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Bridging the Gap: A Systematic Review of Primary Health Care Access in Remote Indigenous Communities of Australia

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Abstract

Introduction Despite significant government investment over the past two decades, considerable disparity between the health outcomes of Aboriginal and Torres Strait Islander Australians and non-Indigenous Australians remains. People residing in remote Indigenous communities face the greatest disadvantage. Understanding the factors that hinder or facilitate timely healthcare access for this cohort is essential to help close this gap.

Methods A preregistered systematic review (PROSPERO ID: CRD42024574570) of empirical, peer-reviewed qualitative, quantitative, mixed-methods, and expert opinion research was conducted to investigate the factors influencing primary healthcare access and strategies to improve access for Aboriginal and Torres Strait Islander Australians living in remote Indigenous communities. Databases searched included PubMED, PROQUEST, CINAHL, Informit, and PsycINFO.

Results Eighteen studies met the inclusion criteria. Traditional appraisal tools indicated that the studies were of excellent quality; however, the Aboriginal and Torres Strait Islander Quality Appraisal Tool revealed that only 20% of the studies were conducted in response to community-identified needs. Most studies sought the views of healthcare workers, while only five directly consulted with community members. Social determinants and culturally inappropriate models of care were found to influence healthcare access, with suggested strategies to improve access tending to address the latter.

Conclusion Engaging with the perspectives of Indigenous Australians residing in remote Indigenous communities is crucial for understanding their unique needs and delivering tailored, person-centred care. Developing and implementing governance structures, models of care, and health promotion initiatives that align with the cultural beliefs of local community members holds promise for enhancing access to primary healthcare services.

Keywords Indigenous Australians · Aboriginal and Torres Strait Islander · Remote · Indigenous communities · Primary healthcare · Access to healthcare

Introduction

Two decades ago, inequalities in healthcare access for Aboriginal and Torres Strait Islander peoples in Australia were highlighted in the Social Justice Report 2005 [1]. To reduce the disparity in health outcomes between Indigenous and non-Indigenous Australians, the Australian Government implemented the 'Closing the Gap' campaign in 2007, which is still being implemented today [2].

Despite recognition of, and significant investment into this issue, it is estimated that Indigenous Australians still carry more than twice the disease burden of non-Indigenous Australians [3]. Inequitable access to health services and historical and cultural factors account for nearly 47% of the healthcare access gap. This systematic review seeks to examine the factors that contribute to this disparity and the

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strategies that have been suggested to address them, with a specific focus on Aboriginal and Torres Strait Islander people residing in remote Indigenous Australian communities.

Remote Indigenous Communities in Australia

In Australia, approximately 24% of Aboriginal and Torres Strait Islander people live on country – that is, their traditional homeland, in self-determined communities that exercise their own unique cultures and customs [4]. These communities are typically located at a considerable distance from both regional and urban centres.

Compared to Indigenous people living in metropolitan, regional, and even rural locations, Indigenous Australians living in remote communities have a higher incidence of chronic diseases, such as diabetes and kidney disease [5]. Psychological distress, demonstrated by mental ill-health, hospitalisations, self-harm data, and suicide rates in Indigenous Australians, is also much higher in remote communities [6]. The Aboriginal youth of the remote Kimberley region in Western Australia experience the highest rate of suicide in the world [7].

It has been reported that remote locations exacerbate the challenges in accessing health services [8]. Despite recognition of these challenges, and future plans to address them, by both national and state governments [9–16], healthcare funding for remote areas of Australia is currently less than one-third the amount per capita of major cities [8]. Remote Indigenous communities have even greater health inequality and limited healthcare access [17]. Notably, the existing healthcare services available to remote Indigenous communities are underutilised, adding further complexity to addressing health disparities [3].

Challenges in Providing Healthcare for Remote Indigenous Communities

The first point of contact for patient health concerns, illness, or injuries is defined as a primary healthcare provider [18]. Primary healthcare needs to provide not only acute medical care, but also health promotion and community health development [19]. The Australian Government or Aboriginal Community Controlled Health Services provides primary healthcare in remote Indigenous communities, typically in community health centres. These centres are often manned by only a limited number of remote area nurses and Aboriginal healthcare workers. This work group is known for high staff turnover and chronic personnel shortages due to workload stress and burnout [19].

Australia is geographically vast, but its population is concentrated in urbanised and densely populated areas where goods and services are readily available. In contrast, many remote areas are only connected to urban services by many kilometres of unsealed roads that, in the wet season, may not be passable for months [20, 21].

It is estimated that 15% of Australian Indigenous people live in remote or very remote locations [22]. The difference in life expectancy between Indigenous and non-Indigenous Australians is approximately a decade, with noncommunicable chronic disease accounting for three-quarters of this disparity [5]. It is imperative to acknowledge that the higher rates of chronic disease are largely preventable [17, 23]; however, healthcare access behaviours of remote Indigenous Australians are patterned by acute need rather than preventative or proactive care [24–26]. Physically providing healthcare is a necessary, but not the only, factor in ensuring healthcare is accessible. The healthcare provided must also accommodate the beliefs and values of the healthcare user for the service to be appropriate. The Australian Government has acknowledged that to better work at 'closing the gap' in health access, Indigenous Australians must determine and implement the changes required to facilitate the uptake of services [2].

The Current Study

Rationale

Inequality in health outcomes for Indigenous Australians is a longstanding and ongoing concern. While previous systematic reviews and meta analyses have provided valuable information on primary healthcare access among Indigenous Australians [27–30], they have not specifically focussed on people living in remote Indigenous communities. This mixed systematic review aims to build on the existing knowledge by critically analysing available research from an interdisciplinary (specifically, nursing, public health, and psychological) perspective. Gaining a broad understanding of the factors and strategies for primary healthcare access among people living in remote Indigenous Australian communities may help to bridge this equity gap.

Objectives

The existing literature documents various factors that influence primary healthcare access for Indigenous Australians living in remote Indigenous communities, as well as strategies to help improve such access. The current mixed systematic review aims to collate and synthesise this information to better understand these factors and strategies, in order to provide recommendations for public health policy and practitioners. The review sought to address the research questions: (1) what factors help or hinder primary healthcare access for Indigenous Australians living in remote Indigenous communities? and (2) what strategies are suggested in the literature to improve access to primary healthcare for Indigenous Australians living in remote Indigenous communities?

