Health Care Experiences in Rural, Remote and Metropolitan Areas of Australia

Claire Harper [1]

Sharon L. Bourke, RN [2]*

Elianna Johnson, RN [3]

Janet Green, RN, PhD [4]

Ligi Anish, RN [5]

Miriam Muduwa, RN [6]

Linda Jones, RN, PhD [7]

[1] Nursing student, Federation University, Australia, claireharper@students.federation.edu.au

[2] Lecturer, School of Health, Federation University, Australia, s.bourke@federation.edu.au,

* corresponding author

[3] Lecturer, School of Health, Federation University, Australia, e.johnson@federation.edu.au

[4] Lecturer, School of Health, Federation University, Australia, ja.green@federation.edu.au

[5] Lecturer, School of Health, Federation University, Australia, l.anish@federation.edu.au

[6] Lecturer, School of Health, Federation University, Australia, m.muduwa@federation.edu.au

[7] Senior Lecturer, School of Health, Federation University,

Australia, l.jones@federation.edu.au

Abstract

Background: Australia is a vast land with extremes in weather and terrain. Disparities exist between the health of those who reside in the metropolitan areas versus those who reside in the rural and remote areas of the country. Australia has a public health system called Medicare; a basic level of health cover for all Australians that is funded by taxpayers. Most of the hospital and health services are located in metropolitan areas, however for those who live in rural or remote areas the level of health service provision can be lower; with patients required to travel long distances for health care.

Purpose: This paper will explore the disparities experienced by Australians who reside in regional and remote areas of Australia.

Method: A search of the literature was performed from healthcare databases using the search terms: healthcare, rural and remote Australia, and social determinants of health in Australia.

Findings: Life in the rural and remote areas of Australia is identified as challenging compared to the metropolitan areas. Those with chronic illnesses such as diabetes are particularly vulnerable to morbidities associated with poor access to health resources and the lack of service provision.

Conclusion: Australia has a world class health system. It has been estimated that 70% of the Australian population resides in large metropolitan areas and remaining 30% distributed across rural and remote communities. This means that 30% of the population are not experiencing their health care as 'world-class', but rather are experiencing huge disparities in their health outcomes.

Keywords: rural and remote, health access, mental health issues, social determinants

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Geographically, Australia is approximately 7.7 million km2 in size, with 70% of the Australian population residing in large metropolitan areas. The remaining 30% of the population are distributed across rural and remote communities (McGrail & Humphreys, 2015). In the outback or remote areas, the weather is often extreme, and land is harsh. Livelihoods depend on the presence or absence of rain. People are separated by many kilometers requiring long drives or even an airplane trip to see others, purchase supplies or access healthcare and education. These factors make living in a remote community a difficult life, yet many Australians find a deep connection to the land through generations of habitation in the same properties and communities and cannot imagine leaving it behind for metropolitan

life. Whilst this can be seen as admirable, aspects of health care differ when comparisons are made between rural and remote life to that of living in a metropolitan area. Consequently, there is evidence indicating that those residing in rural and remote locations experience a higher rate of mortality and morbidity from people living in more accessible areas (Australian Institute of Health and Welfare [AIHW], 2018).

Functional metropolitan areas can be defined as where a population between 250,000 and 1.5 million resides within a large metropolitan functional urban area. Rural and remote regions are those that are outside the metropolitan and major regional cities. Generally, a rural region is considered to be accessible or moderately accessible to services. Remoteness of areas are centered on the Accessibility/Remoteness Index of Australia which is based on the road distances people have to travel for services (AIHW, 2019). Classifications of 'remoteness' are used for statistical analysis of health, and also for health funding allocations (Smith, 2016).

