Primary, specialist and allied health services delivered to rural and remote communities and their access by Aboriginal people: Protocol for a mixed methods study

Abstract

**Background:** Primary, specialist and allied health services can assist in providing equitable access in rural and remote areas where higher proportions of Aboriginal and Torres Strait Islander people (Aboriginal Australians) reside to overcome high rates of chronic disease experienced by this population group. Little is currently known about the location and frequency of services and the extent to which providers believe delivery is occurring in a sustained and coordinated manner.

**Objective:** To determine the availability, accessibility and level of coordination of a range of community-based healthcare services to Aboriginal people and identify potential barriers in accessing healthcare services from the perspectives of the health service providers.

**Methods:** This mixed-methods study will take place in three de-identified communities in New South Wales selected for their high population of Aboriginal people and geographical representation of particular location type (coastal, rural and border). The study is designed and conducted in collaboration with communities, Aboriginal Community Controlled Health Services (ACCHSs) and other local health services. Data collection will involve face to face and telephone interviews. Participants will be recruited through snowball sampling and will answer structured, quantitative questions about the availability and accessibility of primary healthcare, specialist medical and allied health services and qualitative questions about accessing services. Quantitative data analysis will determine the frequency and accessibility of specific services across each community. Qualitative data will be analyzed thematically to identify issues relating to availability, accessibility and coordination. The quantitative and qualitative data will then be combined and analyzed using a health ecosystems approach.

**Results:** Twenty eight stakeholder participants across the ACCHSs were identified for recruitment through snowball sampling (N=4 coastal, N=12 rural and N=12 border) for data collection.

**Conclusions:** The study will determine the scope and level of coordination of primary, specialist and allied health services in rural communities with high Aboriginal populations from the perspectives of service providers from those communities. Identification of factors affecting availability, accessibility and coordination of services can assist ways of developing and implementing culturally sensitive service delivery. These findings will inform recommendations for the provision of health services for Aboriginal people in rural and remote settings. The study will also contribute to the broader literature of rural and remote health service provision.
**Introduction**
Access to coordinated and timely specialist care improves health outcomes for people with complex health needs [1]. In 2010 - 2012, the estimated life expectancy at birth for Aboriginal and Torres Strait Islander Australians (hereafter Aboriginal Australians) was 10 years lower than for non-Aboriginal Australians [2]. Much of this gap in life expectancy between Aboriginal Australians and the non-Aboriginal Australians has been attributed to chronic disease [3]. Rates of these chronic diseases are considerably higher among Aboriginal people relative to the overall Australian population [4]. In 2008, a 25 year political commitment to Closing the Gap was made through the establishment of seven targets across health, education and employment yet only modest progress has been achieved over almost a decade [5].

Approximately one-third of the Australian population live outside of the 8 major cities, at roughly 7.7 million people [6]. However, significant disparity between the de-centralization of the population and health expenditure exists both between urban versus rural/regional and remote areas [7] as well as among rural/regional and remote comparative areas. Nationally, age-standardised services for Very remote areas were less than a third of the Major cities amount [8]. This may lead to inequity in both the funding and provision of health services in these regions. The state of New South Wales (NSW) is home to the largest proportion of Australia’s Aboriginal population, 65% of whom live outside of metropolitan areas compared with only 25% of the non-Aboriginal population [9]. Large tertiary medical centers located in metropolitan areas can be accessed by the entire population yet time and cost barriers in travelling long distances to facilities can be prohibitive, particularly for socio-economically disadvantaged groups such as Aboriginal Australians.