Methods

Protocol and Registration

The systematic review protocol was registered with PROSPERO (ID: CRD42024574570). The following sections outline the final protocol, adhering to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines [31].

Eligibility Criteria

Peer-reviewed literature was included in the current review if it reported findings from qualitative, quantitative, or mixed-methods empirical research on primary healthcare access for Indigenous people living in remote Indigenous Australian communities. The review excluded studies that examined the healthcare access of Indigenous Australians living in remote, but not exclusively Indigenous, communities. Remote Indigenous communities were identified using publicly available information, including the Accessibility/Remoteness Index of Australia [32] and government websites that contained information on the demographics and available healthcare infrastructure in Australia. Only remote Indigenous communities without a public or private hospital infrastructure were included in the review. Research on all types of primary healthcare matters was included.

Table 1 Overview of the keyword search strategy using the SPIDER framework

SPIDER Framework Component	Keyword Search Terms
Sample (**S**)	australi* AND aborigina* OR “torres strait islande*” OR “first nation” OR indigenous OR nativ* OR ATSI AND “remote communit*” OR remote
Phenomenon (**P**)	“primary health care” OR “primary healthcare” OR “primary health servic*” OR " primary care”
Evaluation (**E**)	acces* OR attitud* OR behav* OR perspectiv*
Design (**D**)	Peer-reviewed, published in English
Research Type (**R**)	Qualitative, quantitative, and mixed-method articles

*=truncated terms, *SPIDER* Sample-Phenomenon-Interest-Design-Evaluation-Research type Framework, adapted from Cooke et al. [35]. Components of the SPIDER acronym are only included if they are relevant to the research aims

Articles for studies that met these criteria were included if it was available as full text, written in English, and published between 2005 and August 2024. This timeframe was specifically chosen to investigate changes in healthcare access since the 2005 Social Justice Report [1]. Studies were excluded if they focused on access to secondary or tertiary level care and research on Indigenous peoples from other countries.

Information Sources

The search used five academic databases: PubMed, PROQUEST, CINAHL, Informit, and PsycINFO. Forward and backward searches of the relevant articles’ reference lists were conducted, which yielded two additional relevant studies [33, 34]. Grey literature sources were not included in the review, due to time constraints (the research was conducted as part of a psychology honours students’ program of study).

Search Strategy

The SPIDER (Sample, Phenomenon of Interest, Design, Evaluation, Research type) framework guided the research [35]. Table 1 outlines the key search terms for the review, as per this framework. The search was limited to full-text articles, empirical studies, those published between 2005 and 2024, peer-reviewed publications, and those written in English. The search was completed in August 2024.

Selection Process

Once database searches were completed, the results were imported into the software program EndNote and then onto the online platform Covidence. Covidence removed most of the duplicate articles, identifying 102 duplicates, while two were identified manually.

Two reviewers (SG and AO) independently performed the title and abstract screening. One reviewer (SG) conducted full-text screening for the remaining studies, with a second researcher (AO) independently screening 25% of these. Any concerns and conflicts between reviewers during these two screening stages were discussed with the entire research team, referring back to the eligibility criteria and government classifications of remote Indigenous communities [36], until an agreement was reached.

Data Collection Process

After full-text screening, two researchers (SG and LL) independently extracted data from the relevant studies. A data collection template was developed in Covidence, and the extracted data was input. All information required to address the objective of the current systematic review was found within the articles, and there was no need to contact the authors for further details.

Data Items

Extracted data items included study and participant characteristics. Brief descriptions of the barriers and enablers of primary healthcare access in remote Australian Indigenous communities were also extracted, as was information on the strategies identified by participants (and, where indicated, by the authors of these articles) to enable healthcare access in this cohort.

Study Risk of Bias Assessment

A suite of tools from the Critical Appraisal Skills Programme (CASP) [37–39] was employed to assess the risk of bias in the included qualitative, cohort, and cross-sectional research studies in the review. The 14-item Aboriginal and Torres Strait Islander Quality Appraisal Tool (QAT) [40] was also used to assess the cultural appropriateness of each research article.

Synthesis Methods

Due to heterogeneity and the dominance of qualitative data in the included articles, thematic analysis was used to synthesise the information extracted from the studies. First, familiarity with the data was gained by the first and second authors (SG and LL) reading the full articles. Then, data was collated under the factors influencing healthcare access and the strategies suggested to improve such access. The data were then independently and concurrently examined by the researchers and grouped into tentative themes that captured common meanings. When the information under a theme was insufficient, it was moved to a more suitable theme. The researchers then discussed their interpreted themes and agreed that organising these according to scope of practice (from systemic level to individual practice) would be the most accessible way of presenting the data.

Results

Study Selection

The identification and screening process for the current review is illustrated in Fig 1. As noted, the search across five database sources yielded 399 articles. After removing 104 duplicates, the 274 remaining articles were subjected to title and abstract screening, and the 61 articles that remained underwent full-text screening. Of these, 43 articles did not meet the eligibility criteria, and 18 were retained for inclusion.

Several studies initially appeared to meet the inclusion criteria; however, these articles did not differentiate between Indigenous Australians living in remote Indigenous communities and Indigenous individuals living in other, non-remote locations, and were therefore excluded from the analysis.

Study Characteristics

Table 2 provides an overview of study characteristics. Seven studies focused on general health, and others on specific health conditions. The study period ranged from 2007 to 2022, with 18 conducted in the last decade and two earlier than that. The studies were conducted in various locations, but most ($n = 11$) were in the Northern Territory.

Only five of the included studies directly collected data with community members to some extent. Patel et al. [41], Schultz et al. [42], and Smith et al. [43] collected data solely from community participants, while Hinton et al. [33] and Yashadhana et al. [5] obtained perspectives from both community members and service providers.

Six studies employed solely qualitative methodologies, using methods such as group [43] or individual interviews [18, 19, 33], sometimes both [5, 42]. The study by Patel et al. [41] deliberately employed a combination of individual interviews (for convenience) and an Indigenous research data collection method known as yarning. Yarning is a culturally appropriate method, similar to group interviewing, that reduces the power imbalance in research interviews, enabling rapport building and openness between interview parties. Josif et al. [34] combined data from qualitative staff interviews with the researcher’s field notes and observations of two clinics’ ‘baby-rooms’ over 30 days to form themes around clinicians’ perspectives of service delivery to infants in remote health centres.

