkit in 2015 [3-6]. In November 2020, IEH identified 59 regions in which regional implementation activity was occurring across all states and territories, out of a possible 63 regions.[1]

While national *Indigenous Eye Health Measures* reports from the Australian Institute of Health and Welfare, and results from national surveys conducted in 2008 [4] and 2015 [7] provide quantitative data on a range of eye health measures, they do not provide contextual information regarding activities, progress or changes at a local level; nor do they analyse the factors that are contributing to any changes at the regional level.

In 2019, IEH received additional funding from the Paul Ramsay Foundation to support the first national evaluation since the Roadmap was launched. The aim of the broader evaluation is to provide additional context and detail at a local and regional level about the progress and effectiveness of regional implementation and to inform the work of IEH and the Indigenous eye health sector more broadly.

This scoping review forms part of the evaluation, with other evaluation elements comprising a national survey of people working in the sector; a series of case studies exploring regional approaches in greater detail; and interviews with key stakeholders on the role of IEH in implementation and systems change.

The scoping review was conducted to clarify what regional implementation looks like in practice within the context of Aboriginal and Torres Strait Islander eye care and using publicly available information; to map the available evidence on regional approaches; to identify the characteristics of regional implementation as they align with the key evaluation questions; and to ascertain knowledge gaps. This aligns with guidance provided by Munn et al on the purpose

[1] The 2021 Annual Roadmap Update is due to be released in November 2021 and will show that 64 regions were identified as 'active'.

of scoping reviews [8] and by Peters et al regarding appropriate methods for synthesis of evidence where the types of sources are not standard peer-reviewed literature [9].

Ethics

The evaluation protocol received multi-site ethics approvals from eight Human Research Ethics Committees over the course of 2019 and 2020.

- The University of Melbourne: **1954583.1**
- Aboriginal Health and Medical Research Council of NSW: **1632/2**
- Australian Institute of Aboriginal and Torres Strait Islander Studies: **EO166-21012020**
- Aboriginal Health Research Ethics Committee of South Australia: **04-20-868**
- Human Research Ethics Committee of the Northern Territory: **2020-3788**
- Central Australian Human Research Ethics Committee: **2020-3788**
- Western Australian Aboriginal Health Ethics Committee: **1019**
- Townsville Hospital and Health Service Health Research Ethics Committee: **69809**

Objectives

The scoping review was conducted to systematically map the publicly available information about collaborative regional approaches to improving eye care for Aboriginal and Torres Strait Islander people, which has occurred since the Roadmap was launched in 2012.

The research questions for the scoping review align with five of the six Key Evaluation Questions (KEQs) in the broader evaluation protocol (available on request from author 1).

1. (KEQ 1): How is regional activity to improve eye care services for Indigenous Australians being implemented across Australia?
2. (KEQ 2): What changes are happening as a result of this activity, including to systems (awareness, knowledge, practice, processes, pathways) and to outcomes (service user access, experiences and outcomes)?
3. (KEQ 3): What are the key enablers and barriers to implementing regional eye health activity?
4. (KEQ 4): What else is needed to improve eye care systems and eye health outcomes for Aboriginal and Torres Strait Islander people – locally and at jurisdictional and national level (recommendations)?
5. (KEQ 5): What is the role and effectiveness of IEH in supporting regional implementation of the Roadmap?

Methods

Identifying relevant sources

Literature published from 2012 onwards was obtained using a defined search strategy. This was added to in May 2021 with additional targeted searches using Google.

Three researchers (TS, GRL and GG) searched a range of databases and relevant websites between March 2020 and May 2021. These included: Medline, PubMed, ProQuest, Google Scholar, the Indigenous Eye Health Unit website (TS and GG), Indigenous HealthInfonet (GG),

National Aboriginal Community Controlled Health Organisation (TS), Public Health Association of Australia (TS), Indigenous Allied Health Australia (TS), Royal Australian and New Zealand College of Ophthalmology (GG).

Key search terms were refined through trial and discussion between the researchers.

In May 2021, a targeted Google search was used to identify additional sources relating to six regional groups that had been identified multiple times in the literature. This identified a small number of additional sources, describing three of these six groups.

Table 1: Search terms and databases

Search terms (all limited to 2012 onwards and English language)	**Source**	**Date of search**
Eye* or vision AND Aboriginal or Torres Strait or Indigenous or first nation or first nations (and Australia*).	Medline (GRL)	8 April 2020
Ab((Aborig* OR indigenous)) AND Ab(eye) AND Ab(care) Peer reviewed, newspapers, websites, reports, articles, conference papers and proceedings, dissertations and theses, Government and Official Publications, blogs podcasts and websites, magazines, scholarly journals	ProQuest (TS)	22 April 2020
Indig* + “eye health” / "ophth*" "optom*" "indig*" / "ophth*" "optom*" "Aborig*"	PubMed (GG)	
"Indigenous Australian population" eye care	Google Scholar (TS)	22 April 2020
“regional eye care + Aboriginal”	Google Scholar (TS)	22 April 2020
regional eye + Indigenous	Google Scholar (TS)	22 April 2020
Aboriginal eye care	Google Scholar (TS)	22 April 2020
Aborig* + eye	PubMed Search (TS)	22 April 2020
Optom* + ophthal* + (Indigenous OR Aborig* “Torres Strait”)	Google Scholar (GG)	April 2020
“regional collaboration” + “eye health”	Google Scholar (GG)	April 2020
“Grampians + eye” “Central Australia and Barkly Integrated Eye Health Strategy/CABIEHS” “Western NSW Eye Health Partnership” “Great South Coast + eye health + Victoria” “Institute for Urban Indigenous Health + eye” “Katherine region eye health”	Google (TS)	May 2021

Eligibility criteria

Sources were included in the review if they were published between 2012 and the date of the search, described specific activities focused on providing or improving eye care services or outcomes for Aboriginal and/or Torres Strait Islander peoples in Australia, included three or more stakeholder organisations, were written in English, and described a ‘regional’ or local level approach. Sources were excluded if did not provide information or evidence about how regional implementation or regional approaches and activities were being undertaken in specific regions.

Sources that provided both narrative descriptions of activities and/or quantitative data were included.

Selection of sources of evidence

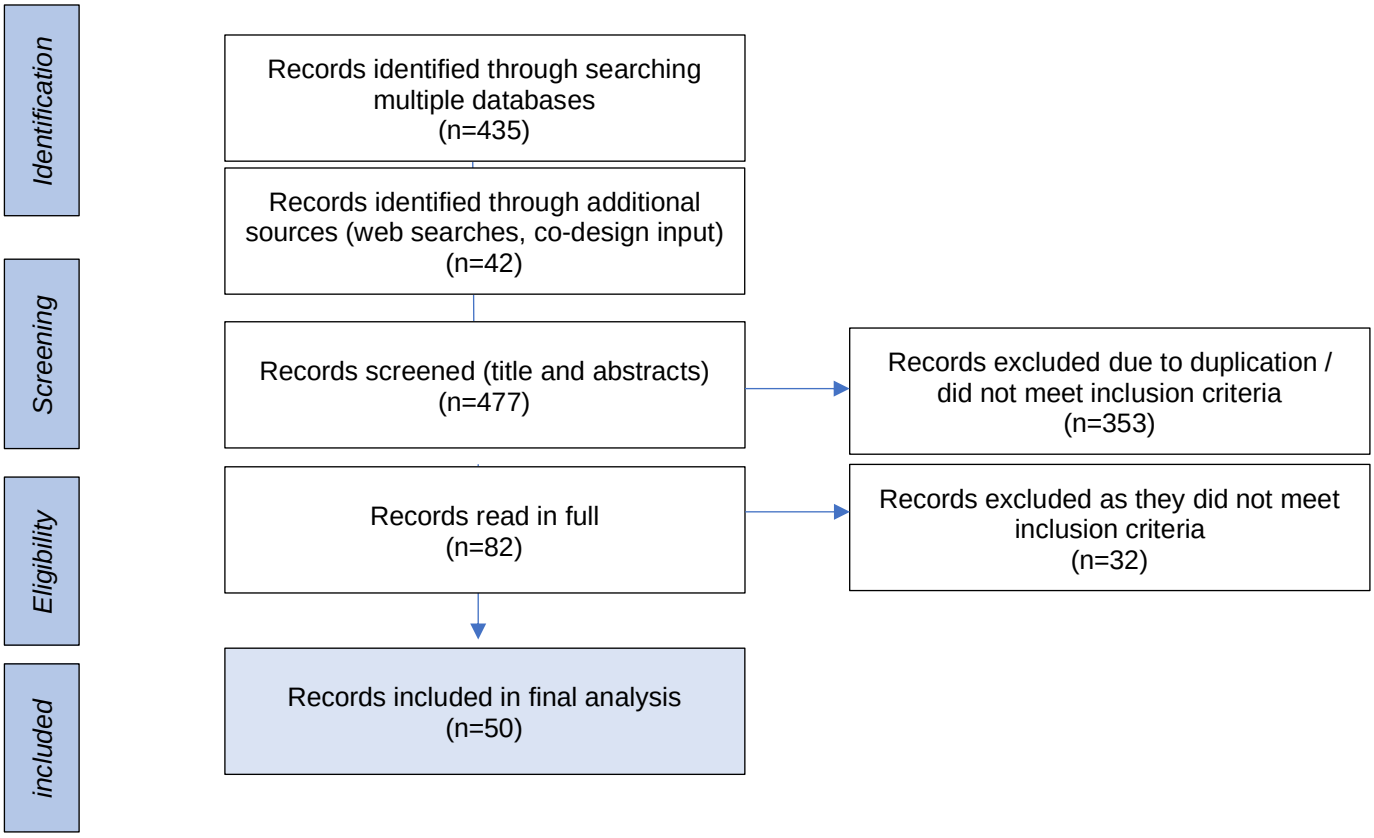
Two reviewers (TS and GRL) screened titles and abstracts of Medline results and excluded searches that did not fit the review criteria. Full text review was undertaken for 46 sources by GRL. After full text review and discussion between TS and GRL, three Medline articles met the criteria for describing a collaborative regional approach to Indigenous eye care in Australia.

Two reviewers (TS and GG) undertook all other searches. Titles and abstracts were reviewed individually, duplicates and sources that did not meet the inclusion criteria were excluded.

Data was extracted from potential sources using an Excel data extraction form developed by the reviewers. The reviewers independently assessed the remaining sources and flagged any identified for potential exclusion. Both reviewers discussed sources flagged for exclusion and came to an agreement on whether to include or exclude the source.

Input on the draft search results was sought from stakeholders at a co-design workshop for the evaluation project in December 2020. A further seven sources were identified through this process. Targeted Google searching for the regions most frequently named in the literature yielded a further seven results. A total of 50 sources were included in the final review for analysis.

Flow diagram



Data charting

A series of data charting forms were developed in Excel by two reviewers (TS and GG). A main data extraction form was developed to capture elements aligned to the Key Evaluation

Questions (KEQs), with additional forms developed to chart separate KEQ themes. This was an iterative process, and the forms were developed and adapted by the two reviewers as the scoping review progressed.

The two reviewers independently charted data for selected sources and discussed the results to clarify and resolve any issues.

Key theme categories for each of the KEQ results were developed jointly through discussion by both reviewers.

Data items

Data were extracted for: characteristics of the sources (settings, stakeholders involved, time frames, type of study, type of source), how activities reported in the sources aligned with the IEH regional implementation elements, changes reported, barriers and enablers described, and further steps required/future recommendations made by the authors. This included extracting both qualitative and quantitative data.

Critical appraisal of sources of evidence

Because of the nature of the sources available, with only a very small number being peer-reviewed articles, and the majority comprising observational reflections by key stakeholders involved in the activities and outcomes described, we did not undertake a critical appraisal of the quality of the evidence.

Synthesis of results

Included studies were grouped into five categories: (Group 1) sources describing regional approaches to improving eye care for Aboriginal and/or Torres Strait Islander people and with a clearly identified regional stakeholder network; (Group 2) sources describing regional approaches to improving eye care for Aboriginal and/or Torres Strait Islander people without clearly identifying a regional stakeholder network; (Group 3) sources describing jurisdictional level approaches but which identify IEH regional implementation elements; (Group 4) sources focusing mainly on Regional Eye Health Coordinators or Regional Implementation Officer models; and (Group 5) other sources describing stakeholders working collaboratively at a regional level that did not fit within the first four categories.

Multiple sources were also identified during the development of the search strategy that discussed regional implementation of Indigenous eye health activity, but which did not provide specific detail about how activity had occurred or identify specific regions. These sources are considered as background or supporting information, but they were not included in the review itself, as they do not provide evidence to answer the key evaluation questions. Documents developed by IEH that describe regional approaches and provide updates on the progress of regions have been included in the background and contextual information.

The information from the data charting forms was collated and used to report on the key evaluation questions:

- how the sources approached regional implementation (KEQ 1),
- the types of changes reported (KEQ 2),

- the barriers and enablers they identified (KEQ 3),
- any future recommendations or further activity needed (KEQ 4), and
- the role and effectiveness of IEH in supporting regional implementation (KEQ 5)

The next section of this review presents our analysis of the characteristics of regional activity, as they relate to the key evaluation questions, based on the information available within the literature. For details on each source, see the tables in the appendices.

It is important to note that the level of detail available in the sources varies significantly, and it is likely that there will be elements of regional activity that have occurred, but which are not presented in the literature.

It is also important to note that, due to limited resources available for regional stakeholders to evaluate and document their activities (for example dedicated staff funding and time), this is not a representative sample of all regional groups. The regional networks that were most frequently described in the literature had a funded regional coordinator role at some point, which is likely to have provided those networks with greater capacity to capture and document their work. A number of regions have also been the focus of formal evaluations, for example, funded by the Fred Hollows Foundation or through the Brien Holden Vision Institute / Foundation, and there is, therefore, a greater level of detail available on those regions.

Summary of evidence: characteristics of regional activity described in the literature

This section synthesises key information from the 50 different sources identified, providing a collated picture of the ways in which stakeholders have been working to improve eye care services and outcomes at a regional level. It also assesses the extent to which the elements of regional implementation outlined by the IEH can be seen within the literature, the types of changes reported, the identified barriers and enablers to activity, and future recommendations or next steps still required.

The analysis below is based on information presented within the literature and, as the level of detail in the various sources varies significantly, it is likely to be an under-representation of the types of activities that occurred, and the stakeholders involved in some regions.

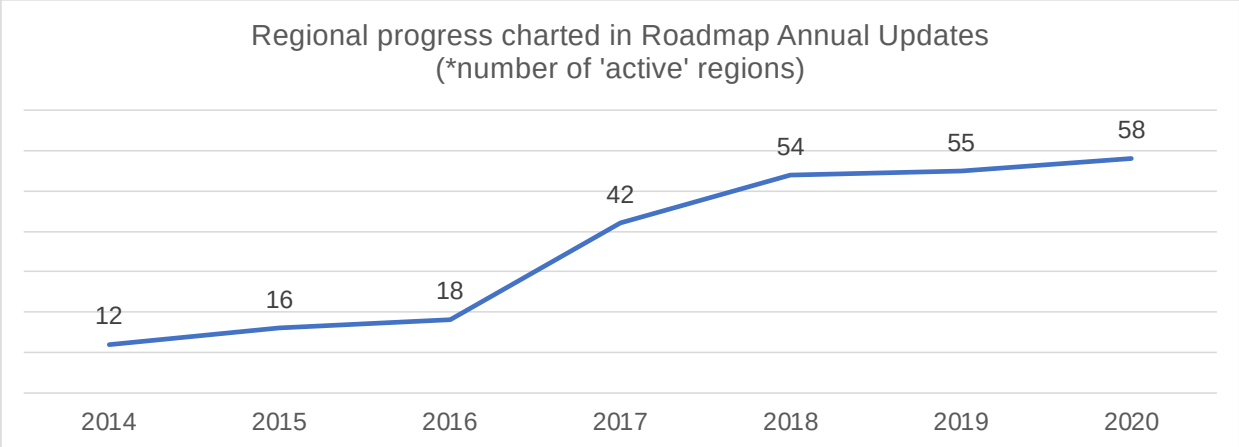
The charts and table below provide a summary of collated information, and the appendices provide detail on each of the individual sources included in the literature review.

KEQ 1: How is regional activity to improve eye care services for Indigenous Australians being implemented across Australia?

Each year since 2014, IEH has produced an Annual Update on regional implementation of the Roadmap (within a broader Roadmap implementation update that has been published annually since 2012). This has included identifying the number of locally determined regions across Australia in which collaborative activity is being undertaken to improve eye care for the Aboriginal and Torre Strait Islander population living within those regions.

The number of regions considered to be 'active' by IEH increased from 12 in 2014, to 58 in November 2020 [6].

Figure 1: Regional progress over time



*'Active regions' refers to the regions in which IEH has identified collaborative activity to improve eye health for Aboriginal and Torres Strait Islander people

KEQ 1.1 Types of collaboration occurring

An initial analysis was undertaken to group the 50 sources based on the level of regional collaboration described within the literature. Just over half (26 sources) describe activity that involved a clearly defined regional stakeholder group or network. The remaining results were grouped into sources that described regional activity but without an identified stakeholder group (8 sources), sources that described jurisdictional-level approaches that included regional implementation elements (6 sources), sources that focused on the role of regional coordinators (8 sources), and sources that described some level of regional collaboration but did not fit with the above groupings (2 sources).

Table 2: Types of sources identified (Groups 1-5)

Group 1:	Sources clearly describing collaborative regional stakeholder groups or networks, and utilising elements of regional implementation as defined by IEH	26
Group 2:	No clearly defined regional group/network but collaboration within a region, using some elements of regional implementation approach	8
Group 3:	Jurisdictional level approach using elements of regional implementation approach	6
Group 4:	Focus is on Eye Health Coordinator (within region) or Regional Implementation Program Officer (RIPO) models	8
Group 5:	Other models describing multiple stakeholders working collaboratively at a regional level	2

KEQ 1.2.: Stakeholders involved in regional implementation (who is working together)

Analysis of all 50 sources included in this review shows a range of stakeholders involved in collaborative activities to improve Aboriginal and Torres Strait Islander eye care at the regional level. It should be noted that this review only includes stakeholders that are specifically mentioned in the resources. In many instances, collaborations may be far more complex and involved than the particular snapshot presented in the source material. This section, like the scoping review in its entirety, focuses on the identified and included publicly available sources and what is contained in them.

Two analyses were performed, the first focusing on the stakeholder organisations involved, and the second focusing on the professions involved. The two most common stakeholder organisations mentioned in the literature are Aboriginal Community Controlled Health Organisations (ACCHOs) which were listed in 90% of all sources and 96% of Group 1 sources, followed by eye care non-government organisations (NGOs) such as The Fred Hollows Foundation, Brien Holden Vision Institute[2] and the Australian College of Optometry (84% of all sources and 88% of Group one sources). These two organisation types (ACCHOs and NGOs) were mentioned in a significantly higher proportion of sources, compared with other organisation types.

Other stakeholders mentioned in the sources included in this review are other primary care services (mentioned in 46% of all sources and 54% of Group 1 sources), health networks

[2] The Brien Holden Vison Institute is now known as The Brien Holden Foundation

including Primary Health Networks (PHNs), Primary Care Partnerships (PCPs)[3], and Local Health Districts/Networks (mentioned in 46% of all sources and 61% of Group 1 sources), university/research groups (mentioned in 40% of all sources and 38% of Group 1 sources), jurisdictional fundholders for outreach funding programs (38% of both all sources and Group 1 sources), hospitals (32% of all sources and 27% of Group 1 sources), peak bodies of Aboriginal Community Control Health Services (32% of all sources and 23% of Group 1 sources), and low vision support organisations (8% of all sources, none in Group 1 sources).

In addition to the organisation type, professions mentioned in the reviewed sources were also analysed, based on both organisation involved and individual practitioners. The most common type of profession was found to be primary care / general practice (94% of all sources, 96% of Group 1 sources)[4]. Other professions analysed were optometry (82% of all sources and 81% of Group 1 sources), ophthalmology (60% of all sources and 65% of Group 1 sources), eye care coordinators (24% of all sources and 11% of Group 1 sources) and Aboriginal Health Workers / Practitioners (mentioned in 22% of all sources and 15% of Group 1 Sources).

Table 3: Stakeholder organisation/profession types involved in regional eye care collaborations

	All sources (n=50)	G1 sources (n=26)
Stakeholders: organisations involved		
ACCHOs	45 (90%)	25 (96.2%)
Other primary care	23 (46%)	14 (53.8%)
ACCHO peak body	16 (32%)	6 (23.1%)
Eye care NGO	42 (84%)	23 (88.5%)
Health network (PHC, LHN, PCP)	23 (46%)	16 (61.5%)
Government agency	21 (42%)	11 (42.3%)
Hospital	16 (32%)	7 (26.9%)
Low vision support organisation	4 (8%)	-
University/ research group (including IEH)	20 (40%)	10 (38.5%)
Jurisdictional fundholder	19 (38%)	10 (38.5%)
Stakeholders: professions involved		
Primary/GP (including ACCHO)	47 (94%)	25 (96.2%)
Optometry	41 (82%)	21 (80.8%)
Ophthalmology	30 (60%)	17 (65.4%)
Eye care coordinator	12 (24%)	3 (11.5%)

[3] Primary Care Partnerships are state-funded entities within Victoria, established to focus on better coordination among services, management of chronic disease management, integrated prevention and health promotion, and strong partnerships. (https://www2.health.vic.gov.au/primary-and-community-health/primary-care/primary-care-partnerships)

[4] This also includes the ACCHOs mentioned under organisation type, which are classified as a primary care profession

KEQ 1.3: Settings: where regional activity is taking place

There was activity reported within the literature from across all Australian states and territories. The majority of sources reported on activity in Victoria (13 sources), New South Wales (12 sources) the Northern Territory (11 sources) and Queensland (7 sources). A number of the sources reported cross-jurisdictional activities (3 sources).

Table 4: Jurisdictions in which sources were based

State/Territory	Sources (n)
Victoria	14*
News South Wales and ACT[5]	14*
Northern Territory	13*
Queensland	7
Western Australia	2
Tasmania	1
South Australia	1

*NSW and NT combined (2), Vic and Queensland combined (1)

Several regional networks/groups were described by multiple sources, with the combined Central Australia and Barkly regions most frequently identified (within 8 different sources). The Grampians region in Victoria was described in 7 sources, the Western NSW Partnership in 5 sources, the Institute for Urban Indigenous Health (South East QLD) in 4 sources and both Katherine (NT) and Great South Coast (Victoria) in 2 different sources.

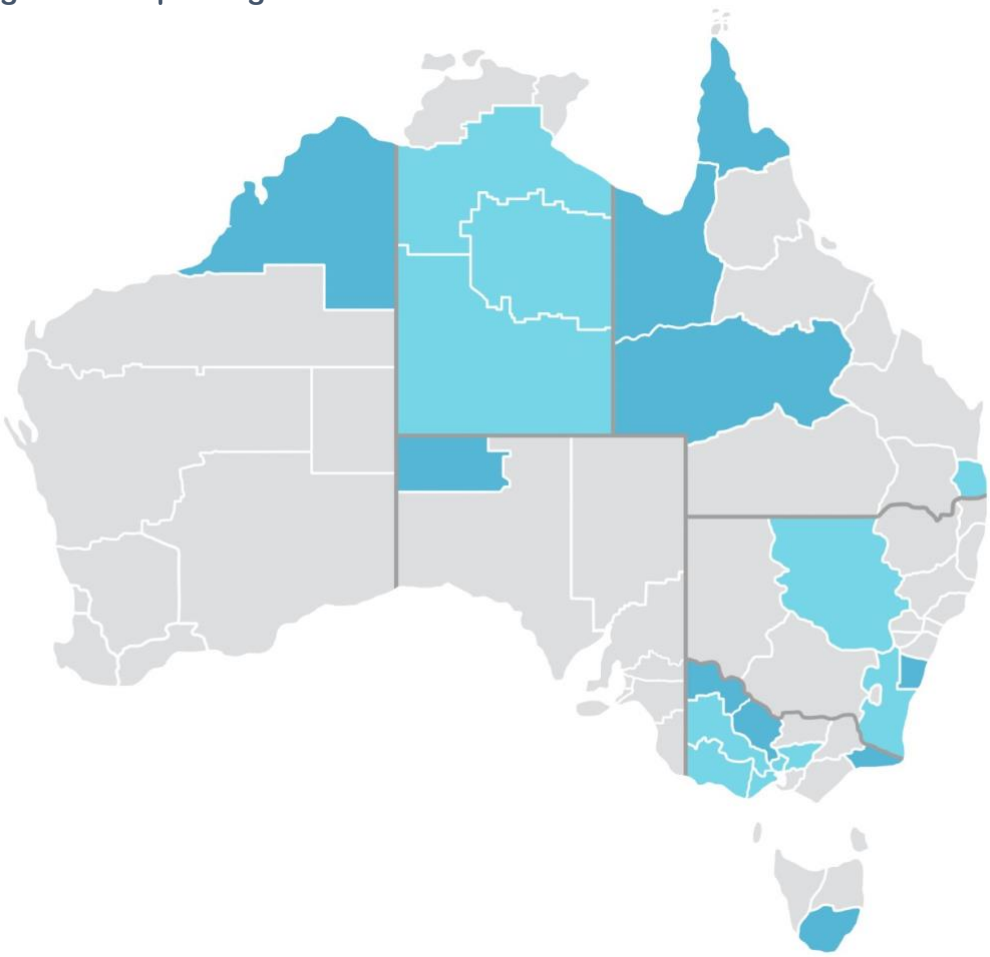
Table 5: Regions described in multiple sources

Region	Sources (n)	Years published
Central Australia and Barkly regions combined* (NT)	**8**	**2013 – 2020**
Grampians (Vic)	**7**	**2015 – 2019**
Western NSW Partnership (NSW)	**5**	**2015 – 2021**
Institute for Urban Indigenous Health (South East QLD)	**4**	**2017 – 2019**
Katherine (NT)	**2**	**2017 – 2020**
Great South Coast (Vic)	**2**	**2017 – 2018**

*While the Central Australia region and the Barkly region in the Northern Territory are identified as two separate Roadmap regions, in the literature they are usually combined under the 'Central Australia and Barkly Integrated Eye Health Strategy' (CABIEHS) stakeholder group. Within this review, Central Australia and Barkly are counted as one combined region, although we acknowledge there are two separate regions for other purposes.