Methodology

An integrative review methodology was utilised for this paper as it enables a broad review and facilitates a comprehensive understanding of the healthcare inequalities. The integrative review has been identified as unique in healthcare because it is a general review of the existing literature in a systematic way (Souza et al. 2010). The literature was gathered using a framework outlined as Arksey and O'Malley's (2005) 5 step framework, and more recently Levac et al.'s (2010) method of synthesizing health evidence. To facilitate an integrative review of the literature, a search of the literature was performed from multiple health-care related databases: including CINAHL, Google Scholar, MEDLINE and Grey Literature. 406 results were found using the search terms: healthcare, rural and remote Australia. Adding the term "social determinants of health" refined this further. The search was limited to research in English and articles published since 2010. This search, however, was not limited by rigorous study design. Each study was screened through the abstract and title for relevance to an

Australian nursing perspective. Other resources, including literature and documents, were sourced to provide additional information to ensure the reader understands how vast Australia is, and the kinds of distances that patients from remote areas may need to travel in order to gain medical assistance.

Australia

Australia – A Land of Extremes

Australia is a land of weather and terrain extremes. Drought usually occurs every 18 years in Australia (Anderson, 2014). The south eastern parts of Australia have experienced some of the worst droughts in history with the millennial drought from 2003 – 2012. Currently this area has been in drought since 2017 (King et al., 2020). The result has been severe water restrictions for private and commercial use, bushfires with significant loss of land, life and wildlife. When the rains finally came many places were flooded (King et al., 2020).

Demographically, the majority of the Australian population live within major cities. Of Australia's total population, 28.2% live in regional and rural settings with 18% living in inner regional areas, 8.2% in outer regional areas, 1.2% in remote areas and 0.8% living in very remote areas of Australia (AIHW, 2019). The geographical distribution of Aboriginal and Torres Strait Islanders (referred to as Indigenous herein) vary when compared to non-indigenous populations. There is 65% of Indigenous Australians living in regional and rural settings. Half of the total population of very remote people consist of Indigenous Australians (Royal Flying Doctor Service [RFDS], n.d.a). There is a disparity in age between metropolitan and rural remote populations. Rural populations report more children, fewer young and middle-aged adults and a greater density of workers nearing retirement and the elderly (RFDS, n.d.a). Remote populations consist of more children, more middle-aged adults, greater prevalence of retired people and substantially fewer elderly people (RFDS, n.d.a).

The Health Budget in Australia

Across the country in 2016–17, health spending was approximately 10% of the gross domestic product. The cost of the health system in Australia is complex. This is because the commonwealth, state, territory and local governments all share responsibility for running the health system in Australia. The Australian government funds most of the spending for medical services and subsidized medicines as well as health research. Then the state and territory governments fund most of the spending for community health services and they all share funding of the public hospital system (Calder et al., 2019). The primary funding vehicle utilized by the Commonwealth Government is the universal system of Medicare which underpins the health system and financially supports patients to receive primary and specialist medical care. Access to services in rural and remote areas, however, is difficult and this affects Medicare funding. People in rural and remote areas spend half as much on medical services as people living in major cities as they have limited services to access (RFDS, n.d.a). Ensuring the maintenance and improvement in a strong Medicare system in rural and remote areas will support access to services. Medicare services needs to be combined with more flexible funding arrangements for health services that meet the needs of people in rural and remote areas.

The Royal Flying Doctors Service

The RFDS of Australia, known as 'The Flying Doctor', is an air medical service that is based and operates in Australia founded by Reverend John Flynn in 1928 (RFDS, n.d.a). This service has been funded by the Australian Government since the 1930's and is a non-profit organisation that is heavily reliant on community support for additional funding (RFDS, 2019b). The RFDS is considered to be "one of the largest and most comprehensive aeromedical organisations in the world, providing extensive primary health care and 24-hour emergency service to people over an area of 7.69 million square kilometers" (RFDS, n.d.a.). Medical treatment by the RFDS is free, however the ambulance service that retrieve and return patients to the airport are not (RFDS, n.d.a.). The RFDS provides emergency and primary health care

services for those living in regional, rural and the vast remote areas of Australia for those who cannot access a general practice or hospital (RFDS, n.d.b). This emergency service provided by the RFDS include primary response to an accident or illness, or the secondary aeromedical evacuation and retrieval service.