Three studies were solely quantitative. Two studies employed retrospective audits of patient records as part of a health intervention evaluation designed to address barriers to help-seeking in remote Indigenous communities [44, 45]. The other implemented a cross-sectional survey to assess staff perceptions of working in health promotion within remote Indigenous communities [46].

Three of the included studies were expert opinions [47–49]. However, expert opinion is widely considered to be the lowest level of evidence in the research hierarchy [50]. These studies were included, as the experience presented was valuable and congruent with the aims of the review. Expert opinion, combined with observational data (typically involving outcomes of an implemented intervention), was used in two studies [21, 51].

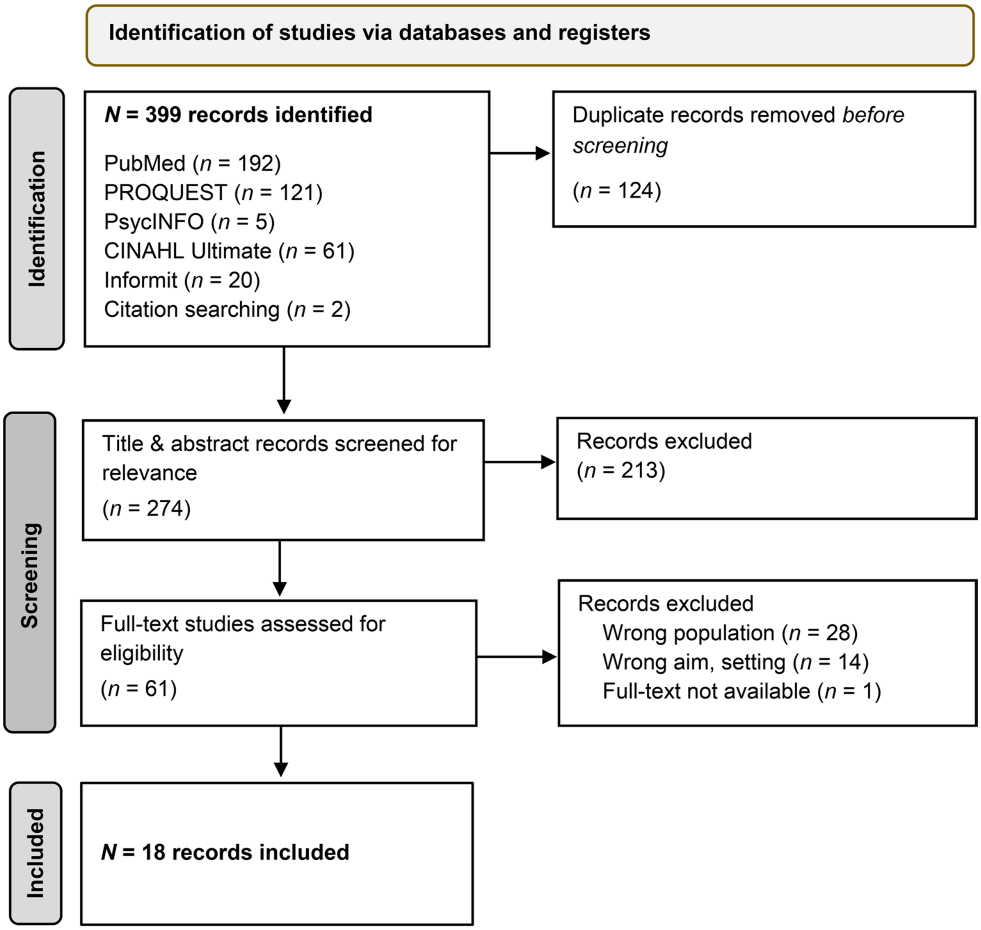


Figure. 1 PRISMA summary for the screening and systematic selection process of articles

Two studies employed a mixed-methods approach, combining qualitative and quantitative analysis. Bar-Zeev et al. [52] combined quantitative analysis of patient records with qualitative analysis of clinicians' views on child health in these records. Carlin et al. [6] examined quantitative data on the prevalence and characteristics of help-seeking behaviours among all patients at an Aboriginal community-controlled health service. They conducted an in-depth qualitative audit of clinical notes from a subset of patients.

Risk of Bias in Studies

The suite of CASP tools [37–39] indicated that all studies were of exceptionally high quality, scoring full marks on these. The Aboriginal and Torres Strait Islander QAT [40] highlighted that the research was generally inclusive, collaborative, culturally appropriate, and beneficial to the communities they focused on. The evaluation of each study using this tool can be found in Table 3. Eleven of the included studies reported meeting at least half of the quality criteria on this measure, with a trend indicating that more recent research fulfilled a greater number of criteria. Most studies were led by an Indigenous research paradigm (item 9), had a strengths-based approach (item 10), provided the opportunity for everyone in the research process (researchers and participants) to learn from each other (item 14), planned for and translated their findings into sustainable changes in policy and/or practice (item 11); benefitted the participants and Aboriginal and Torres Strait Island communities (item 12); and demonstrated capacity strengthening for Aboriginal and Torres Strait Island individuals (item 13). However, only two studies reported being driven by demand from the community being studied (item 1; the other studies were mainly unclear in their reporting of this information). Moreover, only around one-quarter of studies reported negotiating the rights of existing and new intellectual property rights with community partners (items 6 and 7, respectively). Approximately half of the studies reported inclusive consultation and engagement with the community being studied (item 2); having Aboriginal and Torres Strait Island leadership (item 3) and governance (item 4); respecting and following local protocols (item 5); Aboriginal and Torres Strait Island community control over the collection and management of the research materials (item 8).