[5] NSW and ACT are a combined jurisdiction in the context of coordination of outreach eye care. While there were sources describing the NSW/ ACT jurisdiction as a whole, there are no sources identified and included which focus specifically on regional work in ACT

Figure 1: Map of regions identified within the literature



Light blue shaded regions = Group 1 sources, Dark blue shaded regions = Group 2-5 sources, Grey shaded regions = Roadmap regions not mentioned in the literature found

KEQ 1.4 Alignment of activity with IEH Regional Implementation elements (how people are working together)

IEH documents published since 2012 define a number of key elements of the regional implementation approach [1, 3, 4, 6]. While the number of elements varied over time, cumulatively they can be summarised by the following nine key steps or elements. These are recommended by IEH for flexible adoption and adaption at a local level, depending on the needs and context of the region.

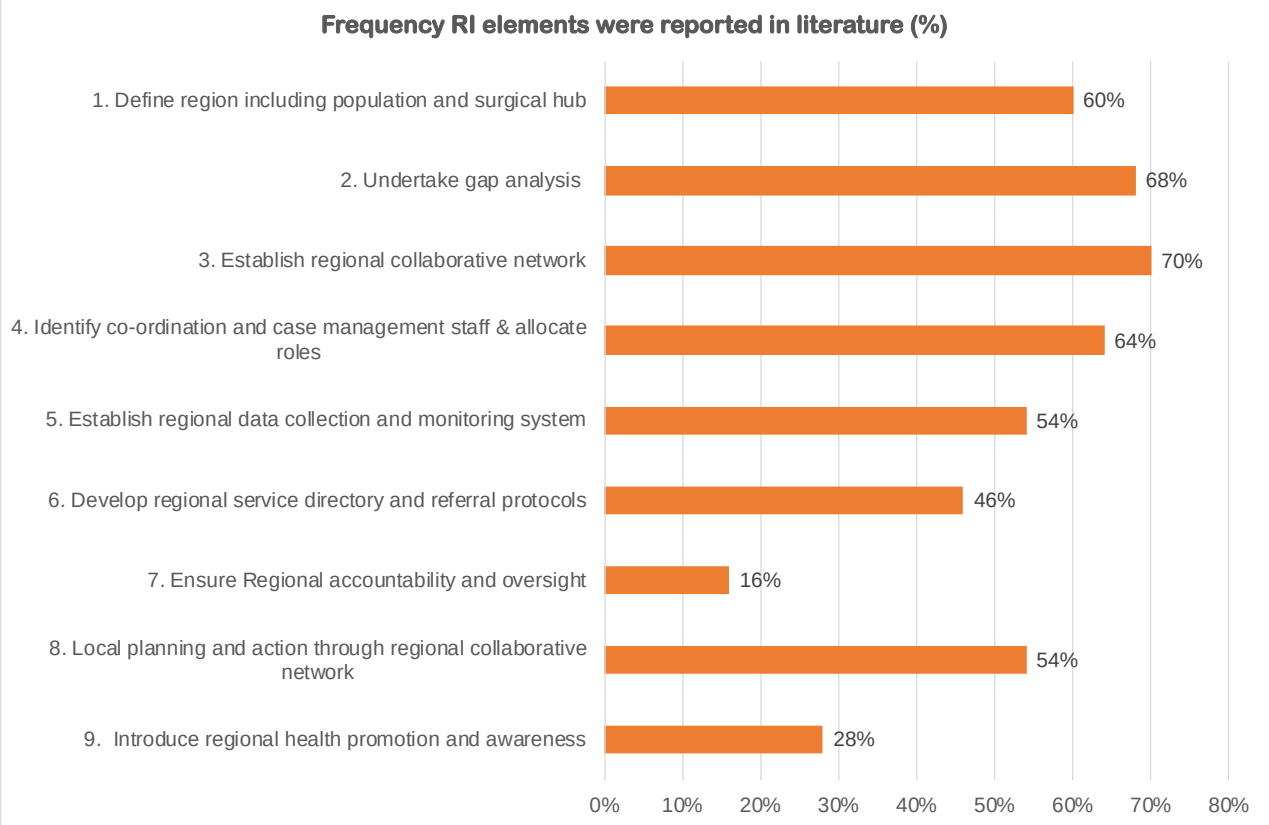
Nine elements for regional implementation (implementation steps)

1. Define region, including population and surgical hub
2. Undertake gap analysis (based on population) to determine regional needs, service needs, and existing services
3. Establish regional collaborative network
4. Identify co-ordination and case management staff and allocate roles
5. Establish regional data collection and monitoring system
6. Develop regional service directory and referral protocols
7. Ensure regional accountability and oversight
8. Undertake local planning and action through regional collaborative network
9. Introduce regional health promotion and awareness

Further analysis of the sources included in the review shows varying degrees of alignment with the 'regional implementation' (RI) elements outlined by IEH[6]. Two of the sources reported activity that aligned with all nine of the RI elements and four sources identified activity that aligned with eight of the elements. More than half of the sources (29 sources, 58%) describe activity that aligns with at least five elements. A further 20 sources reported at least one element that aligned with the IEH RI steps, with only one source not aligning with any elements (see Appendix 1).

The RI element that was most frequently identified in the sources was 'establishment of a collaborative regional network', found in 34 (70%) sources. The next most frequently identified elements were: 'undertaking a regional needs assessment' in 34 (68%) sources; 'identifying coordination and case-management roles' in 32 (64%) sources and 'defining the region' in 30 (60%) sources. The least frequently identified RI elements were 'implementing regional eye health promotion activities' in 14 (28%) sources and 'ensuring accountability and oversight' in 8 (16%) sources. Figure 3 shows the frequency with which RI elements were identified within the sources, as a percentage of all sources.

Figure 2: Frequency of regional implementation elements within sources (%) (n = 50 sources)



Regional Implementation elements by region

There were 14 individual regions identified within the included sources (as noted above, some regions were described by multiple sources). Analysis was undertaken to map where regional

[6] As noted above, this is limited to information provided within each source and there may be activities undertaken by the various groups that were not reported in the literature.

implementation elements were described across these 14 regions, as described by the combined multiple sources.

Two regions, 'Central Australia and Barkly' in the Northern Territory, and the Grampians region in Victoria, were identified as implementing all nine (9) of the RI steps. Other regions with high levels of alignment described were the Western NSW and South-East QLD regions with eight (8) elements and the Katherine, Geelong/Barwon and Central West and North West Queensland region aligned with seven (7). Great South Coast, Southern NSW and Eastern Metro Melbourne regions all reported activities and ways of working that aligned with five (5) elements. There was less evidence of alignment in the remaining four (4) regions. As noted above, this analysis is based on what was reported within the sources and there may be greater alignment occurring that has not been documented.

Table 6: RI elements identified by region (14 regions identified within sources)

Region (n= number of sources describing this region)	1. Define region including population and surgical hub	2. Undertake gap analysis	3. Establish regional collaborative network	4. Identify co-ordination and case management staff & allocate roles	5. Establish regional data collection and monitoring system	6. Develop regional service directory and referral protocols	7. Ensure Regional accountability and oversight	8. Local planning and action through regional collaborative network	9. Introduce regional health promotion and awareness	Total RI elements identified in all sources
Grampians (Vic) (7)	✓	✓	✓	✓	✓	✓	✓	✓	✓	**9**
Central Australia and Barkly (NT) (8)	✓	✓	✓	✓	✓	✓	✓	✓	✓	**9**
Western NSW (5)	✓	✓	✓	✓	✓	✓	✓	✓		**8**
South Eastern Queensland (4)	✓	✓	✓	✓	✓	✓		✓	✓	**8**
Katherine (NT) (2)	✓	✓	✓	✓	✓	✓		✓		**7**
Geelong/Barwon (1)	✓	✓	✓		✓	✓		✓	✓	**7**
Central West and North West QLD (1)	✓	✓	✓	✓	✓	✓		✓		**7**
Great South Coast (Vic) (2)			✓	✓	✓	✓			✓	**5**
Southern NSW (2)	✓	✓	✓	✓		✓				**5**
Eastern Metro Melbourne (1)	✓	✓	✓					✓	✓	**5**
North West Melbourne (1)	✓	✓	✓					✓		**4**
APY Lands (SA) (1)	✓			✓		✓				**3**
Kimberley (1)	✓	✓		✓						**3**
Wellington, NSW (1)			✓	✓						**2**
TOTAL RI elements within regions (n)	**12**	**11**	**12**	**11**	**8**	**10**	**3**	**9**	**6**	
Total RI elements within regions (%)	**86%**	**79%**	**86%**	**79%**	**57%**	**71%**	**21%**	**64%**	**43%**	

KEQ 2: What changes are happening as a result of this activity?

Analysis of the literature was undertaken by the reviewers to identify key themes for the kinds of changes described at a regional level. These were grouped into changes relating to eye care systems (such as awareness, knowledge, practice, processes, and pathways), and changes that related to outcomes (such as service user access, experience and outcomes). See appendix 2 for tables outlining changes described by each source.

KEQ 2.1 Changes to systems

The literature identifies a range of system-level changes, with the following key themes reported by more than half of the sources:

Strengthened partnerships/collaboration between eye care stakeholders

One of the system-level changes most frequently described in the literature was the strengthening of partnerships and collaborative ways of working between organisations involved in the eye care sector within regions. This was described in 38 (76%) of the sources and included:

- Establishment of regional collaborative networks, both formal and informal [5, 10-32]
- New, improved and strengthened partnerships enabling strategic decisions to strengthen the eye care system[15, 16, 20-22, 24, 28, 33, 34]
- Collaborative development of new and innovative service models[12, 13, 33, 35, 36]
- Collaborative models for data collection [10, 11, 13, 18, 20, 21, 24, 30, 31, 33, 37-40]
- Shared gap analysis and service mapping to define local issues[10, 12, 13, 15, 16, 25, 29, 30, 33, 35, 38, 39, 41-44]
- Shared local planning and priority setting to address needs, including developing regional strategies and developing common goals and a common or shared vision[11, 12, 15, 18-20, 23, 26-31, 38-40, 42]
- Joint advocacy, which was seen to result in funding outcomes and policy changes[11, 20, 39, 45]
- Strong engagement with/leadership of ACCHOs and engagement with other parts of the eye care system[19, 26, 32, 38]
- Establishment of Working Groups to progress jointly identified priority areas[21, 37]
- Greater linkages to other Aboriginal health groups/forums[21]
- Working collaboratively within a framework of self-determination and Indigenous control[26]
- Building trust across the partnership[15, 26]
- Ongoing shared monitoring of progress[13, 18, 26, 31, 38, 39, 44]

"The central achievement of this project is the partnership developing between stakeholders as they communicate, plan and work together. This partnership has produced the local framework required to build improvements in public eye health services."

(Barton, J., et al, 2015)

"This is a partnership built on trust and integrity with sincere efforts to address health system reform through a shared understanding of the local Indigenous community needs, and by stakeholders investing time and resources to bring sustainable results and strong partnerships. By working collaboratively, the region is well on its way to close the gap for vision".

(Lesock, L., 2019)

Increased and improved eye care services

The other most frequently described change to systems was increasing and/or improving eye care services. This was described in 38 (76%) of the sources and included:

- Developing new, or increasing existing, outreach services including optometry, ophthalmology and patient coordination into a range of settings [5, 17, 19, 20, 35, 36, 39, 41, 42, 46-53],
- increases to availability of local services including access to surgery locally and optometry within Aboriginal Community Controlled Organisations and Primary Health Care Services [5, 10-13, 28, 33, 34, 38, 39, 41, 46, 49, 51];
- developing 'fast track' access models and dedicated appointments for Aboriginal patients within existing eye care services [26, 48];
- redesigning and clarifying existing eye care pathways, improving referral processes and protocols and strengthening the local eye care system [5, 10-16, 19, 20, 25, 26, 30, 33, 39, 42, 46];
- developing or improving screening services and programs [5, 11, 36, 39, 41, 45, 53-55]
- reducing waiting times for surgery [18];
- improving access to subsidised spectacles [5, 46, 52]; and
- increasing access to bulk-billed services [51].

"As an outcome of the mapping project … the Coordinator worked with stakeholders to support the delivery of a visiting optometry service. Some members of the Windorah community had previously been driving the 492km round trip to see the optometrist..,"

(Rich, L., 2020)

Improved coordination and communication between services

The next most frequently described system-level change was improved coordination and communication between the services involved in the provision of eye care to Aboriginal and Torres Strait Islander people within the regions. This was described in 34 (68%) of the sources and included:

- Specific funded project or program coordinators [5, 10, 11, 19, 21, 23, 24, 29, 35, 36, 40, 43, 45, 51, 53], identification of coordination roles [12, 14, 28, 33], implementing coordination as part of service models ([13, 25, 39] and training of Aboriginal Eye Health Coordinators [28]
- Strengthening communication and information sharing across partners [10, 19, 41] and services working together to improve the patient journey including through improved continuity and coordination along pathways between primary and tertiary [15, 20, 33, 41]
- Culturally appropriate patient support and coordination through ALOs and RECHs [22, 23, 38]
- Creating a multi-disciplinary focus across parts of the system [10, 11]
- Linkage of patient information between visiting providers and local providers and with mainstream services [19, 41] and

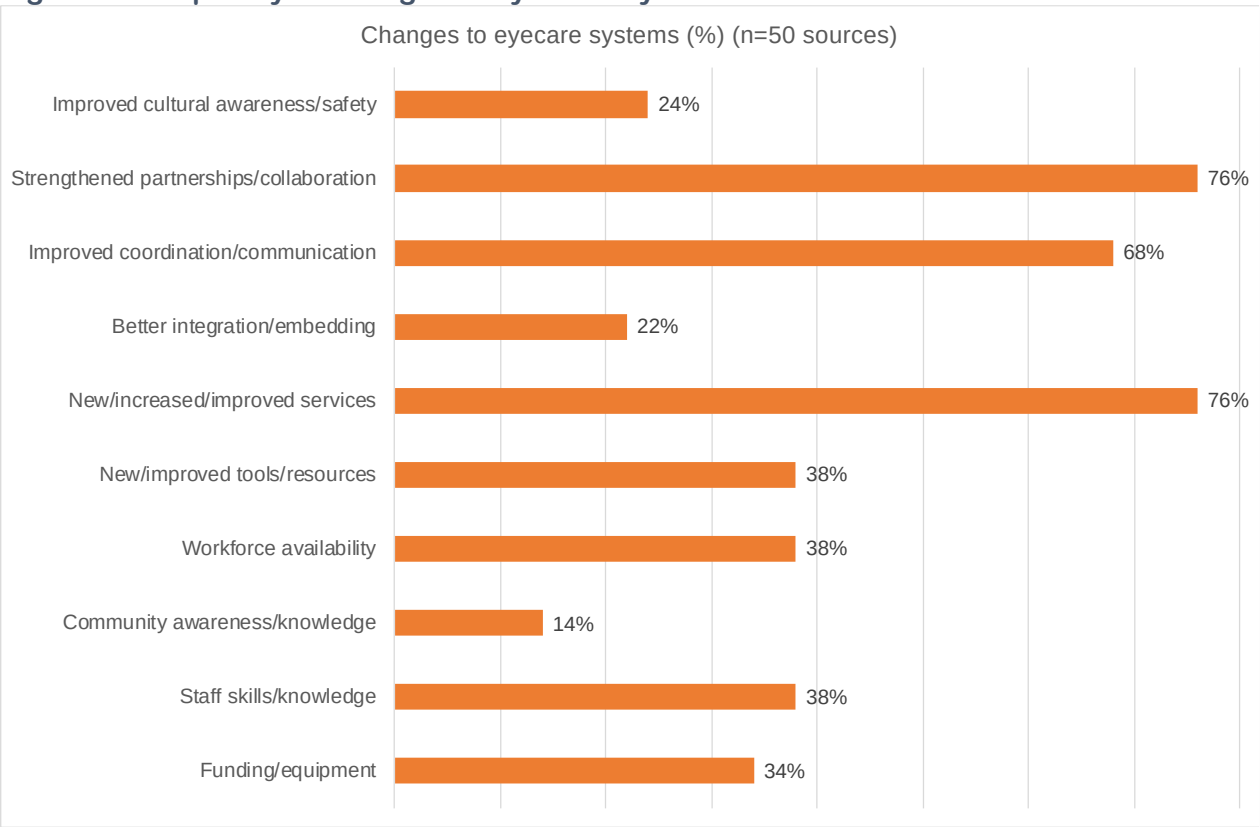
- Communication, trust and willingness to share and discuss data across partners as result of coordinator role [40]

> "The integration of eye health within the primary health clinic has improved the continuity and coordination of care along the surgical pathway, and ensured the sustainability of collaborative partnerships with key external organisations"
>
> (Penrose, L., et al, 2018)

Other system-level changes described within the literature included:

- **Development of new or improved tools and resources to support eye care** - this included health promotion tools and other eye care resources (38%) [5, 10, 14, 16-21, 24-26, 28, 38, 39, 42, 46, 48, 49]
- **Increasing workforce availability** - including outreach optometry and ophthalmology roles, optometry within ACCHOs, Indigenous Liaison Officer (ILO) positions, diabetic retinopathy screening roles, coordination, and eye health nurse roles (38%) [5, 10, 11, 15, 16, 18-21, 28, 32, 34, 36, 39, 40, 45, 46, 53, 54]
- **Improving staff, skills and knowledge** - including through eye skills, increasing eye system awareness amongst service providers (including mainstream services), establishing an Indigenous trainee program, delivering seminars, eye health coordinator training, increased confidence amongst staff to perform eye checks, increased knowledge of service gaps and community needs, and cultural awareness training (38%) [5, 11, 12, 15-17, 28, 34, 38, 39, 41-43, 45, 47, 48, 51, 55, 56]
- **Sourcing eye care funding** – including funds for staffing, additional service provision, workplace programs, slit lamps, retinal cameras, infrastructure, project/ regional coordination and resource development (34%) [10, 11, 16-21, 23, 34, 36, 40, 45, 46, 48, 54]
- **Improved cultural awareness / safety** – including through cultural responsiveness projects, cultural safety for mainstream providers to improve pathways and patient engagement, culturally appropriate care provided within ACCHOs, community engagement to address cultural barriers, ILO / Aboriginal Eye Health Coordinator positions strengthening cultural safety, building trust and mutual respect with communities, working within framework of self-determination and developing appropriate resources (24%) [5, 13, 17, 20, 22, 26, 29, 33, 36, 49, 53, 57]
- **Better integration or embedding of eye care into other services** including into primary healthcare, embedding into chronic disease, environmental health and other existing programs, integrating surgical pathways and into existing holistic models of care (22%) [10-12, 14, 16, 33, 40, 42, 48, 54, 55]
- **Increasing community awareness and/or knowledge of eye health and eye care services (14%)** [19-21, 29, 41, 48, 55]

Figure 3: Frequency of changes to eye care systems described within the literature



KEQ 2.2 Changes to outcomes / impacts

There were fewer examples within the literature of the outcomes or impacts of these system-level changes, however 36 (72%) of the sources did describe at least one outcome or impact.

Progress so far …
% patients with diabetes having an annual retinal check (Katherine Region):
- ✓ 2012: 38%
- ✓ 2014: 61%

(Tatipata, S., et al) 2018)

Seventeen papers (24%) provided numerical data on services provided and a smaller number of those were able to provide data reporting change over time, such as a percentage increase in eye examinations or surgeries provided over time. A number of papers stated that there had been an increase in service provision or access but did not provide data to support this claim.

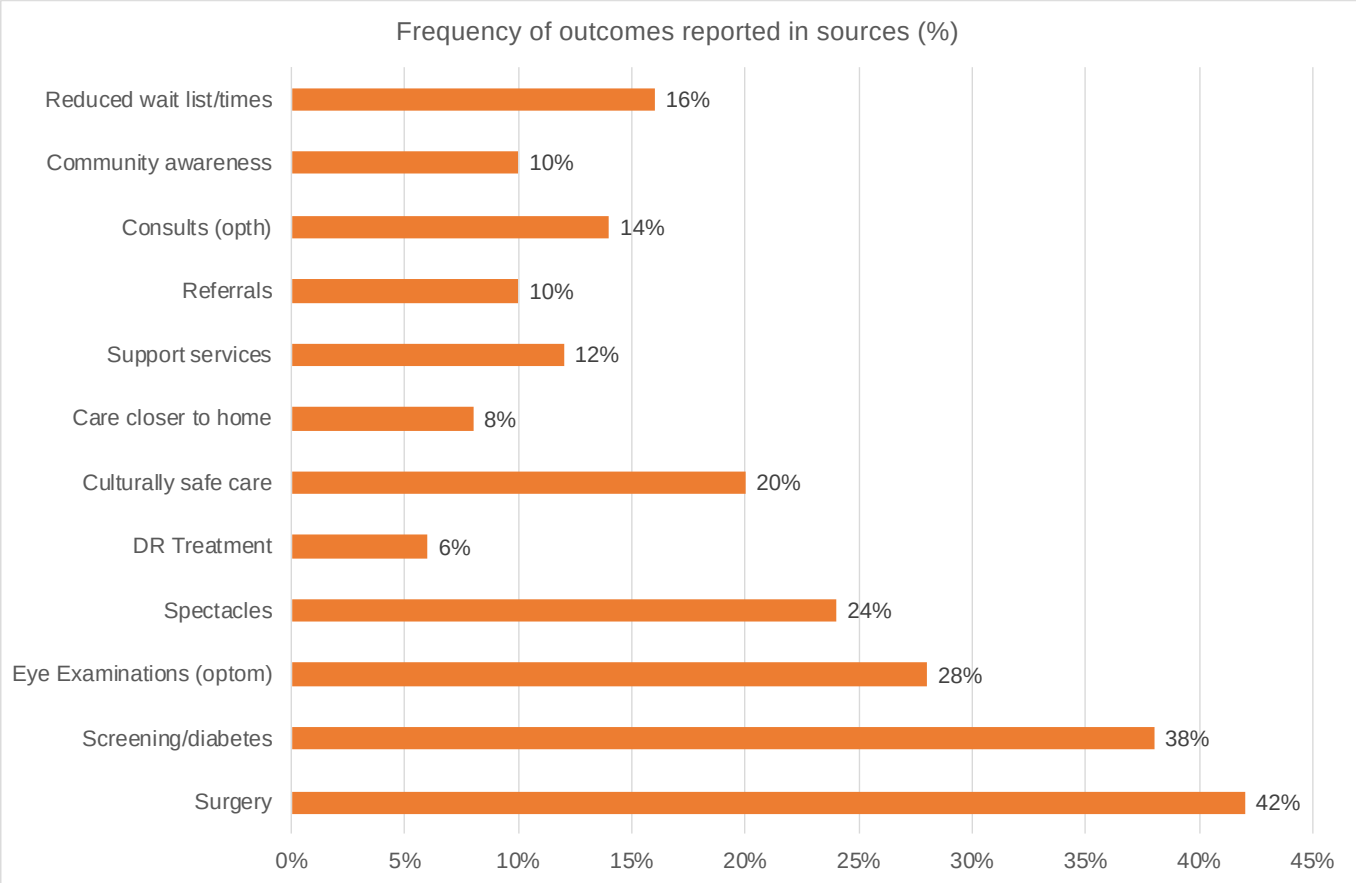
The impacts reported within the literature were grouped into the following themes by the reviewers:

- Increased numbers of surgeries provided to Indigenous patients (21/42% of sources) [5, 10-12, 14, 15, 17, 20-23, 26, 28, 33, 34, 40, 42, 46, 47, 50, 53]
- Increased rates of eye screening, including general eye screening and specifically for diabetes (19/38% of sources) [5, 15-17, 19, 20, 24, 28, 34, 41, 42, 45-48, 51, 54, 56, 58]
- Increased eye examinations (by optometrists and ophthalmologists) (14/28% of sources) [5, 13-16, 28, 32, 34, 35, 42, 48, 49, 51, 58]
- Increased provision of spectacles to Indigenous patients (12/24%) [5, 13-17, 19, 20, 46-48, 53]
- Provision of culturally safe care (10/20%)[5, 17, 20, 22, 29, 33, 49, 51, 54, 57]
- Reduced waiting times for eye care services, most frequently surgery and ophthalmology consultations (8/16%) [14, 17, 19, 20, 22, 26, 28]
- Increased numbers of ophthalmology consultations (7/14%) [5, 14, 15, 26, 28, 34, 51]
- Increased use of support services (6/12%) [5, 14, 23, 33, 49, 51]
- Increased referrals for ophthalmology and optometry (5/10%) [13, 15, 19, 28, 42]

- Care accessed closer to home (4/8%) [10-12, 51]
- Increased diabetic retinopathy treatment (3/6%)[23, 34, 58]

One source [33] was able to report improved visual acuity as a result of their cataract surgery improvement work.