Tackling chronic disease requires a multidisciplinary approach [10], with regular, appropriate consultation, treatment and support. Various policy initiatives have been developed at the national, state and local level to respond to this situation. At the national level, mainstream strategy outlines the need to manage chronic disease amongst Aboriginal Australians, and indicates that access to appropriate services is vital for reducing the burden of disease [11]. Providing such services will not only reduce the burden of chronic disease to communities and the country at large, but will also significantly impact the quality and longevity of life for Aboriginal Australians [5]. The implementation of the most recent, long-term national Aboriginal health plan focuses on improving the health system through more comprehensive, culturally competent and effective services, including investing in increased capability of Aboriginal Community Controlled Health Services (ACCHS) to meet identified needs [12]. Ensuring that services are adequately resourced is vital to ensuring this outcome is achieved [13, 14].
The unique social and cultural needs of Aboriginal Australians should be carefully considered in the provision of care to ensure culturally competent service delivery [15]. National Aboriginal Community Controlled Health Organizations (NACCHO), Aboriginal Health and Medical Research Council (AHMRC) and rural ACCHS have led to significant improvements in the delivery of healthcare to Aboriginal Australians [16] [17]. The capacity of ACCHSs are limited however, and the majority of healthcare services are provided to Aboriginal people through mainstream healthcare services [15]. The coordination of services across multiple agencies and health problems is challenging. An Ecosystems approach provides a way to think about health issues through a whole of system lens enabling integrated responses across and between health services and health issues. Health ecosystems approaches bring key stakeholders together and facilitates engagement between all relevant sectors necessary for connected health care to occur [18]. Determining the location and frequency of current health care services over a geographical jurisdiction allows for identification of targeted areas for coordinated future service provision to create a fairer spread of care across the population.

The primary aim of this study is to determine the availability and accessibility of primary health care, specialist medical and allied health services to Aboriginal people living in three rural/remote towns in NSW and their current level of coordination from the perspectives of service providers in those communities.

Methods

Study Design

The mixed-methods study will take place in three communities (coastal, remote and border) across NSW with higher than average populations of Aboriginal people [9]. These three communities have been selected based on their locations being representative of centers with varying access to metropolitan health services, and each having a strong history of community driven health service development. The coastal, remote and border communities have populations of 14,000 people (17% Aboriginal); 1,400 (65% Aboriginal); and 500 (63% Aboriginal), respectively [6, 9]. The study will be conducted in collaboration with ACCHSs and other service providers including hospitals, General Practice (GP) clinics, pharmacies, and community health centers. Participants will be staff recruited from Local Health Districts and Primary Health Networks, ACCHS, Pharmacies, Early Childhood Centers, GP, Aboriginal Working Parties, Schools, Local Councils, and the private health sector. By interviewing representatives from multiple service providers in each community we will be able to triangulate the data to ensure a comprehensive picture of service providers’ perspectives are captured.

Phase 1: Community Engagement and Recruitment

A flow chart of the study phases is presented (Figure 1). In Phase 1, ACCHS stakeholders in the three selected locations were approached by the researchers to participate in the study. These stakeholders were given the opportunity to join the research team, contribute to the development and implementation of the research
design, and data collection tools. An independent study advisory group has been established to oversee the study and its governance [19]. Each organization involved in the study was asked to nominate individual participants who meet the study inclusion criteria of having existing relationships within the communities, and knowledge of and access to information regarding the provision of services to these communities.

A snowball sampling recruitment process is used. Partner ACCHSs were asked to provide information on all relevant service providers in their community for recruitment. Subsequently, the research team made contact with each of these organizations to invite them to participate in the study. Where consent was granted by the organization to approach their staff members to participate in the study, the organization subsequently introduced the study to their staff and facilitated recruitment by providing contact details of potential participants. While snowball sampling does not provide a known sampling population size, it gives a more effective means of accessing vulnerable and isolated population groups, such as rural populations and professionals (including those who identify as Aboriginal) working with Aboriginal communities for mixed methods research [20].

**Phase 2: Data collection**

Each location will be de-identified in order to ensure confidentiality and privacy for the participants which may facilitate more honest and candid responses and to protect the privacy of the communities. All participants will go through an informed consent process and sign consent forms prior to data collection. Data collection will be conducted over a two week period in each community, and will involve both face to face and telephone interviews. Participants will be invited to undertake a structured, quantitative interview about the primary healthcare, specialist medical and allied health services in their community and will be given the opportunity to provide longer, open-ended (qualitative) answers for each question. The quantitative component will allow the researchers to identify the services (primary, specialist and allied health) available in these communities and identify where (for example ACCHS or local hospital) these services are offered. The qualitative component will collect information about participant’s experiences, beliefs and expectations about accessing health services in their community. Participants will also be asked about the barriers and enablers to healthcare services for Aboriginal people in their respective locations.