Australia has 6 states and 2 territories, with 45 RFDS bases, and 23 air bases scattered throughout the country (RFDS, n.d.c). There are 10 RFDS bases located in Queensland, 8 in New South Wales, 16 in Victoria, 1 in Tasmania, 3 in South Australia, 5 in Western Australia, and 2 in the Northern Territory. The RFDS also provides telehealth and telemedicine services 24 hours per day and seven days per week through radio, telephone or video call. Telehealth provides communication, consultation and support for rural and remote medical staff throughout Australia. Primary health clinics are provided for remote areas. Clinics include general medical practice, nursing services, child and maternal health, and Indigenous services (RFDS, n.d.a.). The statistics related to the RFDS are staggering with 38,064 patients transported by air, 335,125 patient contacts, 21,828 dental patients, 88,188 telehealth consultations, 75, 311 patients transported by road and 16,209 clinics (RFDS, n.d.a.).

The Social Determinants of Health

Social determinants of health are the conditions in which an individual lives in and are shaped by financial income, education, employment and social support (AIHW, 2018). In rural and remote locations these determinants are often defined by the changing weather patterns, creating an unpredictable lifestyle (Kennedy et al., 2014). When rain falls, crops succeed, water tanks are full and livestock are able to thrive. This brings with it financial security as farmers can sell their crops and livestock, jobs are created in order to enable stations to continue to function. Families are able to afford to send their children to school to receive an education (Kennedy et al., 2014). If the periods between rainfalls become longer, drought occurs. Income becomes scarce as farmers must pay for feed for their stock, water cartage and may not be able

to support farmhands due to a lack of financial income and resources. Reduced income, increased debt and a loss of hope have led to an increase in reported mental health problems and suicide. There is also an increasing drift of the younger generation from rural communities to metropolitan regions, contributing to population decline in these remote locations (Kennedy et al., 2014). It is important to note that in regional and remote areas, the higher proportion of Indigenous Australians, and the complexity of their health outcomes impacts the negative health reports and statistics of these remote areas (AIHW, 2018).

Australians enjoy one of the longest life expectancies in the world. One of the reasons for this is that the health system in Australia is one of the best in the world, providing safe, quality, and affordable health care (Cousins, 2020). There are, however, significant challenges that look to continue for coming decades. These include the ageing population, increasing rates of chronic disease, inequality in access to health services, costs of innovation and research and making the best use of emerging health technologies and data. Parts of Australia have recently experienced the worst drought in a century (Hart et al., 2011; King et al., 2020). The impact on rural communities has been immense with those who are the most geographically and socioeconomically vulnerable, the worst affected. During drought and other natural disasters, such as flood and fire, critical social and health resources within communities become depleted when they are needed most.

Chronic Illness

Chronic illness is considered one of the most dominant contemporary health issues currently experienced by the Australian population due to ageing and lifestyle changes (Calder et al., 2019). When comparing the statistics between urban centers and remote communities, several issues stand out as being higher among the remote communities (AIHW, 2018). Alcohol consumption is considered a significant problem, with 24% of the outer regional and remote populations considered to have exceeded the lifetime alcohol risk guideline, as opposed