Table 2 Descriptions of the studies included in the current systematic literature review

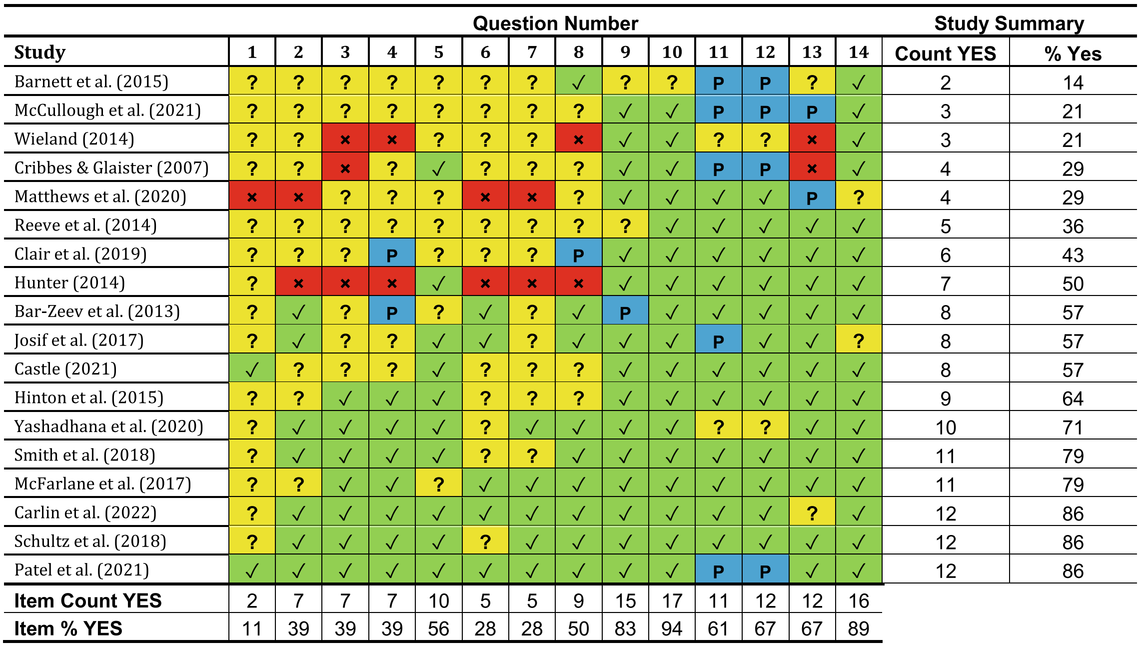
Study	State	Design	Funded?	Participant/s	Recruitment	Primary Healthcare Type/ Setting
Cribbes & Glaister (2007)	NT	Expert opinion.	N	Clinician-researchers (*N*=2)	N/A	Remote area nurses (diabetes) in 1 community health centre.
Carlin et al. (2022)	WA	Mixed methods: Quantitative cross-sectional audit of services electronic files; Content analysis of clinical notes.	Y	92 Patient records. 30 included in in-depth file review (*n*=10 for each community).	N/A (file audit)	Mental healthcare in 3 Aboriginal Community Controlled Health Service clinics.
Barnett et al. (2015)	QLD	Qualitative semi-structured individual interviews (Thematic analysis).	Y	39 Staff with experience providing oral health advice in four remote communities	Email invitation to all staff and snowball sampling.	Primary oral health care in primary health care dental service providers in 4 different communities.
Bar-Zeev et al. (2013)	NT	Mixed methods: Quantitative retrospective cohort study of patient records; Qualitative semi structured individual interviews with clinicians (Content analysis).	N	All child patients (infants born 2004–2006; *N*=398). 24 Clinicians in varying roles (17 resided in one of the two local communities).	Retrospective Cohort study: Patient records from health centres. Interviews: Purposive and snowball sampling.	Infant care (anaemia and growth faltering) in 2 remote health centres (in 2 large remote Aboriginal communities located around 500 km from Darwin).
Hunter (2014)	WA	Expert opinion.	N	Clinician-researcher (*N*=1)	N/A	Mental health in various settings.
McCullough et al. (2021)	NT QLD WA	Qualitative individual interviews (Constructivist grounded theory).	N	24 registered nurses	Purposive (nursing interest group) and snowball sampling.	Remote area primary health care nurses in primary care practices across a variety of locations.
Smith et al. (2018)	NT	Qualitative semi-structured group interviews (Phenomenology).	Y	60 Community members	Purposive sampling by community Elders.	General primary healthcare in 2 large communities (Maningrida and Arnhem Land).
Josif et al. (2017)	NT	Qualitative individual interviews and researcher observation of clinics (Thematic analysis).	Y	25 staff (clinicians, health educators, managers). 30 days observing 'baby room.'	Purposive sampling.	Child health in 2 Aboriginal Remote Health Centres.
Castle (2021)	NT	Quantitative evaluation using clinic records. Expert opinion.	Y	545 Patient consultation records. Clinician-researcher (*N*=1).	N/A (file audit)	Psychology in 4 communities (3 remote Aboriginal Health Centres).
Yashadhana et al. (2020)	NT NSW	Qualitative individual and group interviews (Grounded theory, Indigenist, decolonising, PAR).	Y	166 patients (40–89 years). 47 clinicians, eye health educators, managers.	Purposive sampling.	Diabetes care (eye health) in Aboriginal Community Controlled Health Services in 4 communities.
Wieland (2014)	QLD	Expert opinion	N	Researcher (*N*=1)	N/A	Remote health care.
Schultz et al. (2018)	NT WA	Evaluation through qualitative individual (7) and group (14) semi-structured interviews (Interplay Wellbeing Framework).	Y	95 (*n*=85 Indigenous) community members, researchers, and staff from government agencies	Purposive sampling of participants with cooperative research centre experience.	Primary Healthcare through Indigenous Land Management in 4 communities.
Reeve et al. (2014)	WA	Quantitative pre/post intervention evaluation using medical records and referral letters.	N	Child patients (<18 years): Time 1 *n*=148; Time 2 *n*=710	Patient records from primary and ENT healthcare services.	Child ear health (ear, nose, and throat; ENT) specialty care (Fitzroy Valley, Kimberley region).
Patel et al. (2021)	WA	Qualitative yarning groups (17) and individual interviews (23; constructivist grounded theory).	Y	80 Adult patients	Purposive sampling, assisted by Aboriginal Liaison Officers.	Primary dental care (Kimberley region).

Table 2 (continued)

Study	State	Design	Funded?	Participant/s	Recruitment	Primary Healthcare Type/ Setting
McFarlane et al. (2017)	QLD	Quantitative cross-sectional survey.	N	63 Primary health care staff (42% of workforce)	Staff emailed survey link.	Health promotion in one Aboriginal Community Controlled Health Service (Cape York).
Matthews et al. (2020)	NT	Quantitative evaluation via an audit of blood samples.	N	Patient records from 80 pathology services.	N/A (file audit)	Point of care testing: Pathology in various communities.
Hinton et al. (2015)	NT	Qualitative semi-structured individual interviews (participatory action framework).	Y	27 community members and service provider staff (health, government, education)	Purposive and snowball sampling.	Mental health in two communities (Top End, NT and Central Australia, NT).
St Clair et al. (2019)	NT	Observation of the implementation telehealth services. Expert opinion.	N	Clinician-researchers' ($N=2$) anecdotes from patients, community, and clinicians	N/A	Telehealth in three communities (Gangan, Yilpara, and Wandawuy).