Figure 4: Frequency outcomes were reported within the literature (n=50 sources)



KEQ 3: What are the key enablers and barriers to implementing regional eye health activity?

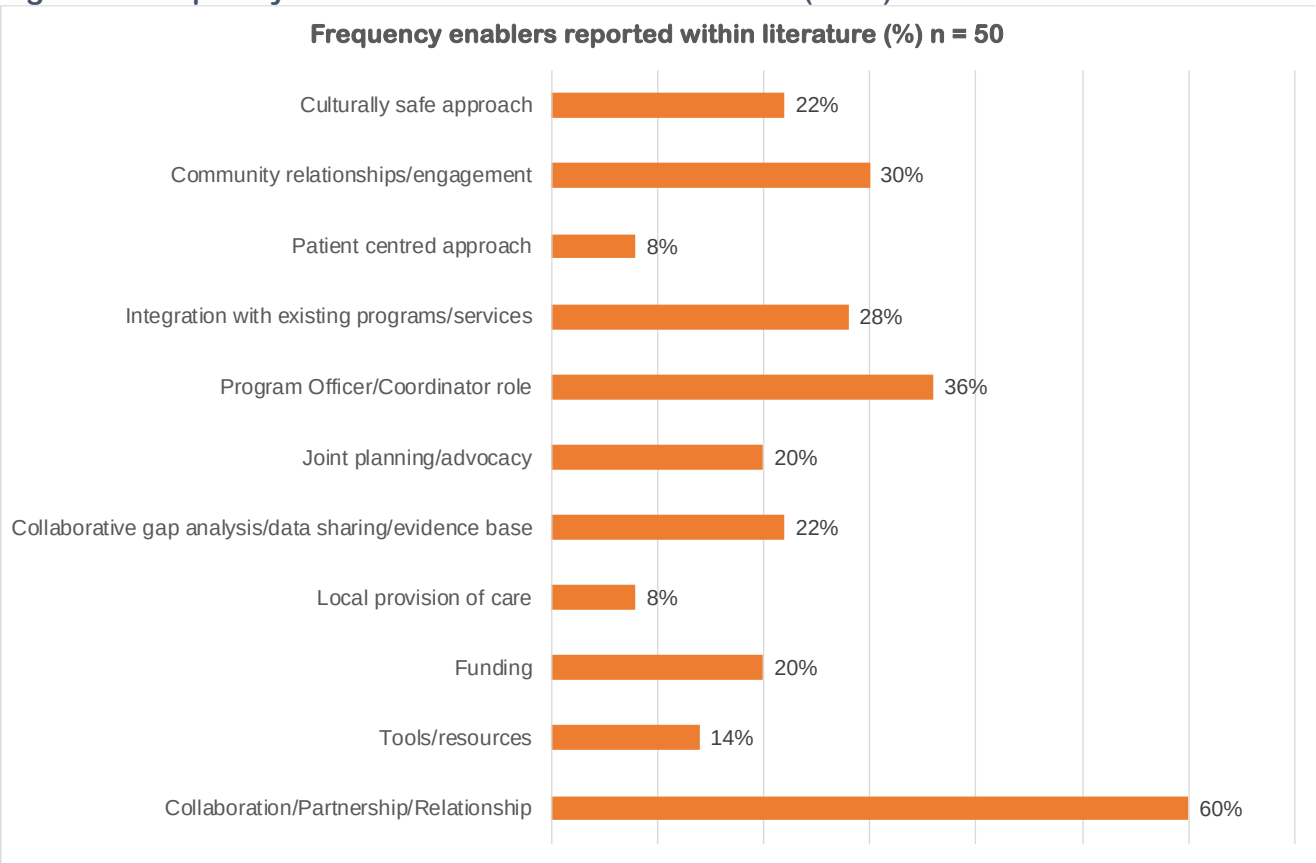
KEQ 3.1 Enablers

A range of enablers to the implementation of regional level activities were described within the literature and have been grouped into the following key themes by the reviewers:

- Collaboration, partnerships and relationships between stakeholders in the region (30/60%) [5, 10-18, 20-23, 26, 29, 32, 33, 36, 38, 40-42, 45, 48, 50, 51, 53, 54, 57, 58]
- Having a dedicated eye care Program Officer/ Coordinator role (18/36%) [11-13, 19-21, 29, 33, 35, 38, 40, 45, 48, 51, 53, 54, 57, 58]. One paper also described challenges that arose when the dedicated coordinator position was no longer funded [59]
- Community relationships and/or engagement (15/30%) [17, 19, 20, 22, 23, 26, 29, 33, 36, 41, 48, 49, 51, 53, 54]
- Integration of eye health and eye care within existing programs or services (14/28%)[14, 16, 20, 22, 24, 33-35, 42, 45, 51, 53, 54, 58]
- Taking a culturally safe approach (11/22%) [22, 26, 28, 29, 36, 38, 48, 49, 51, 54, 57]
- Analysis of gaps and data/ forming the evidence-base collaboratively (11/22%)[11, 12, 16, 19, 20, 24, 28, 33, 39-41]
- Funding for eye health related activities, services, workforce and/or equipment (10/20%) [10, 11, 17, 19, 22, 23, 33, 34, 45, 48]
- Joint planning and advocacy for eye care activities within the region (10/20%) [11, 12, 15, 16, 19-21, 29, 39, 42]
- Tools and resources to support eye care provision (7/14%)[10, 11, 17, 41, 51, 54, 58]
- Provision of care locally, avoiding the need to travel and enabling family support (4/8%) [10, 51, 53, 57]
- Taking a patient-centred approach (4/8%) [24, 28, 39, 51]

"Being part of the … Regional Stakeholder Group has provided impetus and direction for this project. Working in collaboration with the ACO has made this project possible... Working with an Aboriginal Health Promotion officer, who already has a presence in schools, has provided wide acceptance of the program".
(Murdoch V. and Senior L., 2020)

Figure 5: Frequency enablers described in the literature (n=50)



3.2 Barriers

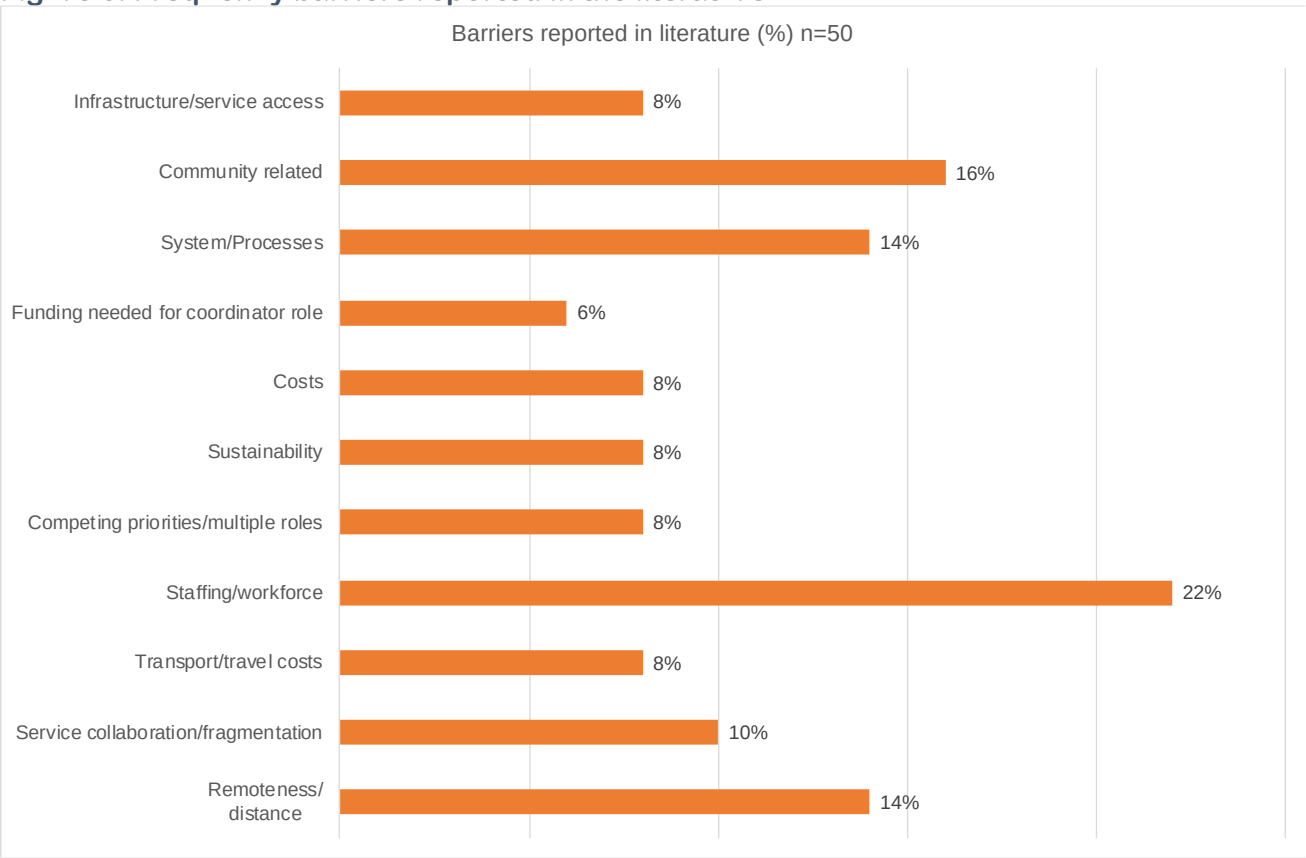
A range of barriers to the implementation of regional activities were also identified within the literature. Barriers were described by 16 of the sources and have been grouped into the following themes:

- Staffing and or workforce related barriers (11/22%), including recruitment and retention, staff commitment, capacity and overload, access to specialists locally and staffing skills/scope of practice [10, 13, 21, 24, 43, 50, 51, 53, 56, 58, 59]
- Remoteness, distance (7/14%), including access issues due to remoteness, isolation, large areas to cover and impact of distance on staff [21, 24, 50, 51, 53, 54, 58]
- System/process barriers (7/14%) such as ineffective workflows and procedures, logistics, data access, extraction and counting, inappropriate referral/care plan forms and complexities of organising intensive surgery visits [26, 37, 43, 45, 48, 53, 59]
- Community-related (8/16%) including perception of costs, community goals being different and eye checks not a priority, time to foster community acceptance and issues with confidentiality in small communities, maintaining community momentum for diabetic eye checks, community perceptions about diabetes, language barriers and inconsistent community engagement [13, 24, 43, 48, 50, 53, 56, 59]
- Service collaboration/fragmentation (5/10%) such as poor links to other services, access to patient records across services, scheduling between services, working in silos, issues with coordination across services and lack of stakeholder buy-in [24, 40, 43, 45, 53]
- Infrastructure/service access barriers (4/8%) such as lack of facilities for screening, under-servicing of VOS, getting access to Diabetic Retinopathy injection treatment in

remote settings due to the need for long term treatment, and cancellations of outreach due to issues outside provider control [43, 48, 50, 54]

- Transport/travel costs (4/8%) including getting access to transport as well as costs of transport to patients [10, 11, 43, 51]
- Competing priorities / multiple roles (4/8%) including delays and impacts due to COVID-19 and competing priorities for Aboriginal Health Workers and other staff with multiple roles apart from eye care [13, 51, 58, 59]
- Costs (4/8%) including no local bul-billed (no cost) ophthalmology service, costs and time associated with service planning, costs related to distance and lack of funds within community to pay for services [10, 11, 24, 51]
- Funding needed for coordinator role (3/6%) including loss of previous funds and additional funds for coordination workforce identified as a need [51, 54, 59]
- Sustainability (4/8%) including due to reliance on 'in-kind' support rather than system-strengthening, alternative clinic models needed while patient numbers grow and challenges with organisational sustainability [10, 11, 13, 24]

Figure 6: Frequency barriers reported in the literature



Funding

The review found that regional approaches to improving eye care services for Aboriginal and Torres Strait Islander peoples were funded through a variety of mechanisms. Funding was provided for a range of purposes, including Regional Coordinator/Program Coordination roles, purchase of eye care equipment and provision of additional eye care services. As with other elements within this review, it must be noted that funding may have been provided for regional activity that was not described within the literature.

Fifteen of the 26 'Group 1' sources specifically mention funding as an enabler of the work. These include funding for coordination, collaboration, and local case management, as well as funding for clinical and other elements of the eye care work. In some cases, this increased funding for clinical work and equipment was attributed to the collaborative work of regional stakeholders.

KEQ 4: What else is needed to improve eye care systems and eye health outcomes for Aboriginal and Torres Strait Islander people?

A number of sources described further steps or future recommendations needed in order to improve eye care services for Aboriginal and Torres Strait Islander people. These often related to the implementation of activities that stakeholder groups had collaboratively identified during their service mapping and joint priority-setting processes.

Others made recommendations about what could happen at a national level, or that other similar stakeholder groups could take learnings from their work to apply locally.

The next steps and future recommendations were grouped into the following key theme areas by the reviewers:

- Sourcing additional funding/infrastructure for eye care services including funding from different levels of Government for ophthalmic and optometry services, transport coordination, resources to increase incentives, eye clinics and equipment, space and staffing, regional eye health coordinator roles and 'system-wide' approaches [10, 11, 21, 40, 50, 51, 53, 54, 59]
- Work with others to improve eye care services to share the load, strengthen linkages and engagement, embed eye care into existing structures, strengthen partnership and collaboration, develop service provision and data to support, collaborate for culturally driven systems, better integrate with hospitals, increase community participation in service development and delivery and take a system-wide approach [21, 24, 29, 32, 40, 43, 53, 56, 59]
- Document and share learning for others to learn from, as a model for others to emulate/apply not only for eye care, to demonstrate progress and impact over time, to learn from others, to inform the national eye health system, to raise the profile of the particular partnership, to roll-out solutions across jurisdictions and deliver tools and models nationally, and to inform organisational approaches [11, 15, 20, 21, 28, 40, 51, 59]
- Improve services including access to tertiary eyecare services, improving primary care level screening and examinations, improving follow-up services, providing more timely care, further diversify the range of settings in which care is provided, improve coordination and model of delivery, providing better access to diabetic retinopathy treatment [16, 24, 32, 33, 45, 48, 50, 54, 56]
- Provide training and education in eye care including for primary health care workers, delivery of training nationally for eye coordinators, teaching and training all levels of staff for remote and outreach eye services, increasing community and health worker education about eye care, training AHWs in eye health and potentially nurse training on retinal image grading [10, 28, 32, 45, 50, 51, 54]
- Collect/share/utilise data including updating data sharing protocols and guidelines, working on data and information systems, develop an accurate regional picture,

continue quality improvement of data, ensure better access to data and use to support ongoing service provision, include data support work into RIPO role and develop an integrated eye health record for better estimation of coverage [11, 21, 37, 40, 45, 48, 56]

- Workforce/staffing including additional workforce needed across multiple eye care roles, developing a national peer support/mentoring network for eye coordinators, ongoing staff education, support for visiting staff and addressing workload issues [10, 21, 28, 50, 53, 56]
- Appoint dedicated eye care coordination role including continuing existing or implementing new roles at jurisdictional and regional level or for case coordination at the clinic/patient level [11, 21, 40, 43, 51]
- Embed eye care into primary health care (PHC) including through training workers to embed into PHC, building PHC capacity, building primary care training into VOS, integrating with PHC services and health workers at ACCHOS with greater integration in diabetes and chronic disease programs and situating the coordination role within an ACCHO [10, 28, 32, 40, 42]
- Undertake further modelling/additional information including an in-depth cost-benefit analysis and investigation of redesign of public cataract surgery pathways and building the evidence base and using this to influence change [21, 33]
- Advocacy on a political level and to influence implementation of policy advice on national program [21, 28] and
- Formalising agreements between stakeholders [10, 11]

KEQ 5: What is the role and effectiveness of IEH in supporting regional implementation of the Roadmap?

Analysis of the 50 sources included in this review reveals differing roles for IEH identified in 39 (78%) of the sources. These include a large variety of roles, from background support and creating spaces for the exchange, to active participants in the work reported.

The direct work of IEH in the regional collaborations is evidenced in 12 of the resources (24%), which specifically mention IEH as part of the regional group or partnership. In many cases, the role of IEH was to provide space for the exchange of information. Sixteen (32%) of the reviewed presentations were given at IEH-organised National Conferences, and 5 (10%) were published on the IEH website as Share Your Story articles. IEH authored or co-authored 8 (16%) of the sources reviewed.

Specific tools and resources developed by IEH are also mentioned in some of the sources. In particular, the eye care Services Calculator, developed by IEH and available through the IEH website, was mentioned as part of the needs assessment conducted in the work of 8 (16%) of the sources. Other sources mention or refer to the Roadmap and related documents as background information for the work.

From the information contained in the literature It is not possible to specially assess the role of IEH in supporting regional implementation. This is the focus of the two other elements of the evaluation.

Limitations

This scoping review has a number of limitations.

Due to the nature of the available evidence, with much of it being grey literature, the reviewers had to rely on Google Scholar to identify many of the sources. There is a possibility that some evidence has been missed due to the way in which Google Scholar presents search results. We attempted to mitigate this by using multiple search terms within the database and by checking with stakeholders during the drafting process to identify key sources that might have been missed.

Another limitation is the type of sources identified, many of which were PowerPoint slides and abstracts from conferences. This means that limited information is contained within the documents, for example where presenters use images within slides to emphasise what is presented verbally. As we do not have access to transcripts or recordings of the presentations, data is limited to what is available within the slides.

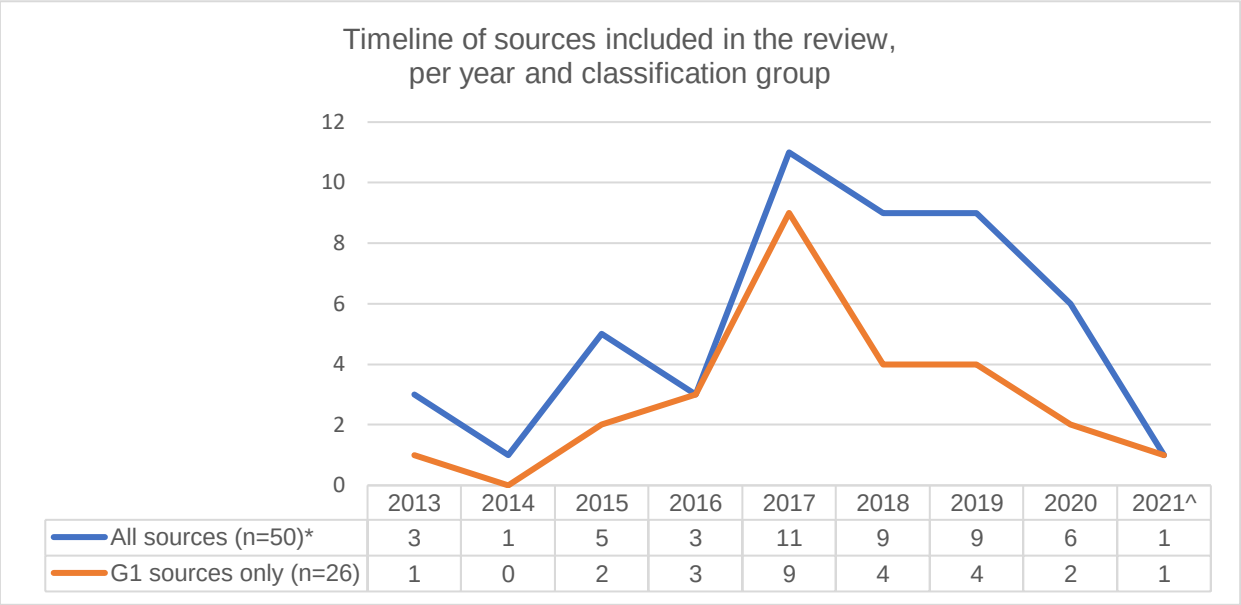
As the sources range from journal articles to online stories, they are not structured in a consistent way and do not use consistent methodology. The various sources have been developed for a range of audiences and purposes, while some journal articles contain detailed narrative descriptions and present quantitative data, others, such as many conference presentations, contain only dot points. Therefore, there are limitations in how we can synthesise and interpret the information provided. We have tried to address this by jointly identifying key themes and drawing the information back to the KEQs for the evaluation.

The majority of sources were observational reflections, where stakeholders have shared their experiences with others. While there is much value in this sharing of information, it does not always make it possible to identify clear evidence of activity and change and there were instances of changes being reported without any data provided to support those claims.

We also note that the frame of consideration of this scoping review is built from a western scientific model and there has not been scope to consider Aboriginal and Torres Strait Islander knowledge systems.

It should be noted that many of the sources were also published prior to 2018. See figure 7 below.

Figure 7: Timeline of publication



	2013	2014	2015	2016	2017	2018	2019	2020	2021^
All sources (n=50)*	3	1	5	3	11	9	9	6	1
G1 sources only (n=26)	1	0	2	3	9	4	4	2	1

* Two sources (both online) did not have a clear publication date, however these were deemed to be within the cut off period based on information provided in the source.
^ 2021 sources that were publicly available by the cut-off time in May.

Conclusions

The goal of this scoping review was to gather the available evidence about how regional implementation has been occurring across Australia since the Roadmap was launched in 2012, to identify the changes seen, the enablers and barriers to implementation, the role of IEH in regional implementation and any future recommendations.

This review synthesises key information from the 50 different sources identified, providing a collated picture of the ways in which stakeholders have been working to improve eye care services and outcomes at a regional level.

While there are a number of sources that describe regional level approaches to improving Aboriginal and Torres Strait Islander eye care, these are limited largely to non-peer reviewed literature and most of the sources are presentations from conferences and are observational reflections, written to share learning rather than to inform policy and practice. We have not undertaken an appraisal of the quality nor validity of the results described.

However, the review does show that regional activity has been occurring and that stakeholders have had some success in creating positive change. The way in which this is documented varies, and a limiting factor in the documentation of progress is likely to be a lack of resourcing to do this work. We see value in supporting regional stakeholder networks to document and share their learnings, both for their own reflection on progress, and to inform others who are working in the space.

Case-studies could be prepared for the regions that have been described in multiple sources, synthesising the information provided in the literature to date and working with these regions to update information to the current context.

In relation to the Key Evaluation Questions (KEQs) within the evaluation, which we have aimed to address in this review, we have found that the available literature provides information to answer these questions at least to some extent.

KEQ 1: HOW regional activity is occurring (including how people are working together)

There is evidence of regional activity occurring in each jurisdiction across the country, with larger numbers of sources from 4 jurisdictions (Vic, NT, NSW and Qld). Sources describe activity taking place in very remote, remote, regional and metropolitan areas, suggesting the approach is applicable across different geographical settings. A small group of regional networks (6) were reported on by multiple sources, with the Central Australia and Barkly regions in the Northern Territory being the most documented. This is not surprising given both the longevity of the CABIEHS group, and the funding provided for coordination roles over time in that region.

The literature shows that there are a range of stakeholders working collaboratively to improve eye care, with most sources describing involvement of ACCHOs (90%) on an organisational level. This highlights the centrality of ACCHOs to regional approaches aimed at improving eye care for their communities. After GP/primary care (which included ACCHOs), optometry (82%) and ophthalmology (60%) were the professions most frequently represented in the literature. This demonstrates the large number of different stakeholders involved in eye care and is consistent with the pathway of care involving different settings and professionals.

Many regional stakeholders appear to be implementing activity that aligns with the Regional Implementation (RI) steps outlined by IEH. In 58% of sources, we assess that the reported activity aligns with at least five of the IEH recommended RI steps. The formation of a collaborative network (70%) and undertaking a gap analysis to identify eye health needs in the area (68%) were the RI elements most frequently identified in the literature. The two areas least evident in the literature were ‘introduction of regional health promotion and awareness activity’ (28%) and ‘ensuring regional accountability and oversight’ (16%).