to just 16% in major cities (AIHW, 2018). The same report states that 22% of outer regional and remote populations are current daily smokers, compared to 13% of major city dwellers. In addition, there are higher numbers of heart disease, obesity and suicide rates among those communities in remote locations. Hospitalisations relating to chronic conditions (excluding diabetes) that could have been prevented through appropriate care or early disease management were found to be 19.1 cases per every 1,000 of the population in very remote areas. In comparison, major cities were found to be 9.7 cases per every 1,000 (AIHW, 2018). It is interesting to note that the diabetes related complications that resulted in hospitalisation occurred at an alarming rate as the remoteness increased. Compared to 1.7 hospitalisations per 1,000 in metropolitan regions, there were 4.6 cases per every 1,000 hospitalisations in very remote areas. Diabetes is the second leading cause of death in very remote areas, the fifth leading cause of death in remote areas compared to seventh in major cities. In other words, people living in remote and very remote areas were more likely to die from diabetes (1.8 and 3.5 times respectively), compared with Australia overall (AIHW, 2018). In addition, there is a particularly high prevalence of diabetes among Indigenous Australians (Hotu et al., 2018). Statistics show that with Indigenous Australians living in remote communities, there is a significantly higher rate of individuals with diabetes (20.8%) than those living in non-remote locations (9.4%) (Hotu et al., 2018). It is believed that a significant factor in this increase of diabetes between remote and non-remote populations is the lack of access to services, in particular general medical practitioner's where there is a significant shortage (Kirby et al., 2015). To support people with diabetes in these communities, a study from 2015 reviewed a pilot program involving nurse-led care in the management of diabetes that was undertaken over a period of 12 months. This program revolved around a diabetes nurse travelling out to three different remote locations around New South Wales every 3 months. Following the 12-month period, each of the participants involved in the study reported feeling increased confidence in

self-managing their diabetes and had a better understanding of their condition, thanks to the longer consultation times with the nurse (Kirby et al., 2015). The success of this program led to it being integrated into the RFDS in the South East Sector.

Mental Health Issues

Mental health problems have also been shown to have higher rates among those living in remote locations, with 19% of the outer regional and remote population experiencing mental illness, as opposed to 17% of the major city populations (AIHW, 2019). Within rural and remote communities, there is also a higher risk of mental health being stigmatized as well as confidentiality issues (Pierce et al., 2016). Whilst communities may be physically further apart, socially the communities are closer than that of many urban communities. This can result in individuals being reluctant to reach out to mental health services due to the fear of being ostracised by their community (Pierce et al., 2016). Efforts have been made to reduce the stigma surrounding mental health through advertisements and health promotion programs, however the stigma remains. In line with this, there are also increased rates of suicide among those living in remote locations, particularly within farming communities. A report from Kennedy et al. (cited in Cousins, 2020) suggest that this increased rate of suicide may be related to the lethality and accessibility of means in rural and remote areas (Cousins, 2020).

The mental health issues around aging population living in rural areas continue to increase as around 36% of the population (approximately 2.5 million people) are aged over 65 and over (Pierce et al., 2016). Older people can be vulnerable to mental health issues including depression, anxiety disorders, alcohol, and substance abuse and so forth. Evidence suggests that there is a significant need for mental health care for older people living in regional, rural and remote areas (Jackson et al., 2019).

Health Inequalities and Inequities

A difference in mortality rates can be noted between major city and remote populations in Australia. People living in rural areas have been shown to have a life expectancy 4 years shorter when compared to their urban counterparts (Bradford et al., 2016). A 2018 health report found that as remoteness increased, so too did the incidence of potentially avoidable deaths (AIHW, 2018). Potentially avoidable deaths are considered to be those that, with the correct treatment and individualised care, could have been prevented (Thomas et al., 2015). Between major cities and very remote locations, potentially avoidable deaths occurred at a rate 2.5 times higher in the remote locations (AIHW, 2018). People living in very remote areas have hospitalised rates doubled when compared to metropolitan populations. Furthermore, the rate of preventable hospitalisations increases with remoteness with very remote areas reporting preventable hospitalisation rates of 2.5 times higher (AIHW, 2019).