ILM Indigenous land management, *PAR* participatory action research, *NSW* New South Wales, *QLD* Queensland, *NT* Northern Territory, *WA* Western Australia

Table 3 Results of the Aboriginal and Torres Strait Islander quality assessment tool (ATSI QAT; Harfield et al., 2020)



	Question Number														Study Summary	
Study	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**Count YES**	**% Yes**
Barnett et al. (2015)	?	?	?	?	?	?	?	✓	?	?	P	P	?	✓	2	14
McCullough et al. (2021)	?	?	?	?	?	?	?	?	✓	✓	P	P	P	✓	3	21
Wieland (2014)	?	?	×	×	?	?	?	×	✓	✓	?	?	×	✓	3	21
Cribbes & Glaister (2007)	?	?	×	?	✓	?	?	?	✓	✓	P	P	×	✓	4	29
Matthews et al. (2020)	×	×	?	?	?	×	×	?	✓	✓	✓	✓	P	?	4	29
Reeve et al. (2014)	?	?	?	?	?	?	?	?	?	✓	✓	✓	✓	✓	5	36
Clair et al. (2019)	?	?	?	P	?	?	?	P	✓	✓	✓	✓	✓	✓	6	43
Hunter (2014)	?	×	×	×	✓	×	×	×	✓	✓	✓	✓	✓	✓	7	50
Bar-Zeev et al. (2013)	?	✓	?	P	?	✓	?	✓	P	✓	✓	✓	✓	✓	8	57
Josif et al. (2017)	?	✓	?	?	✓	✓	?	✓	✓	✓	P	✓	✓	?	8	57
Castle (2021)	✓	?	?	?	✓	?	?	?	✓	✓	✓	✓	✓	✓	8	57
Hinton et al. (2015)	?	?	✓	✓	✓	?	?	?	✓	✓	✓	✓	✓	✓	9	64
Yashadhana et al. (2020)	?	✓	✓	✓	✓	?	✓	✓	✓	✓	?	?	✓	✓	10	71
Smith et al. (2018)	?	✓	✓	✓	✓	?	?	✓	✓	✓	✓	✓	✓	✓	11	79
McFarlane et al. (2017)	?	?	✓	✓	?	✓	✓	✓	✓	✓	✓	✓	✓	✓	11	79
Carlin et al. (2022)	?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	?	✓	12	86
Schultz et al. (2018)	?	✓	✓	✓	✓	?	✓	✓	✓	✓	✓	✓	✓	✓	12	86
Patel et al. (2021)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	P	P	✓	✓	12	86
Item Count YES	2	7	7	7	10	5	5	9	15	17	11	12	12	16		
Item % YES	11	39	39	39	56	28	28	50	83	94	61	67	67	89		

✓ = Yes; × = No;? = Unclear; P = Partially

Results of Synthesis

The data revealed over 70 factors influencing access to healthcare, and 45 strategies were proposed to improve access. The individual factors affecting access to primary care among people living in remote Indigenous Australian communities were collated and then grouped thematically, iteratively, and inductively. These four themes were: (1) Social Issues and Determinants of Health; (2) Service Delivery by the System, Services, and Staff; (3) Culturally Appropriate Care and Communication; and (4) Health Promotion and Education. Individual strategies were grouped into overarching themes in an inductive manner, then revised in a deductive manner to optimise consistency with the themes extracted for 'factors influencing access.'

Social Issues and Determinants of Health

This theme reflects the influences of Australia's colonial history, ongoing psychosocial and economic challenges, as well as factors related to the isolated geographic location of remote Indigenous Australian communities.

Social Issues and Determinants of Health - Factors Influencing Access

Australia's history of colonisation and its impacts on Australian Indigenous people continue to affect healthcare access [5, 42, 49, 51]. This history, as well as racism experienced in Indigenous peoples' personal and/or community lives, are important contextual factors that impact perceptions of distrust and many health services being culturally unsafe, thus hindering access [5, 34, 43, 48, 52]. Negative media portrayals of Indigenous people, including their health, can reinforce belief in stereotypes and foster fatalistic attitudes, presenting barriers to help-seeking behaviours [42].

Different perceptions of health and well-being compared to Western models, as well as 'poor health literacy' by Western standards, have led to frustrations for patients and clinicians [43, 47, 53]. Sub-optimal communication and understanding adversely affect patient-client relationships, often leading to incorrect assumptions. This includes the misconception that Indigenous people living in remote communities are uninterested in their own health and the health of their families [5, 48].

Language barriers, including those related to English and medical terminology, as well as a lack of interpreters, were reported to contribute to poor communication and uncomfortable healthcare experiences [5, 43, 52]. Some articles also identified the limited availability or lack of Aboriginal staff as a barrier [34, 48, 52].

Social disadvantage and remoteness exacerbate access issues [44]. Factors like lack of affordable services, travel costs, dental anxiety, and previous negative experiences hinder access [41]. Fear of leaving familiar areas and fatalistic attitudes complicate access, leading to emergency care over preventative care. This style of care is at odds with Indigenous beliefs about health and may further exacerbate the cycle of avoidance behaviours.

Remote health services frequently serve as training grounds for recently graduated healthcare staff, who relocate to less isolated locations upon gaining sufficient professional experience. The lack of junior clinicians' technical and soft skills contributed to patients' hesitancy in using services, as they preferred more experienced clinicians due to awareness of historical medical malpractice towards Indigenous people in the past.

Alcohol, gambling, and other substance use – as well as associated harmful community norms concerning consumption and addiction and their impact on young people – were also identified as barriers to healthcare [33, 49]. Easy access to welfare is believed to have had the unintended consequence of reducing the motivation for healthy activities inherent in traditional lifestyles, including the physical activity and healthy diet associated with practices such as hunting [49]. Vandalism of health equipment (as well as general equipment failure and power outages caused by extreme heat in many remote locations) and the lack of timely repair of such were other factors that were also reported to impact healthcare access [47]. In an audit of emergency department records, Carlin et al. [6] found that access to primary healthcare services was frequently initiated by police intervention in response to various issues. These included suicide attempts, violence, family conflict, and injuries involving patient intoxication.