KEQ 2: CHANGES seen

The literature identifies a range of changes that have been observed within regions, with the majority of these being changes to the eye care system. System-level changes reported in more than half the sources included: strengthened partnerships and collaboration between eye care stakeholders (76%); increased and improved eye care services (76%); and improved coordination and communication between services (68%).

Other changes, reported in less than 50% of the sources, included development of tools and resources to support eye care, increasing workforce availability, improving staff skills and knowledge, sourcing of funding and equipment, improved cultural safety/awareness, and better integration of eye care into other services.

A smaller number of sources described changes to outcomes, or what we have identified as the 'impacts' of these system changes. The top three outcomes were: increased numbers of surgeries provided to Indigenous patients (42%), increased rates of eye screening (38%), and increased eye examinations by an eye care professional (28%).

The literature highlights the importance of collaboration and partnerships in improving eye care services and outcomes for Aboriginal and Torres Strait Islander people, with this being described both as an outcome of regional activity (improving how stakeholders work together) and an enabler to making system and service changes.

KEQ 3: ENABLERS and BARRIERS

The key enabler identified within the literature related to collaboration/partnership/relationships, identified in 60% of the sources. This was followed by having a program/coordinator role (36%) and community relationships/engagement (30% of sources).

Fewer sources reported on barriers and challenges to eye care activity, and the key barriers most frequently identified were staffing/workforce issues (22%) followed by community-related barriers (16%). System/process issues and remoteness/distance (were reported by 14% of sources).

KEQ 4: FUTURE - what else is needed?

Many of the papers described the next steps needed to improve eye care, and these mostly related to the activities of the specific regional group but also flagged broader activity needed at jurisdictional and national levels. Future activities included sourcing additional funding/infrastructure for eye care services; working with others to improve eye care services; documenting and share learning; improving services, completing existing plans, providing training and education in eye care, collecting / sharing /utilising data; addressing workforce/staffing changes (eg additional workforce needed), appointing a dedicated eye care coordination role, embedding eye care into primary care, undertaking further modelling/additional information, advocacy and formalising of agreements.

KEQ 5: Role of IEH

IEH were identified as being involved in different ways within the sources, including through presentations given at IEH-organised conferences; IEH acting as members of regional stakeholder groups; IEH tools and resources being utilised and referenced by the sources; and IEH publication of a number of the sources. This indicates that IEH has been effective in engagement with and/or supporting regional implementation and this is further documented in the other parts of the evaluation project. This review highlights the varied role of IEH in the sector, either as a stakeholder-collaborator, advisor, technical supporter and/or an enabler, creating spaces for the work of the sector and facilitating knowledge exchange.

In conclusion, this review has sought to identify all publicly available sources about regional collaboration towards improved eye care for Aboriginal and Torres Strait Islander patients following from the launch of the Roadmap to Close the Gap for Vision. The review has followed the same five Key Evaluation Questions as the national evaluation of regional implementation of the Roadmap. The identified 50 papers highlight some of the excellent, inspirational work happening across Australia, demonstrating the power of collaboration towards improved patient pathways and outcomes.

At the same time, the available sources are limited, and cover only a minority of the regions in which eye care collaborations have occurred since the launch of the Roadmap. Increased

documentation and publication of the collective work of the regions will help form a better picture of the regional efforts and will allow stakeholders to build on the shared experiences of success and challenges.

APPENDIX 1: Regional Implementation Elements identified within the literature

Table 7: Regional Implementation elements identified in sources – steps described within papers

Author date	Region / Jurisdiction	1.	2.	3.	4.	5	6.	7.	8.	9.	Total
NACCHO (2016)	Central Australia & Barkly regions (NT)	✓	✓	✓	✓	✓	✓	✓	✓	✓	9
Tatipata, S., et al. (2017)	Central Australia & Barkly regions (NT)	✓	✓	✓	✓	✓	✓	✓	✓	✓	9
Hager, J., (2021)	Western NSW Partnership	✓	✓	✓	✓	✓	✓	✓	✓		8
Penrose, L., (2017)	SE Qld	✓	✓	✓	✓	✓	✓		✓	✓	8
Jatkar et al (2015)	Grampians (Vic)	✓		✓	✓	✓	✓	✓	✓	✓	8
Jatkar, U., et al (2017)	SE Qld, Grampians (Vic), Great South Coast (Vic)	✓	✓	✓	✓	✓	✓		✓	✓	8
Barton, J., Vaile., A, Waddell, C., Hager., J, (2015)	Western NSW Partnership	✓	✓	✓	✓	✓	✓		✓		7
Penrose L, Roe Y, Johnson NA & James EL., (2018)	SE Qld	✓	✓	✓	✓	✓	✓		✓		7
Tatipata, S., Rogers, A and Morse., A. (2017)	Katherine (NT)	✓	✓	✓	✓	✓	✓		✓		7
Jatkar U, Anjou MD & Taylor HR. (2017)	Grampians (Vic)	✓	✓	✓		✓		✓	✓	✓	7
Lesock, L., (2019)	Geelong/Barwon (Vic)	✓	✓	✓		✓	✓		✓	✓	7
Rich, Lachlan, (2019)	Central West and North West QLD	✓	✓	✓	✓	✓	✓		✓		7
Forrester, S., et al (2015)	Victoria	✓	✓	✓	✓	✓		✓	✓		7
Hager, J., (2017)	Western NSW Partnership		✓	✓	✓	✓	✓		✓		6
Yashdhana, A., et al (2020)	Katherine (NT)	✓	✓	✓		✓	✓		✓		6
NACCHO/ Koori Mail (2013)	Central Australia & Barkly regions (NT)	✓	✓	✓	✓		✓		✓		6
Morse, A., (2017)	Northern Territory		✓	✓		✓	✓	✓	✓		6
The Fred Hollows Foundation (2018)	Central Australia & Barkly regions (NT)	✓	✓	✓	✓	✓			✓		6
The Fred Hollows Foundation, (2016)	Western NSW Partnership	✓	✓	✓	✓	✓					5
Clarke., F. (2017)	Grampians (Vic)			✓	✓	✓			✓	✓	5
Taylor HR (2019)	Grampians (Vic)		✓	✓		✓			✓	✓	5
Banfield, AM., (2018)	Great South Coast (Vic)			✓	✓	✓	✓			✓	5
O'Neill, Claire (2019)	Southern NSW	✓	✓	✓	✓		✓				5
Murdoch, V., and Senior, L., (2020)	Eastern Metro Melbourne (Vic)	✓	✓	✓					✓	✓	5
Morse., A., et al (2015)	Region/s not named (NT/NSW)		✓		✓	✓	✓		✓		5
Brien Holden Vision Institute , Vision CRC (2015)	Region/s not named (NT/NSW)	✓	✓	✓	✓				✓		5
Morse, A. Arkapaw, L., (2012)	Region/s not named (NT/NSW)			✓	✓	✓			✓	✓	5
Morse, A.,Tatipata, S., Anjou, M (2014)	Northern Territory		✓		✓	✓	✓		✓		5
O'Neill, Claire (2018)	NSW	✓	✓	✓		✓		✓			5
McCarthy, C., (2019)	SE Qld	✓		✓			✓			✓	4
Susuico, L., (2018)	Central Australia and Barkly regions	✓	✓	✓		✓					4
Australian College of Optometry (2016)	North West Melbourne	✓	✓	✓					✓		4
Robertson., E., (2019)	Region/s not named		✓				✓		✓	✓	4
Rich., L., (2020)	Region/s not named		✓	✓	✓						3
Hale-Roberston, K., (2018)	Queensland		✓			✓	✓				3
Napper et al. (2013)	Victoria	✓	✓		✓						3
The Fred Hollows Foundation (2018)	South Australia (APY Lands)	✓			✓		✓				3
Moynihan V & Turner A (2017)	Kimberley	✓	✓		✓						3
Anjou., M., Napper, G., Clarke, F. (2013)	Grampians		✓		✓						2
The Fred Hollows Foundation (2017)	Central Australia and Barkly regions			✓	✓						2
Wellington Aboriginal Corporation Health Service	Wellington, NSW			✓	✓						2
Mitchell W, Hassall M, Henderson T (2020)	Central Australia	✓			✓						2
Clarke., F. (2018)	Grampians			✓							1
Tuiono, J., and Radford, V., (2019)	Region/s not named		✓								1
Henderson, Tim (2019)	Central Australia and Barkly regions	✓									1
Wicks P., et al (2013)	NSW				✓						1
Woods., Kerry (2020)	WA	✓									1
Indigenous Health Infonet (2018)	Queensland				✓						1
Western New South Wales Eye Health Partnership (2020)	WNSW			✓							1
Heycox., Dean, Ly., C., (2019)	South Coast NSW										0
TOTAL for each RI element overall		**30**	**34**	**35**	**32**	**27**	**23**	**8**	**27**	**14**	

APPENDIX 2: changes to eye care systems and outcomes

Table 8: System-level changes described within the literature

	Funding/ equipment	Staff skills/ knowledge	Community awareness	Workforce availability	New/improved tools/resources	Increased/ improved services	Better integration/ embedding	Improved coordination/ communication	Strengthened partnerships/ collaboration	Improved cultural awareness/safety
Barton, J., et al (2015)	✓			✓	✓	✓	✓	✓	✓	
The Fred Hollows Foundation (2016)	✓	✓		✓		✓	✓	✓	✓	
Hager, J., (2017)		✓				✓		✓	✓	
Hager, J., (2021)						✓	✓	✓	✓	✓
Jatkar, U., et al (2017) (combined 3 regions)	✓	✓		✓	✓	✓		✓	✓	✓
Penrose, L., (2017)					✓	✓	✓	✓	✓	
Penrose L, et al., (2018)						✓	✓	✓	✓	✓
McCarthy, C., (2019)	✓	✓		✓		✓			✓	
Tatipata, S., et al (2017)		✓		✓		✓		✓	✓	
Yashdhana, A., et al, (2020)	✓	✓		✓	✓	✓	✓	✓	✓	
Jatkar U, et al (2017) (MJA)	✓	✓			✓	✓			✓	✓
Clarke., F. (2017)	✓			✓	✓	✓		✓		
Clarke., F. (2018										
Anjou., M., et al (2014)		✓	✓			✓		✓	✓	
Taylor HR (2019)	✓	✓		✓	✓	✓			✓	
Jatkar et al (2015)	✓		✓	✓	✓	✓		✓	✓	
NACCHO, (2016)	✓		✓	✓	✓	✓		✓	✓	✓
Tatipata, S., et al. (2017)	✓		✓	✓	✓	✓		✓	✓	
Susuico, L., (2018)									✓	
The Fred Hollows Foundation (2017)						✓	✓	✓	✓	✓
NACCHO/ Koori Mail (2013)	✓					✓		✓	✓	
Banfield, AM., (2018)					✓			✓	✓	
O'Neill, Claire (2019)					✓	✓		✓	✓	
Murdoch, V., and Senior, L., (2020)	✓	✓	✓		✓	✓	✓		✓	
Lesock, L., (2019)					✓	✓			✓	✓
Australian College of Optometry (2016)									✓	
Morse., A., et al (2015)		✓			✓	✓	✓		✓	
Brien Holden Vision Institute, Vision CRC (2015)		✓		✓	✓	✓		✓	✓	
Rich., L., (2020)						✓		✓	✓	
Robertson., E., (2019)					✓	✓				✓
Tuiono, J., and Radford, V., (2019)		✓								
Rich, Lachlan, (2019)		✓						✓	✓	
Morse, A. Arkapaw, L., (2012)		✓			✓			✓	✓	
Henderson, Tim (2019)						✓				
Morse, A.,et al (2014)		✓		✓	✓	✓		✓	✓	
Forrester, S., et al (2015)			✓			✓		✓	✓	✓
Morse, A., (2017)						✓			✓	
O'Neill, Claire (2018)									✓	
Hale-Roberston, K., (2018)								✓	✓	
Napper et al. (2013)				✓	✓			✓	✓	
Wicks P., et al (2013)		✓				✓		✓		
Woods., Kerry (2020)										✓
Indigenous Health Infonet (2018)						✓				
The Fred Hollows Foundation (2018)	✓			✓		✓	✓	✓		
The Fred Hollows Foundation (2018)	✓			✓				✓	✓	
Moynihan V & Turner A.(2017)	✓	✓		✓		✓		✓	✓	
Wellington Aboriginal Corporation Health Service (2020)	✓			✓		✓		✓	✓	✓
Mitchell W, Hassall M, Henderson T (2020)				✓		✓		✓		✓
Western New South Wales Eye Health Partnership (2020)								✓		
Heycox., Dean and Ly., C., (2019)		✓	✓			✓	✓	✓		
Total changes reported	**17**	**19**	**7**	**19**	**20**	**37**	**11**	**34**	**38**	**12**

Table 9: Outcomes/Impacts reported in the literature

	Surgery	Screening/ diabetes	Eye Exams optometry	Spectacles	DR Treatment	Culturally safe care	Care closer to home	Support services	Referrals	Consults ophthalmic	Community awareness	Reduced wait list/ times
Barton, J., et al., 2015	✓						✓					
The Fred Hollows Foundation, 2016	✓						✓					
Hager, J., 2017	✓						✓					
Hager, J., 2021			✓	✓					✓			
Jatkar, U., et al 2017 (combined 3 regions)	✓	✓	✓	✓		✓		✓		✓		
Penrose, L., 2017	✓		✓	✓				✓		✓	✓	✓
Penrose L, et al, 2018	✓					✓		✓				
McCarthy, C., 2019	✓	✓	✓		✓					✓		
Tatipata, S., et al 2017	✓	✓	✓	✓					✓	✓		
Yashdhana, A., et al., 2020		✓	✓	✓								
Jatkar U, et al. (2017) (MJA)	✓	✓		✓		✓						✓
Clarke., F. (2017)	✓	✓		✓								
Clarke., F. (2018												
Anjou., M., Napper, G., Clarke, F.		✓									✓	
Taylor HR (2019)	✓	✓		✓								✓
Jatkar et al (2015)		✓		✓					✓			✓
NACCHO (2016)	✓	✓		✓		✓					✓	✓
Tatipata, S., et al. (2017)	✓											
Susuico, L., (2018)												
The Fred Hollows Foundation (2017)	✓					✓						✓
NACCHO/ Koori Mail (2013)	✓				✓			✓				
Banfield, AM., (2018)		✓										
O'Neill, Claire (2019)												
Murdoch, V., and Senior, L., (2020)		✓	✓	✓								
Lesock, L., (2019)	✓									✓		✓
Australian College of Optometry (2016)												
Morse., A., et al (2015)	✓	✓	✓						✓			
Brien Holden Vision Institute , Vision CRC (2015)	✓	✓	✓						✓	✓		✓
Rich., L., (2020)			✓									
Robertson., E., (2019)			✓			✓		✓				
Tuiono, J., and Radford, V., (2019)		✓										
Rich, Lachlan, (2019)												
Morse, A. Arkapaw, L., (2012)												
Henderson, Tim (2019)	✓											
Morse, A.,Tatipata, S., Anjou, M (2014)												
Forrester, S., et al (2015)						✓					✓	
Morse, A., (2017)												
O'Neill, Claire (2018)												
Hale-Roberston, K., (2018)												
Napper et al. (2013)			✓									
Wicks P., et al (2013)		✓	✓			✓	✓	✓		✓	✓	
Woods., Kerry (2020)						✓						
Indigenous Health Infonet (2018)												
The Fred Hollows Foundation (2018) APY Lands	✓	✓				✓						
The Fred Hollows Foundation (2018) CABIEHS												
Moynihan V & Turner A. (2017)		✓										
Wellington Aboriginal Corporation Health Service												
Mitchell W, et al (2020)	✓			✓								
Western New South Wales Eye Health Partnership (2020)		✓	✓		✓							
Heycox., Dean, Ly., C., (2019)												
Total changes reported	**21**	**19**	**14**	**12**	**3**	**10**	**4**	**6**	**5**	**7**	**5**	**8**

APPENDIX 3: Enablers and barriers to regional implementation of eye care activities

Table 10: Enablers described within the literature (excluding sources that did not identify enablers, n=39 sources)

	Collaboration/ Partnership /Relationship	Tools/ Resources/ training	Funding	Local provision of care	Collaborative gap analysis/ data sharing	Joint planning/ advocacy	Program Officer/ Coordinator	Integration with existing programs/	Patient centred approach	Community relationships/ engagement	Culturally safe approach
Barton, J., et al 2015	✓	✓	✓	✓							
The Fred Hollows Foundation, 2016		✓	✓		✓	✓	✓				
Hager, J., 2017	✓				✓	✓	✓				
Hager, J., 2021	✓						✓				
Jatkar, U., et al 2017 (combined 3 regions)	✓										
Penrose, L., 2017	✓							✓			
Penrose L, et al 2018	✓		✓		✓		✓	✓		✓	
McCarthy, C., 2019			✓					✓			
Tatipata, S., Rogers, A and Morse., A. 2017	✓					✓					
Yashdhana, et al., 2020	✓				✓	✓		✓			
Jatkar U, Anjou MD & Taylor HR. (2017) (MJA)	✓	✓	✓							✓	
Anjou., M., Napper, G., Clarke, F.	✓	✓			✓					✓	
Taylor HR (2019)	✓										
Jatkar et al (2015)			✓		✓	✓	✓			✓	
NACCHO, 2016	✓				✓	✓	✓	✓		✓	
Tatipata, S., et al. (2017)	✓					✓	✓				
Susuico, L., (2018)											
The Fred Hollows Foundation (2017)	✓		✓					✓		✓	✓
NACCHO/ Koori Mail (2013)	✓		✓							✓	
Banfield, AM., (2018)					✓			✓	✓		
Murdoch, V., and Senior, L., (2020)	✓		✓				✓			✓	✓
Lesock, L., (2019)	✓									✓	✓
Morse., A., et al (2015)	✓					✓		✓			
Brien Holden Vision Institute, Vision CRC (2015)					✓				✓		✓
Rich., L., (2020)							✓	✓			
Robertson., E., (2019)										✓	✓
Morse, A. Arkapaw, L., (2012)	✓						✓				✓
Henderson, Tim (2019)	✓										
Morse, A.,Tatipata, S., Anjou, M (2014)					✓	✓			✓		
Forrester, S., et al (2015)	✓					✓	✓			✓	✓
Napper et al. (2013)	✓										
Wicks P., et al (2013)	✓	✓		✓			✓	✓	✓	✓	✓
Woods., Kerry (2020)	✓			✓			✓				✓
The Fred Hollows Foundation (2018) (APY)	✓	✓					✓	✓		✓	✓
The Fred Hollows Foundation (2018)	✓				✓		✓				
Moynihan V & Turner A. (2017)	✓		✓				✓	✓			
Wellington Aboriginal Corporation Health Service	✓									✓	✓
Mitchell W, Hassall M, Henderson T (2020)	✓			✓			✓	✓		✓	
Western New South Wales Eye Health Partnership (2020)	✓	✓					✓	✓			
TOTAL enablers reported	**30**	**7**	**10**	**4**	**11**	**10**	**18**	**14**	**4**	**15**	**11**

Table 11: Barriers reported within literature (excluding sources that did not identify barriers, n=16)

	Remoteness	service collaboration/ fragmentation	Transport/ travel costs	Staffing/ workforce	Competing priorities/ multiple roles	Sustainability	Costs	Funding needed for coordinator role	System/ Processes	Community related	Infrastructure/ service access
Barton, J., et al., 2015			✓	✓		✓	✓				
The Fred Hollows Foundation, 2016			✓			✓	✓				
Hager., J., 2021				✓	✓	✓					
Clarke., F. (2018				✓	✓			✓	✓	✓	
Tatipata, S., et al. (2017)	✓			✓							
Susuico, L., (2018)									✓		
Banfield, AM., (2018)	✓	✓		✓		✓	✓			✓	
Murdoch, V., and Senior, L., (2020)									✓	✓	✓
Lesock, L., (2019)									✓		
Tuiono, J., and Radford, V., (2019)				✓						✓	
Rich, Lachlan, (2019)		✓	✓	✓					✓	✓	✓
Henderson, Tim (2019)	✓			✓						✓	✓
Wicks P., et al (2013)	✓		✓	✓	✓		✓	✓			
The Fred Hollows Foundation (2018) APY Lands	✓							✓			✓
The Fred Hollows Foundation (2018) CABIEHS		✓									
Moynihan V & Turner A. (2017)		✓							✓		
Mitchell W, et al (2020)	✓	✓		✓					✓	✓	
Western New South Wales Eye Health Partnership (2020)	✓			✓	✓						
Total barriers reported	**7**	**5**	**4**	**11**	**4**	**4**	**4**	**3**	**7**	**7**	**4**

APPENDIX 4: Next steps and future recommendations made within the literature

Table 12: Next Steps/Future Recommendations reported (sources that include next steps n=25)

	Complete existing plans	Workforce/ staffing	Funding/ Infrastructure	Training/Education	Embed into Primary Care	Formalise agreements	Document/ share learning beyond	Data	Coordination roles	Service Improvements	Further information/ modelling	Work with others	Advocacy
Barton, J., et al 2015	✓	✓	✓	✓	✓	✓							
The Fred Hollows Foundation, 2016			✓			✓	✓	✓	✓				
Penrose L, et al 2018										✓	✓		
Tatipata, S., Rogers, A and Morse., A. 2017							✓						
Yashdhana, et al., 2020										✓			
Clarke., F. (2018			✓				✓					✓	
NACCHO, 2016	✓						✓						
Tatipata, S., et al. (2017)		✓	✓				✓	✓	✓		✓	✓	✓
Susuico, L., (2018)								✓					
Banfield, AM., (2018)										✓		✓	
Murdoch, V., and Senior, L., (2020)								✓		✓			
Australian College of Optometry (2016)	✓												
Morse., A., et al (2015)					✓								
Brien Holden Vision Institute, Vision CRC (2015)	✓	✓		✓	✓		✓						✓
Tuiono, J., and Radford, V., (2019)		✓						✓		✓		✓	
Rich, Lachlan, (2019)									✓			✓	
Henderson, Tim (2019)	✓	✓	✓	✓						✓			
Forrester, S., et al (2015)												✓	
Morse, A., (2017)	✓												
Napper et al. (2013)				✓	✓					✓		✓	
Wicks P., et al (2013)			✓	✓			✓		✓				
The Fred Hollows Foundation (2018) (APY)			✓	✓						✓			
The Fred Hollows Foundation (2018)			✓		✓		✓	✓	✓			✓	
Moynihan V & Turner A. (2017)				✓				✓		✓			
Mitchell W, Hassall M, Henderson T (2020)	✓	✓	✓									✓	
	7	**6**	**9**	**7**	**5**	**2**	**8**	**7**	**5**	**8**	**2**	**9**	**2**

APPENDIX 5: Characteristics of studies

Table 13: Group 1: sources clearly describing collaborative regional stakeholder groups or networks, and utilising elements of regional implementation as defined by IEH

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Reported Outcomes (impacts/effects of change)	Enablers	Barriers	Future Steps/what else is needed?
1. Barton, J., Vaile., A, Waddell, C., Hager., J, 2015 [10]	Observational reflection 2011-2015 (4 years)	**Regional group/network:** Western New South Wales Partnership **Study setting:** Regional, remote and very remote Western NSW **Population:** 307,000 residents, (9% of these Aboriginal) **Stakeholders:** • 9 Aboriginal Community Controlled Health Care Organisations (ACCHOS) • Fred Hollows Foundation (FHF) • Rural Doctors Network NSW (RDN) • Brien Holden Vision Institute (BHVI) • 2 x Medicare Locals • Local Hospital District (LHD) • Vision CRC • Outback Eye Service	1. Clear definition of region and population 2. Comprehensive service mapping and gap analysis undertaken, including population-based needs 3. Establishment of regional collaborative network (Western NSW Eye Partnership) with formal TOR 4. Identified coordination roles, including funded project role 5. Shared data collection and analysis for planning and monitoring 6. eye care pathways developed and flowchart developed 8. Local planning and monitoring occurring through regional collaborative network	**Conference Presentation** (paper) **1. Qualitative reflection** from participants in the Partnership	• Collaborative model for data collection, gap analysis and service mapping developed • Western NSW Partnership has strengthened communication, planning and ways of working together • Local framework produced to build improvements in public eye health services • Introduction of public retinal surgery locally (including funding sourced) • New multi-discipline focus (primary, secondary and tertiary) improving information, referral pathways and working towards embedding eye care into chronic care programs • Additional funding sourced for outreach staff and project coordination • Public, local surgery addressing cost and transport barriers	Patient receiving surgery closer to home, supported by family (qualitative description)	• Low-cost service planning undertaken through collaboration and partnership • Service Level Agreement with Private Hospital enabled theatre/staff time • Flow chart to enable surgery locally and streamline process for referral and funding • Funding from FHF (additional) for Outback Eye Services staff for meeting unmet need • Local provision enables patient to stay closer to home and have family support	Not described	**Future goals noted** • completion of 2015 plan • workforce planning linked into service plan • additional funding may be needed for ophthalmic and optometric services • training for primary health care workers to strengthen embedding into PHC SLAs between members
2. The Fred Hollows Foundation, 2016 [11]	Observational reflection 2012-2016 (4 years)	**Regional group/network:** Western New South Wales Partnership	1. Region defined (WNSW) including hospitals 2. Needs assessment, comprehensive service mapping and gap analysis by partners	**Report** (Fred Hollows Bulletin)	• Improved access to retinal surgery locally • Increased surgeries through Dubbo Public Eye Clinic • Increased number of PHC staff trained in eye health	Patient receiving surgery closer to home, supported by family (qualitative description)	• Comprehensive service mapping process with local planning and gap analysis	Challenges • patient transport to appointments a major issue	• Agreements between stakeholder members who are currently working together without an agreement.