All interviews will be audio recorded and transcribed. Quantitative data will be collected using REDCap, a secure electronic data capture tool hosted at The George Institute for Global Health [21].

**Phase 3: Data Analysis**

Data will then be organized to provide informative analysis of service providers’ perceptions of the provision of health care services to these communities. All quantitative data will undergo descriptive statistical analysis to determine the frequency of specific services across the three communities and combined, to
determine their availability. Participant reports of the type and frequency of health services available will be compared in each community. Services readily identified by all participants, as well as those where there is uncertainty or dispute, will be tabulated. Similarly the reported frequency of services will be compared across participants in each community to determine knowledge about services available at a community level.

All qualitative data will undergo thematic and content analysis using both inductive and deductive approaches [22]. In this process, the health ecosystem framework will be applied and any potential barriers or enablers or broader emerging themes relating to provision of and access to health services for Aboriginal people will be identified. The qualitative and quantitative data will be combined and mapped using a health ecosystem approach [18]. This will provide an ecological framework [23] for analyzing how the various parts of the healthcare systems in this study, such as perceptions of coordination, funding and design interact.

Quantitative analyses will be undertaken in SPSS 19.0 (IBM Australia, St. Leonards, NSW, Australia) and Qualitative analyses will be undertaken in QSR NVivo software version 10 (QSR International).

Ethics and governance

Ethics approval was obtained from the AHMRC of New South Wales (1173/16). A requirement of ethical approval was the establishment of an Advisory group to advise the research team. The Advisory Committee comprised of representatives from ACCHSs and mainstream (including rural specific) health organizations. This committee met twice at the development and start-up of the study and will meet again once data collection is complete. The study addresses the AHMRC and National Health and Medical Research Council (NHMRC) principles and guidelines for Aboriginal and Torres Strait Islander research [19]. Findings of the study will be shared with the three Aboriginal communities and their ACCHSs and the advisory committee supporting the study, the AHMRC and in peer-reviewed publications and at conferences.

Results

Twenty eight stakeholder participants across the ACCHSs were identified for recruitment through snowball sampling (N=4 coastal, N=12 rural and N=12 border) in Phase 1 for data collection in Phase 2.
Discussion

This study will use quantitative and qualitative data to provide unique insight into the lived experiences of service providers in three rural communities with high Aboriginal populations in NSW. Further, this study provides insights into the availability and frequency of primary, specialist and allied health services in those communities. Applying a health ecosystem approach [18] to the data will provide a framework to identify issues and enablers from a systems perspective, and make explicit how all the parts of the health system might interact, support and influence outcomes [23]. The results of this study may identify barriers and enablers of health services in rural and remote communities. This information will help inform recommendations about how to improve healthcare services to Aboriginal people. Subsequently, this will contribute to easing the burden of chronic disease for people in these communities specifically, and to other non-metropolitan jurisdictions across and beyond Australia.

The provision of healthcare services to Australians is a multifaceted undertaking that is often influenced by a range of factors, in particular social, cultural, political, and geographical. When this provision exists outside of major cities, the challenges and expenses faced by healthcare providers are significantly increased [8]. The provision of coordinated primary, specialist and allied health services may help overcome some of the barriers relating to access to services and in turn improve health outcomes among Aboriginal people living in rural and remote areas [24]. These barriers include geographic remoteness, socio-economic factors, cultural competence of services and specialist availability [25], in addition to the general limitations of public and primary healthcare systems [26], such as waiting times and hospital service structure.

Strengths of this study are its collaborative development and delivery with the key stakeholders involved in health service delivery to Aboriginal Australians including community controlled health services. The study is the first of its kind to comprehensively map the primary, specialist and allied health activities in identified geographical areas of need for a high priority population group from the perspectives of service providers. Ultimately, this study will provide insights into how to better provide health care services for Aboriginal people in rural and remote communities. The findings will also contribute to the broader literature of rural and remote health service provision [27] and provide recommendations for future practice, which if widely adopted could lead to improvement of population health services.

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Conflicts of Interest

none declared
References


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