Health concerns in children and elderly people tend to be hidden [48]. Reasons for this included: societal issues, such as children and teenagers disengaging from school, family, and peers; the lack of effective role models, low respect for elders; low cultural awareness; high exposure to others' self-harming behaviours; assumptions about race by teachers, who often refer children for clinical or support services, meaning conditions with neurodevelopmental causes remain underdiagnosed; perceptions that symptoms are permanent, rather than circumstantial and treatable, leading to fatalistic styles of thinking among teachers.

Social Issues and Determinants of Health - Strategies To Improve Access

Community and staff participants suggested that language translation services and visual aids may improve communication between staff and patients [5, 33, 42, 43]. Other recommendations included trauma-informed care [43, 51], local service provision [6, 18, 19, 33], affordable or free services [41], and transport options for consultations [51]. Transport provided by healthcare staff was seen as valuable for engaging clients, serving as informal consultation spaces, and understanding their lives [51]. Telehealth was also recommended to reduce travel burdens and increase access to specialist staff [21].

Service Delivery by the System, Services, and Staff

This theme describes the factors that influence healthcare access and the strategies to improve access from three different but related scopes of service delivery.

The Government Level: Policies and Funding - Factors Influencing Access

Remote geographical location and the physical lack of adequate facilities and resources impact the capacity of healthcare staff, as well as the availability of services, suitably qualified staff, specialist care and equipment [21, 33, 44, 46, 47]. Limited transport options also affect access [18, 47, 52]. Insufficient staff capacity and training hinder disease screening and specialist referrals, leading to more serious symptoms [45]. Limited funding causes competition among services, contrary to Indigenous values of collaboration [42].

Training, registration, and accreditation requirements for healthcare workers were also reported as preventing local people from becoming qualified, negating this as a potential solution to adequate staffing.

Funding decisions made in metropolitan centres are often impractical for local conditions, limiting the ability to design suitable strategies [33, 46, 47]. The lack of service uptake, despite availability, indicates the presence of psychosocial barriers [41]. Hunter [48] noted a higher uptake of community-based services with stable local workforces than with transient workforces with limited Indigenous capacity.

The Government Level: Policies and Funding - Strategies To Improve Access

Increased government funding was recognised as a way to address resourcing needs. Community participants uniquely cited the need for reliable services and the removal of educational barriers to enable locals to work in healthcare, allowing the capacity to and retention of staff in this workforce and reducing fatigue and burnout [41, 42]. Staff highlighted the need for funding to hire and retain qualified staff, ensuring continuity of care and building trust with the community [33, 52]. Funding for follow-up care models and dedicated health educators was also suggested [19, 45]. Infrastructure improvements, such as broadband access and telehealth, were recommended to support specialist care [21].

Matthews et al. [44] highlighted the benefits of government spending on implementing point-of-care blood pathology testing to screen for disease and training clinicians to use this equipment in the timely management of acute illness. Patel et al. [41] suggested that school-based (oral) health services effectively provided wide access and health promotion opportunities for children in the community.

Both community members and staff advocated for health policies, practices, resources, and infrastructure tailored to the local context, achieved through improved integration and communication between services and the government. Indigenous governance and input into the planning and delivery of services were suggested as strategies to ensure cohesiveness between service provision and community needs [42, 43, 47]. Others cited the need for systemic change in the design of health services, calling for community-based frameworks and culturally appropriate care [41, 42, 48].

Other suggestions included the provision of funding to better support staff in performing their roles and enabling them to remain in the workforce. Provisions included: fair remuneration; opportunities for training and professional development; clear boundaries and protections for when they encounter ethical and legal dilemmas, such as patient refusal of medical treatment; and expanded role descriptions to address patients' complex and diverse care needs (e.g., enabling nurses to perform as nurse practitioners) [18, 19, 43, 47, 52]. Several studies suggested providing dedicated funding to support the employment of Aboriginal Health Workers to help bridge the cultural and communication gap [5, 43, 45, 48, 52].

The Local Service Level: Models of Care - Factors Influencing Access

Both staff and community participants recognised that access is influenced by patient perceptions of culturally unsafe healthcare, impacting screening, acute care management, and follow-up treatment [43, 44, 52]; poor quality of services, due to long waiting times and high demand of services for general services, including extra interim appointments while waiting for specialist care [43, 45]; and high staff turnover (in part due to many staff being employed on short-term contracts), with patients feeling uncomfortable with new staff [33, 34, 43, 52]. Limited Indigenous healthcare workers are also a barrier [5, 34, 43, 45, 48, 52].

Service delivery staff identified several factors that impacted the provision of care, including high demand for services; inadequate staffing due to small populations of qualified/specialised staff living or willing to work in remote areas; staff unwilling to work in highly demanding settings, leading to high rotation of staff to prevent stress, fatigue, and burnout; and poor organisational structure [34, 43, 47, 52]. Incomplete service delivery factors were also believed to impact healthcare access and burden the primary healthcare system. Issues included: inaccurate or missing information at hospital discharge; low adherence to treatment guidelines; slow transfer of discharge summary information and incomplete communication with/referrals between services (e.g., between hospitals and health centres and secondary care providers); ineffective collection of biological samples; and prescription of inappropriate medication [18, 34, 45]. Carlin et al. [6] found limited evidence of mental health screening and care plans, indicating issues with workplace processes and staff confidence.

This body of research also indicated a lack of adequate support for staff in many settings. Staffing shortages and recruitment difficulties – as well as the lack of regular, ongoing visits from specialists and access to specialist facilities, resources, and equipment – were issues identified by Cribbes and Glaister [47]. These deficiencies often meant that healthcare tasks were assigned to existing workers, who often lacked the appropriate skills and, understandably, confidence to provide advice and care outside their training and expertise [18]. Staff reported limited training opportunities to build their confidence and competence in technical and relational skills [52].

The Local Service Level: Models of Care - Strategies To Improve Access

To improve access, it was recommended that community leaders, especially elders and future leaders, be included in health service planning and monitoring [5, 19, 33, 43, 45, 48]. This is crucial for mental health, community education, and addressing shame [6, 21].

Other recommendations included standardising clinical coding and implementing electronic referral systems for better integration and communication between health providers [6, 18, 33, 34, 43, 45, 47, 49, 52]. Setting targets for key health outcomes and evaluating strategies were also suggested [33, 49, 52]. Improvements to screening tools, processes, and staff training for early disease detection were advocated [6, 19, 33, 44]. Dedicated specialised staff were recommended for screening and referrals [33, 45].