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Reported Outcomes (impacts/effects of change)	Enablers	Barriers	Future Steps/what else is needed?
		Study setting: Regional and remote Western NSW **Population:** 301,999 people (9.4% Aboriginal). **Stakeholders** • 9 ACCHOs • FHF (NGO) • RDN NSW • BHVI • Vision CRC • Outback Eye Services • 2 x Medicare Locals • Marathon Health • LHD	3. Formal regional partnership established with 17 partners 4. Funded coordinator role in place 5. Data collection undertaken by the partnership, using IEH calculator to compare to population needs 6. Referral pathway work undertaken including improving awareness of pathway and services 8. Local planning to address needs a key focus of the partnership - framework developed jointly, including advocacy and formal agreements	**1. Qualitative reflection** from participants in the Partnership	• New DR screening program, additional staffing • Improved partnership between stakeholders - enabling strategic decisions to strengthen eye care system • Multi-disciplinary focus across primary, secondary and tertiary • Improving information about services, referral pathways • Embedding eye care into Aboriginal PHC services including chronic disease programs • Greater awareness of eye care system and what others do amongst service providers (break down silos) • Services working together to provide a seamless patient pathway • Funding for project role		• Support for service providers to provide data from across sector • Collaborative data enabled report to be sent to WNSW Health for local planning • Data collection informs service planning • Joint planning of service level agreements across partners • Equipment assets register used in submission to NSW health for new equipment and maintenance funds • Working with ACCHOs on guide for collecting primary eye care data Dedicated Program Development Officer role (funded) to coordinate the partnership	• sustainability of system with reliance on 'in-kind' support from various services such as bulk-billing anaesthetist - need for strengthening of system to ensure sustainability • No bulk-billed VMO clinics locally Cost and time for service planning (need to ensure good use of results from service planning to enable system change)	• Submit a proposal to NSW Ministry of Health for a Regional Health Transport Coordinator for the region. • Formally document the partnership model for publication in a peer reviewed journal for other jurisdictions to emulate. • Formally document the project results to demonstrate progress and impact over time. • Ensure all data sharing protocols and authorship guidelines are up to date and relevant for the current needs of the partnership. • Contribute to the development of a state-wide coordination function. Consider learning for application other regions within NSW and interstate.

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Reported Outcomes (impacts/effects of change)	Enablers	Barriers	Future Steps/what else is needed?
3. Hager, J., 2017 [12]	Observational reflection 2012 to 2017 (5 years)	**Regional group/network:** Western New South Wales Partnership **Study setting:** Regional and remote Western NSW **Population**: not defined **Stakeholders:** • ACCHOs (9) • RDN NSW (Fundholder) • PHN • Eye Health Service providers (optometry, hospital, primary care) • FHF (NGO)	2. Needs assessment through Remote Eye Services Delivery paper followed by stakeholder meetings in 2012 3. Establishment of regional collaborative network in 2014 4. Identified coordination of Eye Health Services within system as part of local planning 5. Shared data collection and analysis as part of local planning 6. Local eye care pathway developed for retinal surgery 8. Local planning through regional collaborative network	**Conference Presentation** (slides) **1. Qualitative reflection** of Program Coordinator	• New service available locally (public retinal surgery) developed collaboratively by partners • Workforce skills addressed through vision screening training delivered • Stakeholder relationships built • Eye health awareness (local focus on eye health)	• First surgery performed (increase in utilisation locally)	Strengths of regional partnership model: • Neutral facilitator. • Regular information sharing. • Stakeholder relationship building. • Evidence-based planning and advocacy. • Broadly supported local collaborations. • Eye health in the local 'spotlight'.	• Not described	• Not described
4. Hager, J., 2021 [13]	Observational reflection 2012 to 2020 (8 years)	**Regional group/network:** Western New South Wales Partnership **Study setting:** Bathurst, Regional NSW **Stakeholders:** • ACCHOs (10) • RDN NSW (fundholder) • PHN • LHD • FHF (NGO) • BHVI (NGO) • Other NGOs 2 • Centre for Eye Health • Primary Care	1. Region defined 2. Service mapping and gap analysis part of WNSW Partnership role, specific focus on Bathurst with stakeholder consultation 3. Collaborative Group formed and active 4. Coordination as part of new service model developed 5. Data – ongoing work in this area with shared data 6. New local model developed, with integration of primary and chronic care into eye care pathways 7. Not indicated 8. Joint projects listed (NSW specs scheme, **Cultural Responsiveness**)	**Conference Presentation** (slides) **1. Qualitative reflection** of Program Coordinator and Key Stakeholder **2. Quantitative data on** • Clinic numbers • Patients seen • Glasses prescribed • Referrals • Waiting list numbers	• 2019 National Award for Regional Engagement • Developed new eye care model based on evidence of need (Bathurst Indigenous Patient Eye Services Model) • Supported implementation with Coordinator engagement with primary care, hospital and Lands Council • Support also provided by FHF on supporting Aboriginal patients • Value of regional stakeholder collaboration - can result in innovative models that improve Aboriginal patient's health service access and outcomes	**Optometry** • 7 clinics • 65 patients • 47 Subsidised Spectacles Program prescriptions **Ophthalmology** • 12 referrals in 2020 • 9 referrals next clinic **Surgery List** • 6 on cataract surgery wait list • Oculoplastic surgery	• Coordinator engagement with primary care, hospital and Lands Council • FHF – advice on supporting Aboriginal patients Value of regional collaboration	Not described	Not described

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Reported Outcomes (impacts/effects of change)	Enablers	Barriers	Future Steps/what else is needed?
					• Ongoing monitoring of implementation through range of data and modelling				
5. *Jatkar, U., Anjou, M, Schubert, N., Roberts, P., Taylor, H.R., 2017 [5] *This presentation reports on 3 individual regions*	Observational reflection Time period not stated	**Regional group/network:** Institute for Urban Indigenous Health/South East Qld **Study setting:** Urban South East QLD **Population:** 38% of Indigenous people in QLD reside in SEQ, 30,000 active clients of IUIH members **Stakeholders:** • Institute for Urban Indigenous Health (IUIH) and member ACCHOS) • (others not stated)	1. IUIH region defined (38% Indigenous people in QLD), multiple AMS clearly identified 2. Gap analysis – specific focus on cataract surgery pathway 3. IUIH as regional collaborative network with member AMS and private hospitals 5. Data analysis (multiple indicators monitored) 6. Redesign of cataract pathway/ protocol	**Conference Presentation** (slides) **1. Qualitative** reflection on process and results by IEH staff **2. Quantitative data:** • services available • cataract surgeries • eye checks • glasses • ophthalmology consults • % of patients post-op follow up and utilisation of services	• Redesigned cataract pathway/protocol • Optometry services now available in 17 clinics (increased service availability within PHCs) • IUIH largest supplier of no cost specs in QLD • Visiting ophthalmologists available in 2 hub clinics	• Increased number of cataract surgeries (from 1 surgery pre-intervention to 223 post-intervention) • High levels of post-op follow-up (>90%) • High use of support services by clients (>80%) • 2,700 eye checks in 2017 • 3,500 pairs of glasses in 2017 • 850 ophthalmology consultations in 2017	• Not reported	• Not described	• Not described
	Observational reflection 2014-2017 (3 years)	**Regional group/network:** Grampians region **Study setting:** Regional Victoria **Population:** 2,407 Aboriginal and Torres Strait Islander people **Stakeholders:** • ACCHOs x 3 • ACCHO Peak • DHHS • NGO (optometry) • PHN IEH	1. region defined as part of larger Victorian project 3. Advisory Committee established for regional network 4. Eye health project officer (coordinator) appointed 5. Data reported for 3 measures 8. Local project planning undertaken 9. Health promotion materials for DR	**Conference presentation** **1. Qualitative** reflection on processes and outcomes **2. Quantitative data** on service availability and access showing change over time	• Motivated and engaged regional stakeholder group • Service delivery improvements, • New equipment purchased for local AMSs, • Additional funds for optometry within the AMS sourced • New health promotion materials for diabetes and eye health developed	• increased retinal checks (over 55% from 2013-2016) • increased cataract surgery rates (+64% in 2015-17) • increased SS (glasses) (+50% between 2014-16)	• Not described	• Not described	• Not described

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Reported Outcomes (impacts/effects of change)	Enablers	Barriers	Future Steps/what else is needed?
	Observational reflection 2014-2017	**Regional group/network:** Great South Coast **Setting** Regional Victoria **Stakeholders** • Windamara Aboriginal Corporation Others not listed	3. Regional Stakeholder Group formed in 2014 4. Regional Project Officer and Regional eye and ear coordinator role	**Conference Presentation** (slides) 1. Qualitative reflection on process and outcomes of regional group	• Clinical assessments and retinal screening undertaken within local AMS and schools • Focus on community engagement with mainstream service providers • Cultural focus: specific visits to Lake Condah and Tower Hill cultural sites • Networking to improve pathways and patient engagement, especially **cultural safety** in mainstream clinics • Specific effort to engage hospitals/ Aboriginal Liaison Officers • Trial of new software system to develop referral pathways and prevent patient drop-out between ACCOs, clinicians and tertiary care	• Improved **cultural safety reported** • Increase in subsidised spectacles provided to Aboriginal clients • Increased optometry visits to local ACCOs through the VOS • Increased screening and eye exams • Increased screening of Aboriginal children in schools through the regional eye & ear coordinator	• Enablers not specifically reported but pitch of presentation overall is that Regional approach is the enabler	• Not described	• Not described
6. Penrose, L., 2017 [14]	Observational reflection 2015-2017 (2 years)	**Regional group/network:** Institute for Urban Indigenous Health/South East Qld **Study setting:** Urban South East QLD **Population**: 65,000 Aboriginal and Torres Strait Islander people within 5 SEQ regions and over 30,000 active clients of IUIH services **Stakeholders:**	1. Defined population, public and private hospitals and AMS 2. Needs assessment - project included pathway mapping and analysis of data to identify needs 3. Regional collaborative network established with multiple partners across eye care pathway 4. Case coordination - roles assigned across IUIH team 5. Data collection - IUIH and hospital data to identify gaps and monitor progress 6. Referral pathway and processes refined as part of IUIH eye service model	**Conference presentation** (slides) **1. Qualitative** reflection by program implementer **2. Quantitative data:** • numbers of services provided • cataract surgeries • % uptake of support services • % post-operative follow-up	• New cataract surgery pathway and processes refined • IUIH service model developed • Changes to case coordination roles within IUIH • Support services integrated with surgical pathway • Health promotion campaign implemented	• 7,500 eye checks, 3,500 pairs glasses, 850 ophthalmology consultations provided in 2017 • Increase in cataract surgeries - 223 cataract surgeries in 15 months (comp to 1 in 7 months) • High % uptake of support services accessed by clients • High % post-op follow up • Visual status improved • No current cataract surgery waitlist	• Build the foundations first for a strong eye program • Sustainability may take time - change takes time • Integrate with Primary Health Care • Partner with other organisations/programs and utilise their expertise and resources – non-profit, commercial and government	• Not described	• Not described

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Reported Outcomes (impacts/effects of change)	Enablers	Barriers	Future Steps/what else is needed?
		• IUIH range of program areas • CheckUp QLD (fundholder) • Private Ophthalmologists • Inala Health Services • FHF (NGO) • Qld State Health • Zeiss Instruments • Private Hospital	8. Local planning and activity 9. Health Promotion developed CTST resources 'Deadly Urban Eyes'	• Vision outcomes • Social media reach		• Social media reach: Deadly Urban Eyes 14,516 reach, 192 likes (Oct 2016 to Jan 2017)	• Opportunities for surgery and expansion will open with an organised, co-ordinated eye program		
7. Penrose L, Roe Y, Johnson NA & James EL., 2018 [33]	Quality Improvement, Process re-design including audit of pre and post clinical data June 2014 – May 2016 (2 years)	**Regional group/network:** Institute for Urban Indigenous Health/South East Qld **Study setting:** Urban South East QLD **Population:** ~50% of SEQ Indigenous population (over 26,000 people) accessed IUIH clinics. **Stakeholders:** • IUIH • ACCHOs • Ophthalmic Surgeon • Community members • Private Hospitals x 2 • CheckUp (Fundholder) • FHF (NGO)	1. Clearly defined region and population with surgical hubs as part of 2013 mapping project 2. Eye health service mapping and comprehensive gap analysis in 2013 3. IUIH "Urban Regional Eye Program" established with IUIH, member AMS, private hospitals and funders 4. Coordination roles identified across the program 5. Ongoing data collection across services, including clinical audit data 6. Redevelopment of cataract surgery pathway and referral process 8. Local planning and monitoring occurs through Regional Eye Program	**Peer reviewed journal article** **1. Qualitative reflection:** on process and results by program implementers **2. Quantitative data:** • services available • cataract surgeries • eye checks • glasses • ophthalmology consultations • % of patients with post-operative follow up and utilisation of support services • vision outcomes post-surgery	• Reviewed and refined cataract surgery pathway (improved pathway developed) • Increased PHC access to eye care at ACCHs (increased service availability) • Improved continuity and coordination of care along surgical pathway (primary to tertiary) • Enhanced collaboration between key external organisations • Eye health integrated within holistic clinical model of care with multi-disciplinary team – in primary care setting • **Culturally appropriate** care provided • Enhanced sustainability of the initiative	• Significant increase in patients accessing cataract surgical services • Within first 4 weeks post-surgery, 96% of patients attended post-operative care, 93% of these patients achieved 6/7.5 VA; • IUIH regional transport utilised by over 90% of patients to attend surgical appointments • 81% cataract patients accessed Coordination and Supplementary Services Program • 33% patients with no accompanying carer supported by IUIH Community Liaison Officers • More than 50% of postoperative ophthalmologist consultations utilised the IUIH Telehealth program • Increased cataract surgery completion rate	• Eye health integrated within clinical model of care as part of chronic disease management process • Eye health team employed by IUIH (facilitates collaboration and integration with other IUIH program areas) • Strong community relationships and holistic model of care • Centrally organised transport by IUIH • Care Coordination and Supplementary Services (CCSS) program central - helps to support and expedite access to specialist services including through transport • Care co-ordinators critical to organising transport, accommodation and wrap around services and continuity of care	• Not described	• In-depth cost benefit analysis of the IUIH cataract surgical program for SEQ's urban Indigenous people should be undertaken; • Additional investigation potential redesign of the public hospital cataract surgery pathways incorporating key elements of the regional cataract surgery program should be undertaken; • Improvement of access to tertiary eye health services, particularly cataract surgery in SEQ.

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Reported Outcomes (impacts/effects of change)	Enablers	Barriers	Future Steps/what else is needed?
							• Integration of many IUIH program areas - Community Liaison Officers, pharmacist, telehealth, home support team • Collaborative partnerships with external stakeholders - both private and NGO including providing funding through various programs which is used by IUIH to improve access • Pre and post audit enabled monitoring of impact • Acceptability and appropriateness of healthcare systems key factors - **holistic IUIH model of care** supports this, with services under one roof as much as possible • Transport • Care coordination across all 3 levels • Dedicated program coordinator with skills and knowledge of referral pathways critical to success • Philanthropic and in-kind funding		
8. McCarthy, C., 2019 [34]	Observational reflection about development of IUIH eye care program over time 2009-2019	**Regional group/network:** Institute for Urban Indigenous Health/South East Qld **Study setting:** Urban South East QLD	1. Region defined (SE Qld is the IUIH and partners region with 65,000 people	**Conference presentation** (slides)	• Increased eye care service availability across IUIH member AHCS from mobile van in 2013 to 17 fixed clinics in 2017 • New back to school clinics established • Increased equipment available	• Increase in optometry patients (from 103 in 2013 to 4,451 in 2017 and 3,870 in 2018) • Visiting ophthalmology consultations (480 in 2017)	• Utilisation of funding sources (MBS, VOS and MASS) to provide services. Maximise MBS funding • Holistic model of care	• Not described	• Not described

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Reported Outcomes (impacts/effects of change)	Enablers	Barriers	Future Steps/what else is needed?
	(10 years)	**Population:** 65,000 Aboriginal and Torres Strait Islander people in SEQ (38% of Indigenous people in Qld). **Stakeholders:** • IUIH • Multiple ACCHOs across SEQ • Visiting ophthalmologist • FHF • CheckUp (Fundholder) • QLD Gov	3. IUIH model is a population-based model involving collaboration between multiple AMS and local services providers focused on providing coordinated care for community. 6. Referral pathway - IUIH service model has been developed 9. Eye health promotion resources developed 'Deadly Urban Eyes'	**1. Qualitative reflection** on service development over time by program implementer **2. Quantitative data**: • Services available • Service utilisation • Workforce numbers • Patient numbers • Provision of glasses	• Increased workforce numbers and roles • New Indigenous Trainee program established • Funding for workplace programs by FHF	• Increased numbers of cataract surgeries (250 in 2017) • Increased DR consultations (1,112) and injections (100) in 2018			
9. Tatipata, S., Rogers, A and Morse., A. 2017 [15]	Quality Improvement project using pre and post clinical audit data and survey of stakeholders 2012-2014 (2 years)	**Regional group/network:** Katherine region **Study setting:** Remote NT **Population:** 26,000 people, 16,000 Aboriginal and Torres Strait Islander **Stakeholders:** • 3 Local ACCHOs • FHF (NGO) • Other NGO • Katherine District Hospital • Royal Darwin Hospital ophthalmology • Vision Cooperative Research Centre • Ninti One • BHVI	1. Clearly defined region with regional hospital hub and 3 ACCHs 2. Regional population-based needs analysis including pre and post data, regional eye care service mapping, performance assessment, community perspectives, patient experience, workforce needs. 3. Regional collaboration with key local health services based on trust 4. Identification of coordination and eye care services workforce 5. Analysis of range of data sources with combined data 6. Referral pathways clarified and documented in regional eye care service directory	**Conference Presentation** (slides) **1. Qualitative reflection** of process, changes to system and outcomes by program implementers **2. Quantitative pre/post data:** • Optometry workforce, visits, vision assessments, examinations, spectacles needed, recall and referrals in place	• Implemented staff training, resulting in Increase in staff confidence with eye care (pre and post) • Improvements made to eye care referral pathways • Clarification of eye care pathways • Improvements in perception of eye care system elements particularly with organisation of the regional eye care delivery system • Increased eye care service to start to meet population needs • Addressing workforce gaps (eye services and coordination) • CQI across service and system	• Increased % patients with diabetes having annual eye check • (from 38% in 2012 to 61% in 2014) • Improvements in optometry for access, referrals, refractive correction (% increase/ decrease reported) • Smaller impact reported for primary eye care checks • Increase in referral to ophthalmology and those who received surgery (% change and n) • Increase in estimated population-need met over the 3 years of the project for range of measures • Optometry exam within 12 months increased from 39% to 61%	• Participatory methods, including a shared work plan, articulated 'common vision', agreement on prioritisation of activities, targets, and assigning responsibilities. • commitment • trust • collective • strengths-based	• Not described	• The authors note that the approach and tools of collaboration "are potentially helpful to apply in other regions, not only for eye care but for other specialty areas that must integrate with the primary and tertiary care to achieve outcomes"

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Reported Outcomes (impacts/effects of change)	Enablers	Barriers	Future Steps/what else is needed?
			8. Local planning with shared priorities for collective action set. Developed shared work plan with stakeholders and monitoring progress.	• Ophthalmology visits, consults, examinations, surgeries • Comparison of actual vs estimated population-based needs • Clinical file audit data • Self-rated confidence for trained staff • Stakeholder perceptions of eye care system		• Optometry exam within 24 months increased from 52% to 77% • Never had an optometry exam decreased from 29% to 11% • Those with optometry recall/referral in place increased from 49% to 89%			
10. Yashdhana, A., Morse, A., Tatipata, S., Lim, N, Rogers, A., Ling, L. and Burnett., A., 2020 [16]	Quality Improvement project using pre and post clinical audit data and survey of stakeholders 2012-2015 (3 years)	**Regional group/network:** Katherine region **Study setting:** Remote NT **Population:** **Stakeholders:** • 3 ACCHOs across 9 sites • 2 hospitals • NGOs (including FHF) • policy makers	1. Region defined 2. Conducted collaborative regional needs analysis including clinical file audit; regional eye care mapping against population needs; and assessing workforce gaps. 3. Regional collaborative coalition formed and workshops held 5. Collected and shared data across participating stakeholder organisations, utilised pre and post clinical audit data and developed specific Regional eye care Systems Assessment Tool (RECSAT) to assess system change 6. QI project focused on improving referral pathways 8. Shared local planning through QI strategies including monitoring	**Peer reviewed journal article** 1. **Qualitative** reflection of process and outcomes by program partners, including vision outcomes for patients 2. **Quantitative pre/post data**: • Clinical audit data • Service utilisation at primary, optometry and ophthalmology levels • Referral numbers	• Strengthened regional eye care systems • ACCHO staff trained in primary eye care skills • Templates updated in ACCHOs • Increased eye care services to more closely meet population need • Advocacy to government and decision-makers about service needs to increase outreach funds • Perceived improvement of effectiveness of regional eye care system by stakeholders using RECSAT tool	• Improved rates of primary eye care checks • Increased rates and reported increased frequency of: • recorded optometry exams • number of spectacles prescribed • rates of eye exams for people with diabetes • Decreased rates of patients with diabetes who had never had an eye exam • Significant reduction in referrals to ophthalmology (preferred pathway is via optometry for all non-urgent eye care cases). • Improvement in refractive correction	Lessons learnt highlight importance of: • Engaging services and stakeholders to ensure a systems approach (fostering collaboration) • Strategy was evidence-informed (based on data and input), contextually appropriate and reflected commitment to improved eye health outcomes • Participatory, multi-stakeholder approach to implementing QI activities lead to overall strengthening of regional eye care system	• Not described	• Improvements were observed for primary eye care, however further improvements to tertiary care (ophthalmology) such as decreasing cataract surgery waiting lists are still required. •

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Reported Outcomes (impacts/effects of change)	Enablers	Barriers	Future Steps/what else is needed?
			impact through evaluation, data analysis and surveys of stakeholders	• Glasses provided • Vision and eye health service outcomes • Perceived effectiveness of regional eye care system (Likert Scale) pre and post implementation	• "Key areas of improvement included overall organisation and clarity about the structure of the regional eye care system, including its goals and strategies; enhanced integration of eye care into ACCHS primary care; increased access to patient information and promotion of visiting eye care services; and clearer definition of referral pathways"		• External stakeholders must work to build trust and support genuine participation and must be committed to working in the region in the long term •		
11. Jatkar U, Anjou MD & Taylor HR. (2017) (MJA) [17]	Observational reflection 2014-2017 (3 years)	**Regional group/network:** Grampians region **Study setting:** Regional Victoria **Population:** **Stakeholders:** The Grampians Region Aboriginal Eye Health Advisory Group (GRAEHAG) • ACCHOs x3 • ACCHO Peak body • NGO (optometry) • Medicare Local • State Government regional offices (health and education) • Fundholder • Local Aboriginal and Torres Strait Islander Community • Indigenous Eye Health Unit	1. Defined region 2. Gap analysis 3. Regional collaborative network established with funds from Victorian and Australian governments 5. Regional data shared 7. Ensure regional accountability and oversight (with jurisdictional committee) 8. Local planning and action – group meet 9. Health promotion activity	**Letter to the Editor (MJA)** **1. Qualitative** reflection on processes and outcomes **2. Quantitative data** on service availability and access showing change over time	• GRAEHAG took collective approach to drive additional optometry services • The facilitated interaction and communication between stakeholders resulted in a successful model of enhancing eye health outcomes locally and promoting community engagement • Group purchased eye care equipment for the AMS • Eye health promotion resources were developed via engagement with the community • Funds were allocated by the fundholder for increasing cataract surgeries • Engagement of health providers through seminar on improving eye care services • **Cultural barriers addressed through community engagement**	• Visits increased over five-fold from 2012 • 55% increase in number of patients annually receiving diabetic eye checks from 2013 – 2016 • Reduction in waiting times for cataract surgery • Increase of surgery rates (64%) and hospital admissions for eye disease (54%) by 2016 • 50% increase in uptake of subsidised glasses. • **Cultural barriers addressed through community engagement**	• Funding from Victorian Government and RWAV for local eye care services, equipment, and surgeries • GRAEHAG heavily involved in planning, implementation, sharing existing data and evaluation • Development of eye health promotion resources with strong local community engagement • Community participation on addressing **cultural barriers** Collaboration between all stakeholders to guide the project's direction and identify sustainable approach.	Not described	Not described