Research with staff revealed unique strategies, including the provision of training modules that focus on professional knowledge and clinical skills (e.g., confidence working with referral systems, medical equipment, and health promotion), cultural awareness (e.g., of Indigenous worldviews and history), and emotional intelligence (e.g., how to cope with seeing clients' lived experiences of disadvantage and inequalities). Many staff members were especially interested in continuous and responsive training that addresses local needs, flexible, self-paced online training resources, in situ training opportunities, and practical guidance for processes such as referrals and trauma-informed care [18, 19, 33, 34, 44, 45, 48, 49, 52].

The Workforce Level: Practices and Skills of Staff - Factors Influencing Access

Ineffective communication and a lack of understanding of patients' worldviews and culture, coupled with poor health literacy and limited access to health information among patients, were issues identified as relevant at the individual staff level [5, 33, 43, 51]. Patients often felt unequal or excluded from health-related decision-making processes [5, 43]. The use of medical jargon that patients do not understand can lead to misunderstandings. These misunderstandings are sometimes attributed to patients' perceived disinterest or disengagement with their health rather than their linguistic abilities [5, 43].

The Workforce Level: Practices and Skills of Staff - Strategies To Improve Access

Community and non-community participants suggested staff competency and confidence training to enhance access to healthcare, including proficiency in Indigenous languages or accessible English, as well as guidance on cultural appropriateness [42, 43, 47, 48]. This guidance should also encompass cultural awareness and appropriateness [5, 33, 43, 47, 49]. Effective communication, characterised by empathy, respect, kindness, humility, trust, and equality, is also crucial. This may be achieved through active listening and a non-judgmental approach to providing person-centred care [5, 21, 33, 47–49].

Culturally Appropriate Care and Communication

This theme encompasses the factors that influence access to healthcare, reflecting the values, traditions, and customs of Indigenous Australians living in remote communities, as well as practical strategies to provide culturally appropriate care through effective communication.

Culturally Appropriate Care and Communication - Factors Influencing Access

Community members often feel culturally unsafe accessing health services, leading to avoidance or delay in seeking help [5]. Clinicians' lack of understanding of Aboriginal culture and worldviews on health, illness, and prevention is a key issue [5, 43, 47, 48]. Indigenous patients may link health experiences to spiritual concepts like dreaming, sorcery, and curses, which can be misinterpreted by clinicians [48].

Shame and stigma (both public and self-stigma) were identified as cultural barriers to healthcare access, especially if symptoms are associated with mental health problems [33]. Many individuals prefer clinicians without community ties to avoid feelings of shame and distrust, particularly among tribal groups [41]. Some patients feel more comfortable with clinicians of non-British heritage, but others reported no preference on this matter as long as staff are competent and personable. Some patients, particularly those from older generations, preferred to be treated by staff of the same gender to abide by cultural observances regarding men's and women's business. Indigenous peoples' fluid concept of time and cultural obligations, such as funeral attendance commitments, observing mourning periods, and attending to family responsibilities, can conflict with appointment schedules [47, 52].

The lack of opportunities for families to be involved in healthcare also inhibited service engagement [5]. Other research revealed that the lack of family support and understanding of mental health issues in the community was another barrier to healthcare access [33].

Culturally Appropriate Care and Communication - Strategies To Improve Access

Holistic care that encompasses mind, body, spirit, community, and country aligns with Indigenous worldviews, contrasting with Western symptomatic and disease-focused models [42, 44, 51]. Schultz et al. [42] recommended incorporating Indigenous language interpreters and staff language training into service delivery, as well as cultural education, Indigenous law, and ceremonies. Hunter [48] suggested consulting local informants to gain a deeper understanding of community history, context, and beliefs.

Implementing initiatives to reduce patient experiences of shame was also suggested [6, 21, 41]. Community participants indicated that this could be achieved by clinicians employing a nonjudgmental and empathetic approach to care and utilising active listening techniques.

Strategies suggested to ease the tensions caused by differing perceptions of time included the provision of flexible service hours and options for drop-in consultations [41, 43, 44, 47, 52]. Practices that provide timely access to services and effective illness management, which may be facilitated by warm referrals between staff members and point-of-care testing and screening, were also recommended [21, 42–44].

Practical suggestions to improve patient experiences included staff: celebrating Indigenous cultures, worldviews, healing practices, values, and languages, and adopting empowering, respectful, strengths-based approaches to healthcare [33, 42, 43, 48, 51]. Enabling opportunities for families to be involved in care (if the patient so desires) and providing whole-of-person care that provides opportunities for patients to tell their stories and considers the patients' health and well-being in the context of their community, country, and culture are also essential [5, 6, 19, 33, 42, 44, 47–49].

Deficits in Health Promotion and Education

Health promotion is widely considered to be an important part of comprehensive primary healthcare [54, 55]. This theme intersects with the scope of the previous three themes, as health promotion and education in the community were identified to be relevant to: addressing inequities that result from social determinants of health; support for service delivery in primary healthcare, particularly at the system level of operation, since capacity for related work needs to be budgeted for in government healthcare funding models; and communicating about health in a culturally appropriate way.

Deficits in Health Promotion and Education - Factors Influencing Access

Holistic healthcare involves the prevention and promotion of health, which is commonly cited as lacking. Factors affecting health promotion and prevention activities include low health literacy and complex family dynamics [33, 52]. Community members reported that access to mobile healthcare services is hindered by poor promotion, self-recruitment and communication about services [33, 41].

Staff noted that the focus on acute care due to urgent patient needs and high demand limits the capacity for health promotion and education [34, 46, 52]. This prioritisation may affect staff understanding and competency in health promotion [43, 46].

Staff at Aboriginal Community Controlled Health Services identified several factors influencing health promotion activities, including clinical priorities, inadequate funding, limited partnerships with community services, and a lack of awareness about the importance of health promotion [46]. Inadequate staffing, high turnover, and insufficient training and support were also noted [34].

Deficits in Health Promotion and Education - Strategies To Improve Access

Indigenous Land Management was discussed as a holistic, culturally appropriate, strengths-based intervention to promote health and well-being, complementing clinical care [42]. Indigenous Land Management involves Indigenous people caring for their country through traditional and modern conservation activities (e.g., harvesting bush foods, monitoring and protecting threatened species, revegetating native flora, controlling fires, weeds, and feral animals), as well as art and craft work. It provides means to improve health outcomes through the cultivation of empowerment, identity, self-determination, connection to country, education, and the sharing of knowledge, exercise, a healthy diet (including the avoidance of alcohol), community connection and purpose, employment, and the strengthening of Indigenous language.