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Reported Outcomes (impacts/effects of change)	Enablers	Barriers	Future Steps/what else is needed?
12. Clarke., F. (2017) [46]	Observational reflection	**Regional group/network:** Grampians region **Study setting:** Regional Victoria **Stakeholders:** • ACCHOs x 3 • ACCHO Peak • DHHS • NGO (Optometry) • PHN • IEH	3. Advisory Committee formed and met quarterly 4. Eye health project officer based at ACCHO 5. Local data collection and sharing for a range of eye health measures 8. Local project plan developed 9. Involved in developing health promotion resource kit	**Conference presentation** (slides) **1. Qualitative** reflection on processes and outcomes **2. Quantitative data** on service availability and access showing change over time	• Service improvements • New slit lamps and retinal cameras in AMS • improved access to the subsidised spectacles program • Better eye care referral pathways & coordination • Additional funds for optometry services within AMS • Assisted in developing diabetic retinopathy health promotion materials	• Increase in annual retinal checks (over 55% 2013 to 2016) • Increase in cataract surgery rates (+64% 2015-2016) • Increase in hospital admissions (+54% 2015-2016) • Increase in subsidised spectacles (+50% 2014 to 2016)	• Not described	•	•
13. Clarke., F. (2018) [59]	Observational reflection	**Regional group/network:** Grampians region **Study setting:** Regional Victoria **Population:** **Stakeholders:** Not listed in presentation	3. Regional stakeholder group exists - this presentation talks about challenges with sustaining this after moving from a funded, directed and supported Advisory Group to a Stakeholder Group (less formal)	**Conference presentation** (slides) 1. **Qualitative reflection** on outcomes of change to way regional group was funded and supported	• This presentation reports a negative consequence of loss of funding for dedicated role and subsequent change to Advisory Group structure	• Clients continue to have their eye checks done by an Optometrist [rather than by AHW or nurse at ACCHO] • The under-screened remain under screened, not just in eye checks but sometimes in all areas of their diabetes cycle of care • Eye checks or more general health checks are not yet a priority for all • ACCHO try to maintain health promotion relating to eye health within the clinic but this is not part of a planned process	• Not described	• Move from funded PO role and Advisory Group to 'Stakeholder Group' • Staff commitment and buy-in • Lack of a systematic approach within the clinic • Ineffective workflows and procedures • Logistics re retinal camera access • IT computer access issues unique to clinic • Lack of staff time to focus on solving problems • Competing priorities • Eyes are one body part of many	What to do: - Share the load - Learn from others - Increase incentives • - Access to funding, resources, support

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Reported Outcomes (impacts/effects of change)	Enablers	Barriers	Future Steps/what else is needed?
								• Staff have multiple tasks to complete, skills to maintain and learn • Goals and aspirations of the clinic, the community, clients can redirect attention • It takes the whole clinic staff to identify and engage in working towards making an improvement in a certain area • Issues tend to have a 'season' • Routine eye check processes remain the same but they have not yet improved with the availability of equipment or Medicare item numbers • Client-related barriers relating to lack of uptake of services/new models of care. Eye checks are not a priority for all clients.	
14. Anjou., M., Napper, G., Clarke, F. (2017) (video)[41]	Observational reflection Time not stated	**Regional group/network:** Grampians region **Study setting:**	2. Mapping need for glasses against population needs. Project identified needs and gaps	**Video (online)**	• Mapping and monitoring needs against population estimates	Community member speaks about her experience:	• Population projections from IEH to help map service need	Not described	Not described

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Reported Outcomes (impacts/effects of change)	Enablers	Barriers	Future Steps/what else is needed?
		Regional Victoria **Population:** **Stakeholders:** Not listed in presentation	4. Coordination and linkage of patient information between VOS provider and AMS and local optometrists for diabetes screening	**1. Qualitative reflection** on process and outcomes by services providers, IEH and community member	• Seminar run for local practitioners based on need for greater understanding about Aboriginal eye health and cultural education • Ensuring annual eye checks for people with diabetes (monitoring this) to improve diabetes screening rates • Linking information across pathway • Improved communication between service providers as Visiting Optometrists now going to AMS • Higher quality services form Community • More available services • More awareness of availability and awareness of services	• AMS has helped get in touch with services she didn't know about and how to use these. "Knowledge is power" • Ensuring annual eye checks for people with diabetes (monitoring this) to improve diabetes screening rates • Significant improvements in three measures that cause blindness	• Linking and sharing information between providers • Visiting optometrists at AMS enabled discussion of issues with Optometrists and troubleshooting to make service better every time. Ongoing conversation between AMS and VOS provider. BADAC supporting patient to know about services and how to access them (patient perspective)		
15. Taylor HR (2019) (mivision) [18]	Observational reflection 2014-2016 (for Grampians data)	**Regional group/network:** Grampians region **Setting** Regional Victoria **Stakeholders** • Grampians Region Aboriginal Eye Health Advisory Group (members not listed) • NGO (optometry) • Medicare Local • State Health Department • Local AMS	2. Gap analysis identified need for additional VOS optometry services 3. Grampians Region Aboriginal Eye Health Advisory Group (GRAEHAG) met regularly, beginning in 2014 5. Undertook data sharing, 8. Worked to drive planning, implementation, and evaluation to improve eye health outcomes. 9. Health promotion resources developed	**Journal article (online)** **1. Qualitative reflection** on process and outcomes as part of larger article on eye health and regional approaches by IEH **2. Quantitative data** on improvements in visits, diabetes exams, glass, surgery and waiting lists	• Additional optometry through the Australian College of Optometry; • Grampians Medicare Local and the Department of Health and Human Services (DHHS) purchased slit lamps and a retinal camera • Training provided for use in local Aboriginal Medical Services (AMS); • Free health promotion resources developed with strong local community engagement. • Barriers to eye services were dealt with, including lengthy waiting times for public cataract surgery.	As a result of their work, from 2013–2016: • Optometric visits increased five-fold from 2012–2016, • Diabetes exams increased by 55%, • Spectacle provision increased by 50%, • Cataract surgery increased by 64%, and • Surgery waiting lists were reduced to zero.	The regional approach with stakeholders working to address identified eye care needs is the overall enabler outlined in this article	Not described	Not described

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Reported Outcomes (impacts/effects of change)	Enablers	Barriers	Future Steps/what else is needed?
16. Jatkar et al (2015) poster [19]	Observational reflection Time period not stated	**Regional group/network:** Grampians region **Setting:** Regional Victoria **Stakeholders** • ACCHOs x2 • ACCHO Peak • NGO (Optometry) • Vic Department of Health (regional office) • IEH	1. The Grampians is one of four Victorian regions with an Indigenous eye health project 3. Stakeholder group engaged and coordinated 4. Project officer role for regional coordination (DHHS funded) 5. Sharing of data and information for service improvement 6. Referral pathways improved during project 7. Statewide eye health advisory group overseeing eye care 8. Agreed regional plan developed 9. Development of regional eye health promotion resources (range of media)	**Conference poster** **1. Qualitative reflection** on process and outcomes **2. Quantitative data** on improvements in diabetes exams	• Strong engagement with AMS • Engaged and coordinated stakeholder group overseeing progress in region • **Improved awareness of eye health services with development of local health promotion materials** • New slit lamps, retinal cameras and optometry services provided in AMS • Better eye care referral pathways and coordination and engagement with mainstream services • Leadership from local DHHS and AMS • Additional outreach optometry visits provided	• Outreach visits and optometry consultations were equivalent to the 2014 total by mid-2015 • 75% patients with diabetes had annual retinal screen compared to national rate of 20% • Increase in cataract surgery referral (no data) • Increase in eye exams for people with diabetes (no data) • Increased uptake of subsidised spectacles scheme (no data)	• Specific funding for eye health (from DHHS) • Recruitment of Project Officer • Agreed regional plan • Strong engagement with AMS • Engaged and coordinated stakeholder group • Sharing of data and information for service improvement	• Not described	• Not described
17. National Aboriginal Community Controlled Health Organisation (NACCHO), (2016) [20]	Case study 2010-2016	**Regional group/network:** Central Australia and Barkly regions **Setting:** Remote Central Australia (NT) **Population:** 20,000 Aboriginal and Torres Strait Islander people dispersed between two major towns and remote communities **Stakeholders:** • ACCHOs x2 • FHF (NGO)	1. Region defined: Central Australia and Barkly (2 regions) with hospital at Alice Springs 2. Gaps identified through Banscott report and feasibility study, 2014 internal review and ongoing joint identification of eye care gaps and barriers. 3. Formal committee established in 2010. 4. CABIEHS enables coordination across primary, secondary and tertiary levels 5. CABIEHS committee undertakes collection and sharing of data with agreed dataset formalised in 2014 6. Regional referral protocols developed across pathway	**Report** (Case study within this report on CABIEHS) **1. Qualitative data** from interviews and review of evidence 2. **Quantitative data on** • Waiting lists • Screening rates • Appointments • Surgeries • Glasses	• Partnership and governance arrangements facilitate shared delivery of eye health and vision services and improvement of eye health systems in regions • Funded outreach positions and Indigenous Liaison Officer positions through joint funding bid to Australian Government • Smoother and less fragmented patient pathway developed • **ILO position strengthens cultural safety, with fewer patients dropping out of the system**	• reduced waiting lists for surgeries • 9% increase in screening (2-14-2015) • 12% rise in outpatients appointments (2012-2015) • 75% surgical appointments completed •increased glasses (35%) 2012-15 • **ILO position strengthens cultural safety, with fewer patients dropping out of the system**	• Critical role of CABIEHS is to enable coordination across primary, secondary and tertiary levels • Collection, collation, and analysis of data and service info pivotal to support decision making • Agreed dataset formalised in 2014 • Strong relationships between partners at executive and operational levels • 3 outreach positions supported through CABIEHS through funding bid	Not described	Progress is underway to align the strategy towards the shared goal of informing the national eye health system and addressing the eye health needs of Aboriginal and Torres Strait Islander people in the coming years.

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Reported Outcomes (impacts/effects of change)	Enablers	Barriers	Future Steps/what else is needed?
		• NT and Commonwealth Governments • NGOS (other)	7. Regional accountability and oversight provided by CABIEHS (for 2 regions) 8. Central Australia and Barkly Integrated Eye Health Strategy (CABIEHS) developed. Joint planning on priority action areas for the region and continual identification of gaps and barriers and agreement on priority areas 9. Community Awareness/Health Promotion		• Improved and strengthened optometry outreach in collaboration between ACCHOs and Visiting optometry service. • Additional funding sourced through collaborative approach for workforce, equipment and infrastructure • Impacts on most parts of the patient journey through collaborative action • Health system strengthening approach informs and underpins strategic decisions (includes cultural safety).		• ILO positions strengthens **cultural safety** • Collaborative advocacy approaches to source funding • Continual ID of eye care gaps and barriers and agreement on priority action areas for the regions • Collaborative action impacts almost all parts of journey for care Health systems strengthening approach		
18. Tatipata, S., et al. (2017) [21]	Observational reflection 2009-2017	**Regional group/network:** Central Australia and Barkly regions **Setting:** Remote Central Australia (NT) **Population:** 1,605,450 km2 Aboriginal and Torres Strait Islander population 22,000 (>50%) **Stakeholders:** • ACCHOS x2 • ACCHO Peak body • NT and Commonwealth Governments • PHN • FHF (NGO)	1. Regions clearly defined including geography and population 2. Identification of eye health gaps and barriers across the region and mapping of services. Population-based needs listed (numbers required) 3. CABIEHS Steering Committee formed in 2009 4. Integrated Eye Health and Vision System includes Coordination across pathway and coordination staff funded 5. Data on range of eye health measures collected and data working group established 6. Integrated Eye Health and Vision System diagram includes referral pathways across the system	**Conference Presentation** (slides) 1. **Qualitative data** reflection on processes and outcomes 2. **Quantitative data** on numbers of surgeries and patients treated through IESWs and on eye health services needs based on population	• Leadership and Governance established for eye health and vision care across the region • Working Groups established to progress jointly identified priority areas. • Strengthened service linkages and patient pathways • Strong relationships and collaboration between partners • Increased investment in eye care service delivery resources • Delivered 16 Intensive Eye Surgery Weeks (IESW) • Linkages to NT Aboriginal Health Forum • Secured Aus gov funding for eye coordination workforce (4 staff)	• 750 surgeries provided by IESWs • 717 patients have received sight restoring procedures	• "Success" and priorities determined by regional stakeholders • Strong collaboration and shared responsibility among members • Membership includes stakeholders from all levels of eye care (primary, secondary and tertiary) • Membership includes senior executives that can make strategic policy decisions, and operational staff that can resolve issues in a practical way	• Challenges recruiting Ophthalmology Workforce to remote areas are universal and therefore strategies to promote equitable distribution are required.	• Adequate / Appropriately skilled Workforce (Ophthalmology; Optometry; Coordination etc.) • Infrastructure • Eye Clinic; Equipment • Data and Information Systems • KPIs; Data collection and sharing • Political Advocacy • Building the evidence base and using it [to] influence change • Raising the profile of CABIEHS

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Reported Outcomes (impacts/effects of change)	Enablers	Barriers	Future Steps/what else is needed?
		• IEH	7. Leadership and Governance for regions through CABIEHS committee and aligning with jurisdictional oversight 8. Strategic planning workshop and new action plan with key priority areas developed in 2015. 9. Targeted community awareness and health literacy campaigns		• Health System Strengthening approach in place		• Dedicated resources (personnel / RIPO) to support and facilitate regional activities • CABIEHS Service level coordination positions fundamental to effective outreach eye care service delivery. • Alternative pathways to surgery (such as IESWs) and the principles that underpin their delivery improve access and embedding them can contribute to addressing unmet [need].		• Strengthen linkages and engagement with NT AHF / NT Clinical Council • CABIEHS Coordination & Management • Embed eye care into existing leadership structures / mechanisms
19. Susuico, L., (2018) [37]	Observational reflection focused on regional data collection process and outcomes Time period not stated	**Regional group/network:** Central Australia and Barkly regions **Setting:** Remote Central Australia (NT) **Stakeholders:** • FHF (NGO) • Working Group representing Barkly and Central Australia subgroups (members not listed)	1. Central Australia and Barkly regions defined 2. Needs analysis looking at data for subregions developed as part of Eye Health Framework 3. Regional network established (CABIEHS committee) and data working group as part of this representing 2 regions 5. Working group is focused on developing a regional data monitoring process	**Conference Presentation** (slides) **1. Qualitative reflection** on process and outcomes	• Data and Information Systems Working Group established to develop protocols and framework for data collection • Established process to capture routine data that for Regional minimum data set • Initial analysis of time-series data undertaken • Plans for further development and analysis during the year	None reported	Not described	Challenges • Extraction of data • Counting of data • Difference in service delivery for Regional collation of data Agreement and confidence to share information	[Next steps] End of 2018 • Have an accurate regional data picture which informs CABIEHS on trends and identifies priorities and can be used for advocacy • Be able to use published data in appropriate form to aid advocacy efforts Development of data collection pathways to continue quality improvement of data collected and associated processes

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Reported Outcomes (impacts/effects of change)	Enablers	Barriers	Future Steps/what else is needed?
20. The Fred Hollows Foundation (2017) [22]	Observation of 10 years of Integrated eye care 2007-2017 (10 years)	**Regional group/network:** Central Australia and Barkly regions **Setting:** Remote Central Australia (NT) **Population:** 20,000 Aboriginal people over 800,000 km2 **Stakeholders** • FHF • Ophthalmologist • ACCHOs x2 • NT and Commonwealth Governments • Other NGOs	3. CABIEHS committee brings together stakeholders to collaboratively address eye health challenges under Strategy 4. Coordination for patient support	**News article (online)** **1.** Qualitative reflection	• Developed integrated and holistic eye health and vision service models • 17 Eye Surgery Intensives Weeks over 10 years • Agreed focus on empowerment for people and communities to own and engage with eye health care and prevention • **Culturally appropriate patient support and coordination provided through ALOs and REHCs** (address many barriers to accessing services through this support) • Trust and mutual respect with communities built • Flexible approaches taken to service provision to reduce time patient away from home • Groups of patients from same community supported to attend	• Reduced backlog for surgeries • **Culturally appropriate patient support and coordination provided through ALOs and REHCs** (address many barriers to accessing services through this support)	• Partnership approach facilitates shared responsibility for Aboriginal health and delivery of services. • **Provision of culturally safe patient support** • Funding for workforce • Integrated and holistic service models • Focus on empowering Aboriginal communities • Ensuring **culturally appropriate** patient support and coordination • **Community engagement to build trust** and mutual respect • Flexibility of approach to respond to community need and availability	• Not described	• Not described
21. NACCHO/ Koori Mail (2013) [23]	Reflection by stakeholders 2011 to 2013	**Regional group/network:** Central Australia and Barkly regions **Setting:** Remote Central Australia (NT) **Stakeholders** • FHF • NT DOH • Central Aus Hospital Network	1. Central Australia and Barkly regions with surgery in Alice Springs 2. Health policy analysis commissioned in 2011 by FHF identified gaps and issues	**Newspaper article (online)** 1. Qualitative reflection	• Central role in coordinating, facilitating and monitoring, provided by FHF with funding from DOH • FHF transferring this role to partners to build sustainability • Collaborative of service providers, funders and advocates now working together for shared vision under CABIEHS Strategy • Intensive Surgery Weeks provided as part of the Strategy	• Patient story provided of individual from remote community who received cataract surgery and diabetic retinopathy treatment and had improved vision as a result.	• Range of stakeholders integral to improving access and delivering services • Coordinated service delivery key • Transfer of FHF coordination role planned to build sustainability • Roles of various stakeholders enable different elements:	• Not described	• Not described

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Reported Outcomes (impacts/effects of change)	Enablers	Barriers	Future Steps/what else is needed?
		• DOH (patient transport and funding for coordination and surgeries) • ACCHOs x2	3. Central Australia and Barkly Integrated Eye Health Strategy (CABIEHS) collaborative stakeholder group comprises five major partners representing the key service providers, funders, policy makers and advocates for eye health in the regions 4. FHF primary coordination role for Strategy, surgery weeks, stakeholder relations and patient support for surgery (looking to transfer this) 6. Alice Springs surgery referral pathway in place 8. CABIEHS initiated in 2007. Strategy is implemented by stakeholder group.		• Patients are supported along surgery pathway in Alice Springs by FHF Indigenous Australia Program (IAP) staff		○ NT Dept. of Health hospital, transport services ○ ACCHO support to assist patients ○ Aus. Gov financial support for CABIEHS coordination costs and IESWs • Community member reports local health clinic staff support was important		
22. Banfield, AM., (2018) [24]	Observational reflection focused on regional data collection process and outcomes Time period not stated	**Regional group/network:** Great South Coast **Setting** Regional Victoria **Stakeholders** • The Great South Coast Regional Eye Health Project (members not listed)	3. Great South Coast regional group formed as part of the GSC Regional Eye Health Project 4. Eye health coordinator role appointed GSC Project focused on improving coordination 5. Group worked on collecting data for improving eye outcomes for Koori community 6. Client journey (service pathway) app developed 9. **Culturally sensitive** resources developed for the region	**Conference Presentation** (slides) 1. Qualitative reflection 2. Quantitative data on diabetic client eye examinations	• Development of client journey app and **culturally sensitive** resources • Continuation of eye health committee • Supported coordinated eye health services with GPs, PHN and Local services • Better data collection measures • Development of regional Aboriginal and Torres Strait Islander eye health resources • Stronger partnerships	2016-2017 • 56% of Type 2 diabetic clients regionally received a comprehensive eye examination • Improved client outcomes and screening.	• Quality data - allows strengthening of client-centred care • Client-centred care - focused and organised around health needs and expectations rather than diseases	Range of challenges for regional [rural] ACCHOs listed: • distance impacts on time, staff exhaustion, costs • community pressure to be 'all things to all people' when services are lacking • time needed to foster community acceptance • confidentiality in small communities • limited access to specialists and other HPs	Where to from here: • Continue to strength partnership and collaboration across the region, ACCHOS, Mainstream Health and Optometry services.

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Reported Outcomes (impacts/effects of change)	Enablers	Barriers	Future Steps/what else is needed?
								• staff recruitment and retention • lack of community funds to pay for services • organisational sustainability • access to quality staff • links to other support services	• All Clients presenting for a 715 Assessment have at minimum a Snellen Chart observation recorded and those requiring referral receive a comprehensive eye examination. • At least 75-100% Diabetic clients cycle complete their diabetes cycle of care with a Comprehensive Eye examination every 12 months. • At least 75-100% Diabetic Clients have retinal screening completed.
23. O'Neill, Claire (2019) [25]	Observational reflection	**Regional group/network:** Southern NSW **Setting:** Regional NSW **Stakeholders** • ACCHO • PHN • Community Health organisation • RDN NSW • NSW LHD	1. Region defined - and ophthalmology pathways identified 2. Gap analysis undertaken - problem defined with long waits 3. Regional group established 4. Coordination support to book patient appointments, send reminders/recalls and communicate with referring organisations around bookings for transport support 6. Referral pathway developed	**Conference Presentation** (slides) 1. Qualitative reflection on process undertaken	• Aboriginal Health Southern NSW LHD Ophthalmology Flowchart was developed to clarify the referral and coordination pathway	• None reported	• Not reported	• Not described	• Not described

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Reported Outcomes (impacts/effects of change)	Enablers	Barriers	Future Steps/what else is needed?
24. Murdoch, V., and Senior, L., (2020) [48]	Observational reflection Time period not stated	**Regional group/network:** Eastern Metropolitan Melbourne **Setting:** Metropolitan Victoria **Stakeholders (outreach project)** • Community health service • NGO (Optometry) • Local schools • Local Council • Local community members **Stakeholder group members listed:** • ACCOs x2 • PHN • IEH	1. Region loosely defined as Eastern suburbs of Melbourne 2. Collaboration with regional group identified need for school optometry outreach and health promotion resources 3. Regional collaborative group exists; project described developed from this 8. Local planning and monitoring through sub-group and regional group 9. Health promotion resources developed with and for kids	**Share Your Story** (online article) 1. Qualitative reflection on process, outcomes, enablers and challenges by project team 2. Quantitative data on numbers screened and glasses required.	• EACH and ACO created the Bunjils Mirring Nganga-djak project which includes outreach optometry into schools • Added to existing **Cultural Health** and Wellbeing project • **Culturally appropriate** eye health promotion resources for young people developed • Funding received from local council grant to support poster development • Adult eye health promotion video developed and launched at Healthy Mob day • Aboriginal health team actively promoting eye health and supporting clients to access eye care services • Dedicated optometry appointments for Aboriginal patients in community health service now available • 10 clients signed up for eye exams after launch of video • Profile of optometry screening raised considerably • Greater awareness of eye health amongst health practitioners in EACH	• 31 students screened in 4 schools (39% needed and received glasses through subsidised spectacles program) • Anecdotal report of increased access to eye clinic by adults but data gap	• Being part of the stakeholder group provided impetus and direction • Working in collaboration made project possible • Aboriginal Health Promotion officer with good connection in schools supported wide acceptance of the program • Council funding for posters • subsidised spectacles program (affordable glasses)	Challenges reported: • people signed up for eye checks but did not attend • System gap to address follow up care needed • Logistics of organising permission for school children screening • Available times for screening • Facilities for screening	• better access to data, • improvements in follow up processes
25. Lesock, L., (2019) [26]	Observational reflection 2016-2019	**Regional group/network:** Geelong **Setting:** Regional Victoria **Population:**	1. Region defined, with Barwon as hub 2. Used IEH Eye Health calculator to measure gaps and established shortfall (eye exams to treatment)	**Share Your Story** (online article)	• Work within framework of self-determination and Indigenous control, partnership of trust has been built	• Significant increase in numbers of patients receiving care (number not provided)	• Partnership built on trust and integrity	• identification of Indigenous status on referral to clinic	• Not described

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Reported Outcomes (impacts/effects of change)	Enablers	Barriers	Future Steps/what else is needed?
		3,000 Aboriginal people living in the region, the largest population outside metro Melbourne. **Stakeholders:** • Area Health Aboriginal Health Team • ACCHO • Hospital Ophthalmology Clinic • University Optometry school • Peak ACCHO body • IEH • PHN • NGO (Optometry) • Local optometrists, • Local Area Health x2	3. Advisory Group established in 2016 (stakeholders with influence over eye care journey in partnership with local ACCHO) 5. Use IEH calculator to monitor progress (eye exams to treatment) 6. New referral process into Barwon ophthalmology developed, updated referral templates 8. Local planning and monitoring through regional group. Collective decision to focus on improving ophthalmology access 9. Cultural resources developed	**1. Qualitative** reflection on process and outcomes of regional collaboration	• Established Barwon Health Aboriginal Access Eye Clinic with fast-track pathway and dedicated appointments for Aboriginal patients • Improving identification of Aboriginal patients by making changes to referral templates and developing **cultural resources**. • Improving pathways to care • Engagement with local optometrists and ophthalmologists • Involvement of student optometry • Exploring outreach service options • Community art competition for regional eye care (health promotion)	• Reduced surgery waiting time (equal to or less than other Australians)	• Efforts to address health system reform through a shared understanding of the local Indigenous community needs, • Stakeholders investing time and resources to bring sustainable results and strong partnerships. • Working collaboratively • Framework/commitment to self-determination and Indigenous leadership	• Need for cultural safety in mainstream service	
26. Australian College of Optometry (2016) [27]	Mapping project to review eye care services and pathways Length not stated	**Regional group/network:** North and West Metropolitan Melbourne **Setting:** Metropolitan Victoria **Population:** Rapidly growing Aboriginal population in parts of region **Stakeholders:** • ACCHO • NGO (Optometry) • DHHS • IEH	1. Region defined 2. project funded by DHHS to review eye care services and eye care pathways for Aboriginal residents of NWMR 3. Advisory group established for scoping project and project recommended formalising an ongoing advisory committee 8. A series of recommendations are made in the report for collaborative activity	**Report** (Project findings) **1. Qualitative** reflection from scoping report on service needs **2. Quantitative data** on proportion of need being met, services available	• The report does not describe changes, it describes current services based on 2015 data, identifies gaps and focuses on recommendations for future actions	• None reported	• Not reported	• Not described	The report makes 12 recommendations for the N&W region under the headings of: • Governance • Priority for Aboriginal People • Coordination of Care • Capacity Building • Evidence and Evaluation

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Reported Outcomes (impacts/effects of change)	Enablers	Barriers	Future Steps/what else is needed?
		• Primary Care Partnership • PHN • Hospital • Peak ACCHO body • NGO							

Table 14: Group 2: No clearly defined regional group/network but collaboration within a region, using some elements of RM regional implementation approach (2 or more)

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Impact of change	Enablers	Barriers	Future Steps
1. Morse., A., et al (2015) [42]	Action research 2012-2015 (4 years) (Two year implementation phase)	**Setting:** NSW and Northern Territory **Stakeholders** • BHVI • Vision CRC • AHMRC NSW • 3 x ACCHOs	2. Gap analysis and service mapping 4. Training in eye care case management and coordination identified 5. Sharing data – baseline audit and track through CQI process 6. Clarify referral pathways and training in referral pathways and developed services directory in 2014 8. Collaborative planning through project and CQI process	**Conference Presentation** (Paper) 1. Qualitative data on process and outcomes	• visiting optometry and ophthalmology increased in some locations • positive reception of training courses • 80% trainees likely to perform eye ax after training • increase in self-rated confidence for eye assessment skills • observation of closer engagement and ownership of eye care by ACCHS	Data reveal positive trend in access to eye care for patients with diabetes 40+ years including: • increased optometry exams within 1 and 2 years • decrease in patients never seen optometrist • increased optometry referrals/recalls • increased dilated retinal exams • increased MBS 715 eye check assessments • increased diabetes eye care referral pathway completion rate • increased cataract referral pathway completion rate	Closer engagement and ownership attributed largely to: • Closer links between eye care services and diabetes staff and programs • regional goal setting • agreed collaborative action planning for eye care at all levels • clarification of eye care referral pathways Strengthening at PHC level viewed as foundational, effective and practical	None described	Key policy recommendation: build primary healthcare capacity to improve eye care for Aboriginal and Torres Strait Islander people
2. Brien Holden Vision Institute, Vision CRC (2015) [28]	Report on activities 2010-2015 (5 years)	**Setting:** NSW and Northern Territory **Stakeholders** • Vision Cooperative Research Centre (CRC) • BHVI	1. Defined regions provides broad detail of regional coordination work in NSW and NT, without naming regions, but with naming stakeholders including ACCHOs (so regions can be surmised).	**Project report** 1. Qualitative data on process and outcomes	• Increased capacity of eye care workforce and supporting system • increased skill set and training nationally • Aboriginal Eye Health Coordinator training, with 44 coordinators trained.	• annual retinal exams increased • more timely referrals to optometrists • increased % referrals who saw ophthalmologist • more timely cataract treatment (% referred who received surgery)	• Identifying key opportunities for eye care improvements through extensive research • Directly translating policy relating to Aboriginal eye care improvements into action2	• None described	To maximise impact the report suggests: • implementation of policy advice on national subsidised specs schemes

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Impact of change	Enablers	Barriers	Future Steps
		• Optometry Australia (OA) • IEH • Lowitja Institute • Vision 2020 **Implementing partners:** • ACCHOs x 8 • Health Board • Research Partners x 3 (including Ninti One) • NACCHO • AHMRC • FHF	2. 'researching gaps' in the local eye care systems mentioned as part of approach, but no detail on how this happened in specific regions. 3. Collaborative work through a program funded by the Vision CRC. Regional collaborative networks mentioned as connection points for project. 4. Support for coordination roles/ coordinators identified as key outcome of project, 8. Local and regional planning a long-term goal of the project. Collaboration with regional networks to determine common goals and instigate change	2. Qualitative data on activities delivered and outcomes: • Retinal exams • Referrals, • timelines s of care, • service provision to meet need, • training delivered • capacity • staff confidenc e • perceptio ns	• eye care networks established in 2 regions with 36 orgs involved • resources developed to support regional improvements • Improved eye care in 19 PHCs • Increase in % of PHC staff confidently performing eye checks • influenced policy at national level • Existing partnerships strengthened and new collaborations developed	• increased stakeholder-rated performance of regional eye care system • Increased optometry exams for region (% population need met) • increased ophthalmology days (% of pop needs met) • community needs met... • Patient centred care provided.	• Enabling improvements in eye care services, in 'real-life' community/patient-centred settings • Providing practical solutions to enable dissemination of knowledge across related health services • One of CRC goals is "to guide change by making services more accessible and ***culturally appropriate***". •		• state-wide roll-out of practical solutions from project • implementation of regional planning with VOS and RHOF fund-holders • develop national peer-support network to mentor eye coordination workforce • build primary eye care training program into VOS across all regions • national delivery of the skill set developed for eye coordinators
3. Rich., L., (2020) [35]	Report on activity (2017-2020)	**Setting:** Remote Western QLD **Population:** Approximately 20% Indigenous (Windorah) **Stakeholders:** • CheckUp • Western QLD PHN • IEH • Windoorah Community • Central West Hospital and Health Service' • VOS provider	2. Use of IEH calculator and other data for needs assessment. Pathway mapping, including input from community members and range of services 3. Discussion of stakeholder collaboration in region 4. Authored by Coordinator for the mapping project	**Share Your Story** (online article) **1.** Qualitative reflection	• As a result of identified need, a jointly funded eye health coordinator was employed through CheckUP to support mapping of services matched to level of need across the region. • Mapping project undertaken for region • As an outcome of the mapping project, State-wide Indigenous Eye Heath Coordinator worked with stakeholders to support the delivery of a visiting optometry service • Improved access to optometry by delivering VOS services closer to home with Visiting Optometrist now visiting Windorah (previously 492 km round trip)	• The visiting optometrist's first Windorah clinic saw patients from 8am in the morning until 6pm that night, proving a very welcome service	• State coordinator working with stakeholders to support delivery of new VOS service • New optometry service complements the CWHHS "Connected Care through Connecting with Communities" Better Health Project.	• None described	• None described

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Impact of change	Enablers	Barriers	Future Steps
4. Robertson., E., (2019) [49]	Report on ongoing activity Time period not reported	**Setting**: Urban Tasmania **Stakeholders** • Karadi (ACCHO), • Primary Health Tasmania, • Other Aboriginal health services, • IEH • TAZREACH (fundholder), • VOS providers (not specified)	2. Karadi working with IEH, fundholder and others to identify opportunities for improving access and pathways of care (Needs assessment and understanding service needs) 6. ACCHO, fundholder and VOS provider developed new service model based at ACCHO 8. Stakeholders working together to identify services gaps and opportunities for improving access and pathways and to advocate for change. 9. adapting written materials and sharing information verbally for people with lower literacy levels	**Share Your Story** (online article) **1.** Qualitative reflection	• ACCHO and optometrist worked together to adapt testing process to address low literacy levels • Clients surveyed to understand their views of new clinic model. • Change of service model to deliver care at the ACCHO providing access to culturally safe VOS services in the AMS for the first time.	Survey outcomes: • Clients reported improved experience using the service due to cultural safety, ACCHO staff support, transport, sense of ownership • Patient story – improved access and sight and other client-reported improved experience with culturally safe service	• Delivering optometry services within Aboriginal community-controlled settings led to improved outcomes for community members • Clients reported improved experience using the service due to cultural safety, ACCHO staff support, transport, sense of ownership	None described	None described
5. Tuiono, J., and Radford, V., (2019) [56]	Observational reflection Time period not reported Abstract only – limited information	**Setting: Regional Victoria (Gippsland)** **Stakeholders:** • 1 ACCHO • 1 regional group • ACO • PCP • PHN	2. community needs and gaps in services identified - for 1 ACCHO	**Conference presentation** (abstract only) **1.** Qualitative reflection	• ACCHO staff upskilled through instruction and guidance • Increased staff interest in further upskilling	• Community engagement with retinal screening	• Not reported	• maintaining momentum with staff and community	• Future Plans and Challenges: maintain momentum within GEGAC and Community, • provide opportunistic and planned Retinal screening for GEGAC clients and partner Services • Work with external stakeholders to: • Develop service provision • Ongoing staff education • Develop usable data to support ongoing service provision
6. Rich, Lachlan, (2019)[43]	Observational reflection Time period not reported	**Setting:** Central West QLD and North West Qld **Stakeholders**	1. Region defined with local surgical hub (at Longreach Hospital with visiting services)	**Conference Presentation (abstract only)**	• Draft report prepared and follow up stakeholder workshop to develop best-practice pathways	Not reported	Not reported	Stakeholder concerns expressed at workshops and	Appointment of Eye Health Coordinator one recommendation in both regions.

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Impact of change	Enablers	Barriers	Future Steps
		• CheckUP Qld • FHF • Western Qld PHN	2. Extensive mapping of pathways undertaken for access to primary, secondary and tertiary care • Workshops held with stakeholders as initial step where issues with current services where discussed • Mapping of existing pathways for cataract, refractive error and DR • Structured interviews with service hosts and providers • Observational visits to communities, accompanied optometrist where possible 3. Collaborative initiative of CheckUP, PHN and FHF 4. Regional coordinator in place to identify service needs – appointment of eye coordinator a key recommendation of report 5. local data collected for mapping project (point in time) 6. Referral pathways proposed as part of recommendations of mapping report 8. Local planning through stakeholder meetings	**1.** Qualitative reflection	• Improved understanding of current services and issues by stakeholders • Recommendations made [but no further evidence of implementation or change provided]			during interviews included: ○ common Aboriginal and non-Aboriginal pathways, ○ "Diabetes does not hurt", ○ scheduling conflicts, ○ variable patient record access, ○ patient journeys, ○ opportunistic use of retinal cameras, ○ service fragmentation, ○ differentiating between presentations and need, ○ unreliable diabetes prevalence measures, ○ under-referral for diabetics in their thirties, ○ optometry in GP care plan cycles of care, ○ awareness of allied health services ○ travel subsidy scheme costs, ○ telehealth, and VOS under-servicing	Additionally, other recommendations would be best achieved in the presence of sustained coordination rather than though piecemeal allocation of coordination tasks
7. Morse, A. Arkapaw, L., 2012 [60]	Report on ongoing activity Time period not reported	**Setting** **Stakeholders** • BHVI • Vision CRC • ACCHOs and CHCs	3. Regional Models noted – BHVI work with ACCHOs in NT and NSW to (a) analyse current practice in eye care, (b) implement improvements and (c) measure effect	**Conference Presentation** (slides) 1. Qualitative reflection	• Education included primary eye care workshops, in-service training, **cultural awareness** training, REHC training programs, student preceptorships	• Not reported	• Regional Eye Health Coordinators providing **cultural** links between services and community members • Partnerships	• Not described	• Not described

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Impact of change	Enablers	Barriers	Future Steps
		• Range of other partners listed under key partnerships but not clear if these are for regional activity	• has key partnerships with visiting, locum and local optometrists • key partnerships also with AMS and Government health clinics, ophthalmologists, VMOs and local PHC staff as well as NGOs and Gov programs and research orgs (IEH listed) 4. Regional Eye Health Coordinators are key partners providing cultural links between services and community members 5. Data collection for CQI approach and case studies to capture patient perspectives 8. BHVI works with multiple partners to undertake research into good models of eye care - using CQI approach. Link with Medicare Locals for regional health service planning. 9. Eye health promotion - posters developed and impromptu health promotion kits *'I see for Culture'*		• Eye health promotion - posters developed and impromptu, health promotion kits developed '***I see for Culture'***				
8. Henderson, Tim (2019) [50]	Observational reflection and clinical data review	**Central Australia and Barkly regions** **Setting:** remote Central Australia **Population:** 55,000-60,000 people (20,000 Indigenous) 20 languages spoken **Stakeholders** • Central Eye Unit	This presentation is about clinical services working together to try to improve eye care access in Central Australia. It does not describe a regional collaboration specifically and CABIEHS is not mentioned in this presentation. 1. Region defined (Central Australia) with hub in Alice Springs Hospital	**Conference presentation** (slides) 1. **Qualitative** reflection on approach and outcomes in Central Australia 2. **Quantitative data** on waiting times, service provision	Increases in service provision from pre-2000 to 2018 in: • Outpatient referrals increased from 200-300 to 1200+ • Outreach visits increased from 12-15 to 36 • Optometry weeks increased from 4-6 to 20-25	• Surgical cases increased from 57 pre year 2000 to 400-450 in 2018 • Timeliness for urgent care has remained at less than 7 days over this time • However, increases in waiting times to access in care required 'soon' (from 8-10 weeks to 4-6 months) • Routine care (from 6-8 months to >12 months)	• Recurrent long-term continuity of subspeciality weeks over time with specialists involved over a number of years (some since 1996) • Stable platform of specialist consults • Tailored care (use mixed mode of treatment due to remoteness) • Communication and patience	Issues identified: • remoteness, • language barriers, • staffing, • DR treatment a challenge (due to need for long-term anti-VEGF injections)	• Priorities for Long-term Strength & Sustainability • Functional Hub – adequate space, staff & resources • Support recurrent visiting and stable resident staff to ensure a Critical Mass of Team • Increased Capacity to address existing workload and capability to

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Impact of change	Enablers	Barriers	Future Steps
		• Optometry outreach • Specialist Outreach Services • Primary Care DMOs RMPs • Remote communities • VMOs and Locums				Presentation outlines that additional funding and support is needed for long-term strength and stability including • Increased capacity to address existing workload • Capability to expand to future need	• Knowing patient population (ethical obligation to understand regional norms and spectrum of conditions to direct priorities)		expand to future need • Provide more and more timely care to all patients wishing to access it – Prevent Vision Loss • Teaching & training all levels of staff for rural/remote/ outreach eye services • Overlaps with International Ophthalmology programs – FHF Fellows

Table 15: Group 3: Jurisdictional level approach using RM regional implementation elements

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Impact of change	Enablers	Barriers	Future Steps
1. Morse, A.,Tatipata, S., Anjou, M (2014) [39]	Observational reflection and report on clinical audit and system assessment Time period not specified	**Setting:** Northern Territory **Stakeholders** • The Fred Hollows Foundation • Brien Holden Vision Institute • Indigenous Eye Health Unit IEH • 3 ACCHOs (not named)	2. Undertook a regional gap analysis looking at 'availability and accessibility' of primary, secondary and tertiary levels for eye care in the NT 4. Care coordination as part of ophthalmology outreach 5. Gap analysis included pop-based calculations (IEH calc), actual vs projected needs with service mapping, clinical file audit and eye care System Assessment (assessing quantity and quality) 6. eye care pathways clarified as part of process	**Conference Presentation** (Slides) 1. Qualitative data reflection on processes and outcomes 2. Quantitative data on population-based needs being met, clinical file audit data on eye health access	**Primary care:** • trained PHC staff in routine eye checks • updated e-record templates for 715 Ax • clarified ref pathways for eye care Ax • retinal photography • linking with chronic disease (esp diabetes) **Secondary care:** • increased visiting optometry (2x) • increased outreach for ophthalmology (RHOF) • outreach ophthalmology team established including care coordinator, indigenous liaison officer and Fellow **Tertiary care:** • increased hospital ophthalmology services (consults and surgery)	Not reported	Take home messages could be seen as enablers • Combined information: means more than one perspective • Potential applications to other 'speciality' healthcare areas • Scaling up (state/territory, national) ... and down (local) • Always remain patient-centred (not data-centred) • Ongoing monitoring vital: periodic (e.g. audits) & regular (e.g. basic data set)	Not described	Not described

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Impact of change	Enablers	Barriers	Future Steps
			8. Collaborative approach to combine data from 3 parts of system, determine gaps and needs and collectively identify priorities for collective action in 2014 workplan. Regional eye care workshop held to create common vision - developed 8 collective goals across the 3 levels. Advocacy for change a key element		• reviewed and revised wait list • developed ACCHO-preferred models within ACCHOs • ophthalmology 'intensives' (note need sustainable solution) **Collectively:** • fostered collective goals and responsibilities • informed service planning for ACCHO and hospital and needs Ax for eye care funding programs • ongoing monitoring system built				
2. Forrester, S., et al (2015) [29]	Observational reflection 2013-2015 (current at time of reporting)	**Setting**: Victoria **Lists regions:** • Loddon-Mallee • Grampians • Great South Coast • NW Melbourne **Stakeholders** • VACCHO • DHHS Vic • Commonwealth DOH • IEH • ACO • Vision 2020 Australia • Royal Victorian Eye and Ear Hospital • RANZCO • RWAV • Vision Australia • Fred Hollows Foundation.	1. Four regions defined through Koolin Balit project in Victoria 2. Gap analysis through use of calculator and identification of current and emerging issues 3. Regional eye health (REH) committees made up of local regional stakeholders support the REH project officers 4. increased support for coordination and patient pathway support funded under KB/ REH POs 5. Data sharing listed as regional achievement 7. Oversight through jurisdictional support structure 8. Local planning, agreed goals	**Conference Presentation** (Slides and abstract) 1. Qualitative data reflection on processes and outcomes	**Eye Health initiatives funded within Koolin Balit 2013 – 2017 included:** • Additional support to regions for eye health projects, including increased support for co-ordination and patient pathway support - Regional project officers in 4 regions. • Regional eye health committees made up of local and regional stakeholders support the regional ACCHOs and project officers **Regional Achievements** • Engagement with ACCHOs • All stakeholders have the opportunity to engage with ACCHO's • Cultural awareness – Cultural responsiveness – Cultural safety • Data sharing • Identification of current and emerging issues	• "Significant improvements" in service delivery, access and outcomes in Aboriginal eye care in Victoria (abstract) [no data or examples provided] • Cultural safety • community knowledge and acceptance of eye care programs is being achieved	• Community Control is key • Roadmap to Close the gap in Vision recommends Regional approach • Sector endorsed • Jurisdictional support structure • Planned and collaborative approach with effective stakeholder engagement (abs) • VACCHO Statewide Eye Health Project Officer to link and support ACCHOs, strengthen relationships and networks, workforce development opportunities, support regional eye health workers (abs)	• Not described	• Culturally driven systematic collaborative

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Impact of change	Enablers	Barriers	Future Steps
					• Agreed plans / goals to close the gap for vision • community knowledge and acceptance of eye care programs is being achieved (abstract)				
3. Morse, A., (2017) [30]	Presentation is about process used for Indigenous eye care Coordination program Time period not specified	**Setting:** Northern Territory **Stakeholders:** • Brien Holden Vision Institute • AMSANT • Aus Gov DOH • Fred Hollows Foundation • Guide Dogs SA/NT • IEH • Optometry Aus • PHN NT • RANZCO • NT DOH	2. Assessed need and identified priorities through online stakeholder survey. Identified priorities for coordination based on survey and Advisory forum guidance 3. Formed Advisory Forum 5. Developed(?) NT Indigenous eye care data set 6. Pathways to primary eye care with regional solutions (NT approach, regionally applied). Developed NT eye care referral pathways 7. Developed NT Integrated eye care Governance Structure (CABIEHS and TEIEHS regional groups fit into this structure) 8. Developed activity workplan (action plan)		Process involved: • advisory group formed • Needs Ax undertaken • Priorities determined collaboratively • workplan developed • dataset defined • pathways documented • primary eye checks supported • NT Indigenous Eye Health Coordination Conference held • Governance structure developed (with regional groups part of this)	Presentation relates to process changes such as establishment of forum, priorities and plans and implementation was still to occur, so no outcome changes reported	Not described	Not described	Implementation of solutions
4. O'Neill, Claire (2018) [31]	Reflection on process for jurisdictional planning and monitoring Time period not specified	**Setting**: NSW **Stakeholders:** • State Advisory Group • AHMRC • Agency of Clinical Innovation – Ophthalmology Network • BHVI • Centre for Aboriginal Health (NSW Ministry of Health) • Department of Health (NSW State Office) • NSW/ACT PHN Aboriginal Health Network	1. Populations defined within 15 regions by Rural Doctors Network (RDN) 2. RDN undertake needs assessments for populations with local providers etc through regional networks 3. 15 regional coordination groups established involving PHNs, service providers, ACCHOs and LHDs) 5. RDN use regional data and do population vs actual comparison 7. Ensure regional accountability and oversight by monitoring at State level. NSW State Aboriginal Eye Health Advisory Group comprises of multiple stakeholders	**Conference Presentation** (Slides) 1. Qualitative reflection on process	• Advisory Group and working groups formed and RDN receive input from 15 regional coordination groups • Regional groups are responsible for needs-driven planning, local ownership and knowledge, efficiency and reduced duplication • These feed into the State Advisory Group and RDN, which is responsible for state-wide planning, resource distribution, recruitment support, quality improvement, evaluation and governance	Not reported in slides	Not reported in slides	Not described	Not described

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Impact of change	Enablers	Barriers	Future Steps
		• NSW Rural Doctors Network • OneSight • Optometry NSW • Outback Eye Service • RANZCO • Vision Australia • VOS Optometrists • ACCHO x 1			• RDN identifies and prioritises needs through consideration of local needs, evidence, population demographics and health burden data, and 'access to existing services'. • Consideration of population-based estimates of need compared to actual data (eg cataract surgery) • Use of IEH calculator to determine estimates, with ABS data and data provided by NSW Ministry of Health • Collect examples of good news stories from regional partnerships				
5. Hale-Robertson, K., (2018) [61]	Reflection on process Describes process CheckUp use for service planning, implementation and monitoring. Time period not noted	**Setting:** Queensland **Stakeholders:** • CheckUp QLD • Other stakeholders not reported in slides	2. Undertook gap analysis – using the IEH Calculator and systematically and comprehensively map existing eye health services/programs in a location or region 5. Establish baseline service level data to compare against optimal levels 6. Services Directory – developed an Outreach Diary so providers and patients can find services	**Conference Presentation** (slides) 1. Qualitative reflection on process	• Coordination of delivery of outreach services across QLD via CheckUp • CheckUp regional structure for programs [6 regions] • Gap analysis using IEH Calculator • Establishing standardised measure for identifying optimal service levels required to close the gap in eye health care • Establishing baseline service level data to compare against optimal levels • Prioritising locations across the state which warrant further investigation to address inequity of access	Not reported in slides	Not reported in slides	Not described	Not described

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Impact of change	Enablers	Barriers	Future Steps
					• Systematic and comprehensive mapping of existing local eye health services/ programs in a location or region including: - service availability, - patient access, - models and referral pathways - service sustainability, and - quality assurance. • Describe gap using Leaky Pipe, making recommendations for improving services. • Service performance Monitoring and control – online monitoring and reporting tool, regional coordinators use tool to flag issues with service delivery and address them • Sharing eye health service information through Outreach Diary – online tool to allow searching of service provider locations and times				
6. Napper et al. 2013 [32]	Observational reflection 2010-2013	**Setting:** Victoria **Stakeholders:** • State Group • DHHS Vic • Aust Govt Department of Health • VACCHO • ACO • IEH • Vision 2020 Australia • Royal Victorian Eye and Ear Hospital • ACCHO x 1 • RANZCO	1. Eight (8) regions defined with Indigenous population in each 2. Population-based planning using IEH tools to determine projected needs at DHHS regional levels (8 regions) 4. Identify workforce and coordination and service support needed for the 8 regions	**Conference Presentation** (slides) 1. Qualitative reflection on processes and outcomes	Presentation about ACO eye care program but covers Victorian State Group and briefly touches on regional model under the Koolin Balit program. • Partnerships with other organisations – ACCHOs, Government, Eye Health Organisations, Community (Aboriginal Liaison Officer) • Developing a workforce of optometrists – current and future	• Increased eye exams since VASSS implemented • Increased outreach into ACCHOs • Evaluation of VASSS in 2012 positive impact	• • partnerships	• Not described	•Identify and implement strategies to ensure timely attendance for surgical and laser treatment of eye diseases •Achieve greater integration with local ophthalmology and hospital services •Achieve greater integration with primary health services and health workers at ACCHOs and