Increased funding for health promotion and education programs for patients, families, and communities was suggested to raise awareness of health issues and enable informed decision-making [5, 18, 33, 41–46]. Cribbes and Glaister [47] proposed educating the community on what to expect from healthcare services as a health promotion strategy to prevent instances of 'humbugging' (patients contacting staff who are off-shift), thereby supporting and retaining healthcare staff.

Discussion

The 18 studies in the current systematic review reiterate that the factors influencing access to primary healthcare for Indigenous Australians in remote communities are complex and multi-faceted, spanning medical, societal, cultural, and service delivery domains [56]. The research questions included in the articles varied, but common themes emerged regarding the factors influencing access and strategies to improve it. These themes help conceptualise the healthcare reform needed to accommodate this cohort's needs.

Implications and Recommendations

The current review found that barriers to healthcare access for Indigenous Australians in remote communities are similar to those experienced by other Indigenous Australians, including culturally unsafe practices, racism, and stigma, leading to healthcare avoidance and more serious symptom presentation [34, 57, 58]. Unique factors in remote communities exacerbate social disadvantages, such as extreme remoteness and resource shortages. Indigenous people in remote areas are often more connected to their country and culture, which can clash with medical systems, limiting service uptake even when healthcare is available [55, 59]. Enacting the national and state governments' remote health public health policies [9–16], and achieving its goals – of enabling healthcare options that are cohesive and coordinated, yet flexible and autonomous enough to suit local needs – will help in the provision of equitable, safe, effective, and transformative healthcare reform for Indigenous people living in remote Australian communities. Successful implementation of the strategies to achieve these aims will enable social justice for these diverse and culturally-rich communities that manifest an important part of Australia's past, present, and future.

Person-centred care for remote Indigenous people should be holistic, considering their social, emotional, and physical well-being in the context of family, culture, community, country, and spirituality [53, 60]. Effective communication and cohesiveness between service providers, patients, and communities are essential. Decolonising Indigenous healthcare requires recognising inequity, understanding worldviews, and implementing appropriate service models [61]. Taking the time to listen to, understand, and empathise with patients, while avoid judgement of them will enable individual practitioners to connect with patients. Employing Indigenous people in service roles can enhance communication, referrals, and cultural safety [62]. Training local people can reduce staff trauma from being away from country and family. Accessible environmental design and culturally accommodating care models, such as scheduled and drop-in consultations, after-hours care, and discreet waiting rooms, are recommended [7, 63].

Potential staff (as well as students) need to be aware of what they might expect when working in what has been described as a demanding yet highly rewarding environment. Ensuring that the right staff are appointed is important to prevent further trauma to healthcare users [43]. Providing funding for new clinicians to work as supernumerary staff can help them adjust to the work environment. Ongoing training and support from accurate, up-to-date systems connected to relevant health services can enable the delivery of high-quality care. Adopting a preventative, holistic approach to client care can reduce the overall burden on the healthcare system and justify funding allocation [18, 42].

Suggestions for Future Research

Understanding the healthcare provision experiences of staff is incredibly valuable to enabling workplace satisfaction and retention [64, 65]. Consulting with the users of these services is also a fundamental component of understanding patient needs and catering through person-centred care [66]. Caution needs to be given when considering the implementation of the strategies to address healthcare access inequities solely identified by healthcare providers, as these may not be culturally appropriate for Indigenous Australians living in remote Indigenous communities. For instance, several studies suggested that telehealth decreases the trauma associated with travel, facilitates timely diagnosis, provides the opportunity for joint decision-making with family, and supports access to secondary healthcare. However, the cultural appropriateness of using such technologies must be considered, as such tools may not align with beliefs around using images and media for people living a traditional lifestyle. Future research should focus on the views of community members, healthcare users, and providers to determine the best methods for health service provision. Triangulating information gleaned from such can reveal important nuances in the differences and consistencies of these perspectives, help develop better strategies to improve healthcare experiences for all and effectively bridge the access gap.

Indigenous Australians are the most researched cohort in the world; however, health concerns in their communities persist. Active participation by Indigenous people in the research process is crucial to ensure that research is conducted 'with' rather than 'on' them [67]. Where possible, future research guided by the Aboriginal and Torres Strait Islander QAT indicators is recommended to promote inquiry driven by community needs. The most significant deficit shown with this tool was the lack of Indigenous initiation, oversight, and involvement in research on topics important to their community. To effectively address this issue, we need to enhance research leadership, governance, and ownership to ensure that Indigenous intellectual property remains with its Indigenous custodians.

Strengths and Limitations of the Current Research

Incredible diversity exists in the tribal cultures of Indigenous Australia, meaning that there is no one-size-fits-all approach to service delivery. Nevertheless, the canvassing of factors that impact primary healthcare access and the strategies to improve such access provided by the current study may be valuable in increasing awareness and facilitating communication about the barriers and enablers in this context. This systematic review offers access to current information that may be of interest to communities, policymakers, health providers, and health professionals. However, comparative research across different language and cultural groups may provide more nuanced understanding of the causal factors, enablers, and barriers to healthcare access. A future review of grey literature concerning this issue may also provide more insight into this important topic.

Conclusion

To bridge the equity gap in primary healthcare access for Aboriginal and Torres Strait Islander people living in remote Indigenous communities, it is crucial to engage and collaborate with these communities in a meaningful, open, reflective, and mindful way, building on foundations of communication, respect, and understanding [68]. Overcoming this challenge requires a collective effort from multiple stakeholders [69]. While the issue is relevant for governments, it is also heartening to recognise that even seemingly small practical changes in the right direction can contribute to larger-scale reform over time and have the potential for significant transformative impacts toward equality [48, 70]. Healthcare services also need to consider unspoken and contextual factors and avoid making assumptions about patients' preferences for care. Accordingly, it will take an empathetic, non-judgmental, respectful, and humble workforce to meet the rewarding challenge of providing person-centred care for remote-living Indigenous people. In return, the lessons learnt from Indigenous Australians living in remote Indigenous communities on how to provide holistic, culturally sensitive models of care and health promotion may have benefits for helping Indigenous people living in urban areas connect with their roots and achieve health and well-being. By listening and hearing the voices of Indigenous people living on country, and all working together in unity, we can hope to achieve improved outcomes for all Australians.

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