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Impact of change	Enablers	Barriers	Future Steps
		• Vision Australia • Department of Optometry and Vision Sciences, Melbourne Uni			• Victorian state-wide Aboriginal eye health committee established 2010, drawing together key government and non-government stakeholders • Eye Health initiatives within Koolin Balit - VACCHO Eye Health Project Officer - Victorian Aboriginal Spectacle Subsidy Scheme and ACO ALO - additional support to regions for eye health projects, including increased support for co-ordination and patient pathway support				greater integration with diabetes/chronic disease programs; Medicare Locals and Department of Health Regions •Continue to diversify service sites and settings to improve access •Increase community and health worker education about eye care •Enhance existing partnerships and establish new partnerships •Increase community participation in service development and service delivery • •Close the Gap for Vision

Table 16: Group 4 – Focus is on Eye health coordinator (within region) or Regional Implementation Program Officer (RIPO) models

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Impact of change	Enablers	Barriers	Next Steps
1. Wicks P., et al (2013) [51]	Observational reflection on NSW regional eye health coordinator roles 1998 – 2013 (15 years)	**Setting** NSW (multiple regions, not named) **Stakeholders** • Commonwealth Government • NACCHO • AHMRC • NGO (BHVI) • 7 ACCHOs	Program predates Roadmap and informed model 4. Coordination roles – defined and employed across 7 ACCHOs	**Conference Presentation** (paper) 1. Qualitative reflection on program implementation and outcomes by REHC 2. Quantitative data on numbers of clinics and services at point in time (1 year) and number of	• Agreement between NACCHO and Federal Government funded regional eye health coordinator positions in 7 NSW ACCHOs. • Services delivered via NGO in coordination with AHMRC. • RIPO reflection that program was very successful	• More children and adults with vision problems being seen • Positive reaction from Community members. • More Aboriginal people are accessing eye examinations for vision checks and diabetes because of the Eye Health Program	• Funding agreement • Providing eye care in ACCHO to ensure cultural safety, autonomy, and control • REHC enable eye health program and holistic health care, responsive to community needs by:	• Increased number of clinic locations and services provided but no increase in workforce • Costs and transport • Large areas to cover by each REHC	• Continuity of the roles of regional eye health coordinators • Expansion of the NSW REHC model throughout the country • Additional funding to train AHWs in eye health • Education, training, funding and ACCHO support

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Impact of change	Enablers	Barriers	Next Steps
				locations over time	• Local collaboration with eye care providers and BHVI means Aboriginal people accessing treatment for refractive error, diabetic eye care and appropriate ophthalmic care • Negotiated bulk-billed ophthalmology in one region • Annual training for REHCS and AHWs (building capacity) • Number of locations where eye clinics conducted increased from 7 to 116 over 14 years • Increased uptake of optometry services within ACCHOs over 12 years (no data)		○ networking with partners and communities to ensure culturally appropriate eye care services and address regional barriers (ACCHOs central) ○ Awareness-raising about eye care needs and services ○ Screening in multiple settings includes schools and Elders centres ○ Coordination of eye clinics with visiting optometrists; ○ recall and reminder systems; ○ access to Ophthalmology ○ Ensuring equity in service levels for rural and remote areas • REHC knowledge and awareness of eye care needs and services shared with community • Annual REHC training vital to REHC role and training of AHWs in eye health	• Competing priorities for those AHWs with multiple roles (eye health is not primary job) • Significant additional resources needed for eye coordination workforce	**Key policy recommendation** • This forum recommends that the National Rural Health Alliance urges the Department of Health and Ageing to make provision in their budget for funding in each state/territory of an adequate number of Regional Eye Health Coordinators within ACCHSs, according to regional eye care needs of the Aboriginal or Torres Strait Islander population
2. Woods., Kerry (2020) [57]	Observational reflection	**Setting** Western Australia **Stakeholders:** • Lions Outback Vision (LOV) • WA Country Health Service • WAPHA (PHNs) • Aboriginal Medical Services	1. defined population with regional surgical hub - outreach services with ophthalmologists are run in communities with a regional hospital or medical centre where surgical procedures can be performed	**Share Your Story** (online article) 1. Qualitative reflection on client being supported by the existing collaborative relationship	• The service provider at the centre of this story works collaboratively with health department, Population Health Networks, Aboriginal Medical Services, local health organisations and community groups.	• Improved culturally safe care provided to client	• Culturally appropriate care and support • Coordination of the patient's journey (and advocacy role) by dedicated Aboriginal Eye Health Coordinator with cultural knowledge	• Not reported	• Not reported

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Impact of change	Enablers	Barriers	Next Steps
		• Local Health Organisations • Community member and carer • Ophthalmologist		established in the WA area	• Aboriginal Eye Health Coordinator (AEHC) role for LOV supported client to receive appropriate and much needed care due to the closeness of the collaboration of services in the community and the culturally safe network established. • This also led to the AEHC going into community to talk about eye health on the invitation of the patient, to share with other community members.		• Services provided close to home wherever possible • Trust built with Aboriginal Eye Coordinator		
3. Indigenous HealthInfo Net (2018) [52]	Website information 1999-current	**Cape York** **Setting:** Remote Queensland **Stakeholders** • ACCHO x 1 The program is a federal/state co-operative run by the Wuchopperen Health Service.	4. Coordination	**Website content** 1. Qualitative description of the Cape York Eye Health Program	• Program established in 1999 and provides optometrist and ophthalmologist services to people living in remote communities of Cape York Peninsula, Queensland. • The program visits 29 remote communities (Birdsville to Lockhart River). • Optometrists and health care workers visit remote communities in the Cape York Peninsula every year to examine patients, prescribe glasses, fit them up for surgery and look after basic eye care.	• None reported	• Not reported	• Not reported	• Not reported

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Impact of change	Enablers	Barriers	Next Steps
					• During one week in September, patients needing surgery are transported to Weipa for their operations (mainly cataracts and laser treatment for diabetic retinopathy).				
4. The Fred Hollows Foundation (2018) [54]	Evaluation of Eye Health Coordination Project Sironis Health was contracted to evaluate the project's results and impacts (commissioned by FHF)	**Setting:** Remote South Australia (APY Lands) **Stakeholders** • The Nganampa Health Council (NHC) • FHF • Aboriginal Health Council of SA (Eye Health Coordinator) • Adelaide ophthalmology clinic • Outreach eye specialist teams	1. Region defined 4. Identified system coordination and patient management roles – appointed Eye Health nurse to 'advance the integration, coordination and effectives of NHC's and visiting team's eye health care" 6. Establish local referral protocols (nurse, Adelaide based ophthalmologist, specialist eye teams)	**Bulletin** (Fred Hollows Foundation on evaluation findings) 1. **Qualitative report** on findings. Short case study of patient experience provided, with quote 2. **Quantitative data** from range of measures including eye examinations, screening and trachoma rates	Model involved • Employment of full time Eye Health Nurse; • Use of improved e-health systems, supported by the purchase and use of a retinal camera (equipment) • Enhanced co-ordination and integration, including with NHC's chronic disease and environmental health programs. • Upgraded procedures and retinal imaging systems • The project also aimed to identify financing, key policy and critical funding gaps for Aboriginal eye health in remote Australia and for NHC's eye health model. • Stakeholders positive about the project and the impact of the Eye Health Nurse on the quality and coordination of eye health care to Anangu on the Lands.	• Enhanced targeting and triaging of clients most in need of eye health support • Increased coverage rates in visual acuity and diabetic retinopathy examinations, exceeding national Aboriginal eye health measure results • Eye Health Nurse took retinal images of 73% of current clients with diabetes, or 323 retinal images, including opportunistic imaging of clients most overdue for an ophthalmic check. • Retinal imaging system remotely identified retinopathy in need of treatment. • Increased focus on trachoma prevention, screening and coverage • Improved trachoma rates (prevalence dropped from 9.6% in 2014 to 3.6% in 2017) • Full take-up of cataract surgery places during intensive surgery week	• Strong primary health care base in AMS • Retinal imaging system for opportunistic use for hard-to-reach clients • Full-time eye health nurse based in APY lands, community aware and culturally aware working in collaboration with NHC and with visiting eye services to coordinate care • Building trust with community • Improvements in targeting and triaging clients assisted by upgraded procedures and retinal imaging systems.	• need ongoing funding for coordination and eye care nurse role • remoteness, isolation • some cancelled outreach visits beyond control of partners • challenges with maintaining anti-VEGF injections within clinical timeframes due to remoteness	• changes to model so not seeing optometrist and ophthalmologist on same day • increased optometry visits • better use of ophthalmologist time to focus on higher needs patients • model to deliver regular anti-VEGF injections within recommended times • additional equipment • possible training of nurse to grade retinal images • further action to reduce surgical waits

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Impact of change	Enablers	Barriers	Next Steps
5. The Fred Hollows Foundation (2018) [40]	Review/ evaluation of Regional Implementation Officer role by Sironis Health (commissioned by FHF) Included survey of regional stakeholders 2016-2018 (RIPO role)	**Central Australia and Barkly regions** **Setting:** Remote Central Australia (NT) **Stakeholders** • ACCHOS x2 • BHVI • Peak ACCHO • IEH • NT Dept Health • Commonwealth DOH (observer) • PHN • FHF	1.Regions defined (Central Aus and Barkly) 2. Internal review in 2014 identified need for RIPO 3. CABIEHS Committee formally established in 2010 as regional partnership and governance arrangement for shared delivery of eye health and vision services 4. Coordination role of RIPO to support CABIEHS group and work with primary, secondary and tertiary eye care providers (commenced 2016) 5. In conjunction with CABIEHS Data and Information Systems working group, developed the Barkly and Central Australia eye health data series. 8. The RIPO assisted the implementation of CABIEHS work plans and the development of working protocols	**Bulletin (report)** Review findings and recommendations 1. Qualitative reflection on background to role and regional network and findings of the review	• RIPO role funded (funds from DOH to FHF for one year, FHF funded role subsequently) • RIPO supports implementation of CABIEHS plans and provides secretariat role • Locally-based position has built relationships and understanding of local eye health delivery, client and organisational issues • Communication, trust and willingness to share and discuss data established across partners • RIPO work informed by CABIEHS strategic and working group plans • A series of recommendations listed in the review relating to the RIPO role – including how the role supports the regional group to do its work • Recommendation in proposed new model for ACCHO member organisation to employ and supervise RIPO	• None reported	Enablers of RIPO model / role: • Locally based to build relationships, trust and understanding of local needs and services • Role facilitates communication, trust, willingness to share data • RIPO as enabler/assisting with implementation of CABIEHS plans • Personal working style of RIPO (honesty, positivity, good communication skills, relationship building, patience, respect, understanding of local needs) Lessons for other regional coordination models: • Locally based • Role directed by and accountable to regional coordinating body • Financial and organisational sustainability over medium term • Supported with information, tools and frameworks • Linkages with peers (RIPOs share and learn from one another)	• To some extent stakeholders still working in silos and missing the primary care perspective	Recommendations • Continue RIPO role • Seek sustainable funding (FHF to fund if not) • Reinforce RIPO responsibility to advance strategic priorities of CABIEHS • Look to auspice the position within an ACCHO • Enhance RIPO ability to support CABIEHS including through role in qualitative and quantitative data analysis and through adequate resources for stakeholder engagement and having data optimisation in duty statement Also made recommendations to FHF directly including to: • Promote FHF health system CQI and funding strategies • Adopt role of interested but independent, critical friend of CABIEHS • Continue to support/advocate for REHC positions in high need regions

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Impact of change	Enablers	Barriers	Next Steps
									• Specific lessons on RIPO roles to inform the FHF design were also provided.
6. Moynihan V & Turner A. (2017) [45]	Retrospective audit looking at data pre and post Kimberley Diabetes Eye Health Coordinator (KDEHC) role, to assess impact on coverage and quality Data from 2010 to 2014 retrospectively audited	**Kimberley** **Setting**: Primary care services in the Kimberley region of Western Australia (remote) **Stakeholders:** • KDEHC • Local primary health care staff • Indigenous community in region • Kimberley Aboriginal Medical Services Council • The Lions Eye Institute • Royal Australian New Zealand College of Ophthalmologists	1. Defined region as Kimberley but no surgical hub 2. Population-based needs assessment - measured actual DR screening rates compared to annual projected needs for eye exams This was done using ABS regional profiles and data on diabetes prevalence from the Aboriginal and Torres Strait Islander Health Report 4. Eye coordinator position funded	**Journal article** (peer reviewed) 1. Qualitative reflection on process and outcomes of REHC role including improvements in referrals 2. Quantitative data on screening rates, sites and VA exams	• Pre-dates roadmap but informed Roadmap • Regional partnership in the Kimberley to address diabetic retinopathy screening via funded dedicated coordinator position. Regional collaboration of key stakeholders enabled securing external funding. • Kimberley diabetic eye health coordinator position funded jointly by Kimberley Aboriginal Medical Services Council and Lions Eye Institute with financial support from RANZCO (role to provide high level support and coordination to retinal screening in the region and ongoing training for health worker staff, plus DR screening in areas with no camera staff). • This paper establishes evidence for the value of REHCs for eye health programs	• DR screening in the region increased after the employment of a coordinator, from 9.44% in 2010–2011 to 29.8% in 2013–2014. • Screening sites increased from 4 to 17. • Standard (VA) eye exams in the region also reportedly better integrated and increased from 50.7% to 83.9% in that period. • Improvements in referral content (VA included) and image quality • Despite the observed increase, there were significant shortfalls in the number of Indigenous Australians with diabetes undergoing screening in the Kimberley region. This may be explained by examinations provided by other services in the Kimberley region, namely visiting optometry services, but also highlights a large proportion of the population not undergoing screening.	• Partnership and high level of coordination between services; • Coordination between KDEHC and primary care staff • REHCs personal involved prior to the role; • Ongoing evaluation of the program and approach • External, independent funding source	Barriers to implementation of the intervention • Shortfalls in people undergoing DR screening despite increased screening coverage; • Potential overlap between patients undergoing DR screening and those attending optometry clinics; • Shortfall might be partially explained by low re-engagement rate of diabetic clients and by coverage provided simultaneously by visiting optometry services in region; • Poor retinal image quality due to limited use of mydriatic eye drops	• Implementation of an integrated eye health record inclusive of DR screening for more comprehensive estimation of coverage provided for diabetic patients; • Importance of ongoing patient program engagement through education and improvement of access to DR screening.

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Impact of change	Enablers	Barriers	Next Steps
7. Wellington Aboriginal Corporation Health Service [36]	Website content on program information 1999 – current (21 years)	**NSW** **Setting:** remote NSW **Stakeholders** • Wellington AMS (WACHS) • AHMRC NSW • RFDS, • ICEE • VisionCare NSW	3. Regional collaborative network of 5 organisations established the eye health program 4. Coordination role identified and appointed - role supports pathway facilitation and patient coordination	**Website program information** 1. Qualitative information on program	• Eye health program developed in 1999 as partners realised there was a vision problem in the Aboriginal Communities and thus the position of REHC was created. • Eye Health Program developed through partnership with AHMRC, RFDS, ICEE, VisionCare NSW and WACHS • Regional Eye Health Coordinator role funded to deliver **culturally appropriate** eye health clinics and school screenings to people.	• None reported	• REHC enables access by: • Facilitating **culturally appropriate** outreach clinics • Engaging Ophthalmologist that bulk bill • Ensuring rural and remote areas receive equitable level of service • Networking – to enable the Eye Health program to grow • Attempt to overcome barriers for Aboriginal people to access Eye health • Recalling people when due • Recalling Diabetic people annually for Diabetic Retinal review • Appropriate and accessible eye care programs are important, given the largely preventable rates of visual impairment.	• Not reported	• Not reported
8. Mitchell W, Hassall M, Henderson T (2020) [53]	Review The paper analyses findings from the MEDLINE database and Governmental reports, and descriptive information from stakeholders in Central Australia and the Australian Department of Health	Central Australia **Setting:** Remote Central Australia (NT) **Population:** 50 to 60 000 people **Stakeholders:** • Hospital specialist and outreach ophthalmology services • ACCHO x 2	1. Region defined 4. Coordination roles identified	**Journal article** (peer reviewed) 1. Qualitative reflection 2. Quantitative data on service attendance over time for 3 regions, outreach clinic numbers by region	• Not focused on one specific change approach, more of an overview of existing system • Since a 2005 service expansion, collaboratively with remote community staff, specialist ophthalmic outreach services have expanded from 24 annual clinics to more than 40, increasing capacity to review patients	• Reduced rates of low vision from Uncorrected Refractive Error (as a result of collaborative AHW and optometry services) • Lowered trachoma rates • Data in the paper shows a decrease in numbers and decrease or stable % attendance rates • See Table 1 page 4 of article for details	Reports enablers related to collaboration and coordination. • collaborative optometric and Aboriginal Health Worker eye care to reduce rates of low vision in communities	Does not explicitly discuss barriers to regional approaches but notes barriers related to: • Remoteness and limited workforce • lack of staffing capacity to provide collaborative	• Progression of stalled initiatives such as a new eye health unit with a dedicated theatre • Government funding for infrastructure, workforce and 'system-wide' approaches to increase patient use of services

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Impact of change	Enablers	Barriers	Next Steps
	Time period 1999 – 2019 (20 years)	• Regional Eye Health Coordinators • FHF • Outreach optometry (VOS) providers			• Describes role of Regional Eye Health Coordinator in 2 AMS, role includes clinical care as well as outreach coordination • BHVI and REHC collaborative coordination for outreach optometry • Collaborative school outreach screening clinics for trachoma • Policy and screening initiatives led by local community staff with the REHC have been influential in lowering disease prevalence (eg trachoma)	• Surgical procedures increased in both Alice Springs and Tennant Creek hospitals between 2001 and 2008	• Remote ophthalmology clinics bridged barriers of geographical isolation - in collaboration with remote community staff • Empowerment and partnership with remote Aboriginal staff foster ownership and engagement in eye health and prevention, crucial in community-wide improvement. • Local partnerships ensure appropriate referrals with follow-up, and sustainable community coordination with visiting specialist optometrists and ophthalmologists. • Concludes that Outreach expansion, improved waiting times and lowering disease burden has been contingent on collaboration between local communities, AHWs and the REHC, and optometry and ophthalmology services.	ophthalmology service in the community • many eye diseases falling outside the perceived scope of practice of primary care • issues with Intensive Surgery Weeks don't address long term system needs • lack of stakeholder buy-in and complexities with Central Aus. system caused loss of $3m funding offer for new eye clinic • ongoing limited specialist availability and inconsistent community engagement remain overriding barriers to continuing improvement	• Community outreach to link remote patients with specialist services

Table 17: Group 5 – Other sources of relevance but with limited information contained

Study author, date	Study design, length and years	Study Setting/ Stakeholders involved	Regional Implementation Intervention elements applied	Data source	System changes	Impact of change	Enablers and barriers	Next steps
Western New South Wales Eye Health Partnership (2020) [58]	Observational reflection 2020	Western NSW **Setting:** regional, rural and remote Western NSW **Stakeholders:** • Condobolin Aboriginal Health Services, • Brien Holden Foundation, • NSW Rural Doctors Network and • Centre for Eye Health	3. Western NSW Partnership wrote the paper and are mentioned withing it	**Journal article** (online) 1. Qualitative reflection	• AMS Aboriginal Health Practitioner worked with GP, the outreach optometry service (BHVI) using tele-optometry and Centre for Eye Research to assess and diagnose severe retinal haemorrhaging. Worked with the Western NSW eye health partnership to arrange provision of urgent treatment. • The article doesn't describe the regional approach as such, however it is written by the existing regional network, which was part of the solution to the issue, and can be used as an example of how urgent interventions can be supported by existing regional collaborations.	• patient was able to access urgent assessment, retinal grading and access to treatment through existing collaborative partnership between service providers	**Enablers** • primary health care involvement • tele-optometry (short-term funding during COVID-19 by Aus. Gov) • existing partnership • trained, equipped and skilled Aboriginal Health Practitioner who undertook screening and coordinated care - supported by national PEHET project (equipment and training previously provided) **Barriers** • remoteness • COVID-19	**Not reported**
Heycox., Dean, Ly., C., (2019) [55]	Observational reflection Time period not stated (abstract only so very limited detail)	**South Coast NSW** **Setting: regional NSW** **Stakeholders:** • AMS • BHVI • Clinics across South Coast NSW (places listed but not names of clinics) • Australian Government (funder of camera roll-out)	RI element 6. referral pathway developed for retinal camera 9. Patient education	**Conference presentation** (abstract only) 1. Qualitative reflection	• Retinal camera implemented at Katungal AMS (funded through national project) • Pathway developed and integration of camera into services • Flight box utilised to transport across multiple clinics in the NSW South Coast region • Change to patient management system • Staff upskilling • Patient education and monitoring undertaken	The abstract does not provide enough detail to identify changes	The abstract does not provide enough detail to identify enablers	

List of acronyms

ABS – Australian Bureau of Statistics
ACCHO(S) – Aboriginal Community Controlled Health Organisation(s)
ACCO(s) – Aboriginal Community Control Organisation(s)
ACO – Australian Council of Optometry
ACT – Australian Capital Territory
AEHC – Aboriginal Eye Health Coordinator
AHMRC – Aboriginal Health and Medical Research Council
AHW – Aboriginal Health Worker
ALO – Aboriginal Liaison Officer
AMS – Aboriginal Medical Services
AMSANT – Aboriginal Medical Services Alliance Northern Territory
Anti-VEGF – Anti–vascular endothelial growth factor therapy
APY - Anangu Pitjantjatjara Yankunytjatjara
BADAC – Bendigo and District Aboriginal Cooperative
BHVI – Brien Holden Vision Institute
CABIEHS – Central Australia and Barkly Integrated Eye Health Strategy
CCSS – Care Coordination and Supplementary Services
(C)QI – (Continuous) Quality Improvement
CTST – Check Today, See Tomorrow
CWHHS – Central West Hospital and Health Service
DHHS – Department of Health and Hu,an Services
DOH – Department of Health
DR – Diabetic Retinopathy
EACH – Community Health Service known as EACH
FHF – Fred Hollows Foundation
GEGAC – Gippsland and East Gippsland Aboriginal Co-operative
GP – General Practitioner
GRAEHAG – Grampians Region Aboriginal Eye Health Advisory Group
GSC – Great South Coast
IAP – Indigenous Australia Program
ICEE – International Centre for Eyecare Education
IEH(U) – Indigenous Eye Health (Unit)
IESW – Intensive Eye Surgery Week
ILO – Indigenous Liaison Officer
IT – Information Technology
IUIH – Institute for Urban Indigenous Health
KDEHC – Kimberley Diabetes Eye Health Coordinator
KEY – Key Evaluation Questions
LHD – Local Health District
LHN – Local Health Network
LOV – Lions Outback Vision
MASS – Medical Aid Subsidy Scheme
MBS – Medicare Benefits Scheme
MJA – Medical Journal of Australia
NACCHO – National Aboriginal Community Controlled Health Organisation
NGO – Non-Governmental Organisation
NHC – Nganampa Health Council
NSW – New South Wales
NT – Northern Territory
NW – North-West
NWMR – North West Metro Region
OA – Optometry Australia
PCP – Primary Care Partnership

PHC – Primary Health Care
PHN – Primary Health Network
PO – Program Officer
QLD – Queensland
RANZCO – Royal Australian and New Zealand College of Ophthalmologists
RDN – Rural Doctors Network
RECSAT – Regional eye care Systems Assessment Tool
REHC – Regional Eye Health Coordination
REHC(S) – Regional Eye Health Coordinator(s)
REHPO – Regional Eye Health Project Officer
RI – Regional Implementation
RIPO – Regional Implementation Program Officer
RIPO – Regional Implementation Program Officer
RM – Roadmap
RWAV – Rural Workforce Agency Victoria
SA – South Australia
SE – South East
SEQ – South East Queensland
SS – Subsidised Spectacles
TEIEHS – Top End Indigenous Eye Health Strategy
VA – Visual Acuity
VACCHO – Victorian Aboriginal Community Controlled Health Organisation
VASSS – Victorian Aboriginal Subsidised Spectacles Scheme
(Vision) CRC – (Vision) Cooperative Research Centre
VMO – Visiting Medical Officer
VOS – Visiting Optometrist Scheme
WA – Western Australia
WACHS – Wellington Aboriginal Corporation Health Service
WAPHA – Western Australia Primary Health Alliance
WNSW – Western New South Wales

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