The other area of preventable deaths is those attributed to traumatic accidents (AIHW, 2018). These are commonly attributed to farming machinery, possibly contributing to the shorter life expectancy as compared to metropolitan areas (Kennedy et al., 2014). One of the major factors in this increased incidence is limited access to tertiary healthcare services. Whilst there are organisations such as the RFDS that can provide emergency care and transport to those in remote locations, it remains somewhat limited. Where RFDS are unable to reach a patient, long travel times await those needing to make their own way to a hospital leading to poorer outcomes for these patients. Furthermore, often, the closest medical center is not properly equipped to deal with significant trauma and the patient is required to be transferred to a larger tertiary facility which may be some distance away (RFDS, n.d.b). The time prior to ambulance arrival is a predictor of the risk of death with pre-hospital time over sixty minutes being a significant contributor to patient mortality (Fatovich et al., 2011). This distance to

travel for pre-hospital care due to geographical size and access issues of Australia has contributed to poorer outcomes for rural and remote people (Bishop et al., 2016).

One of the major factors in the health disparities between remote and metropolitan areas is access to services. As stated by McGrail and Humphreys (2015), geography is acknowledged by many as a critical aspect of health care access. Rural and remote populations have poorer access to health services when compared to major cities (AIHW, 2019). Furthermore, rural and remote health service are generally smaller, have less infrastructure and provide a broader range of services with limited specialist access. Rates of individuals reporting barriers to access general practitioner services is 6 times higher for remote and very remote populations when compared to major cities (AIHW, 2019). In addition, there is 58% of remote and very remote populations reporting that they do not have a specialist nearby. Across Australia, there is also a significant lack of consistency in access to services with individuals travelling significant distances to access specialists and specialist clinics (McGrail & Humphreys, 2015). The mental health facilities and access to these services is also limited in regional and rural areas. For example, it is estimated that less than 10% of psychiatrists throughout Australia practice in rural areas (Rawsthorne et al., 2009). In addition to the physical distance people must travel in order to reach a primary care service, there are also issues surrounding the recruitment and retention of healthcare workers in remote areas (Zhao et al., 2019). The health workforce is a major influence on access to services for rural and remote populations. Rural and remote areas are disadvantaged due to substantial health workforce shortages. Nursing shortages are apparent in rural areas; however, remote areas have a greater access to nursing services then rural populations (AIHW, 2019).

Strategies

There are a number of strategies that governments have initiated to help people located in rural and remote areas to access health care services. Various state and territory governments

have introduced Patient Assisted Travel Schemes to provide financial assistance to people in rural and remote areas to travel to receive health services. Private health insurers also offer travel and accommodation benefits under hospital cover that can assist with the costs of accommodation, fuel for travelling by car, or train, bus or air fares (RFDS, n.d.b).

In addition, there is telehealth services which saves travel time and costs and can be a less stressful option than travelling a long distance for healthcare. Many telehealth services are covered by Medicare benefits in eligible areas of rural, regional and remote Australia (AIHW, 2019). Telehealth was successfully observed to replace services to general practitioners, medical specialists, nurse practitioners, mental health treatment, chronic disease management, pregnancy support, counselling, after-hours consultations and Indigenous health assessments (Pancer et al., 2018). This success could be used to support rural and remote communities in the continuation and improvement of Medicare funded Telehealth services that could aim to address the lack of locally sourced services. In the longer term, telehealth can also play a part in supporting people with chronic conditions to manage their health. These telehealth services also support a holistic patient and family centered approach to care that enables care providers and interpreters to be involved in health care conversations. In recent times telehealth has been observed to be an effective replacement to face to face healthcare for the whole population during the COVID-19 lockdown requirements.

In addition to telehealth, and in an attempt to assist in combatting the lack of equipment and services in remote areas to deal with traumatic accidents, RFDS have introduced medical chests. There are approximately 3,000 medical chests that have been provided to those living remotely. These chests contain various medications and medical supplies that can be used under the advice of a RFDS medical practitioner over the phone (Cherry et al., 2018).

Recommendations

Australian governments agreed that to eliminate health inequalities between metropolitan and rural Australia, there is need to enhance disease prevention and health promotion efforts based on a better understanding of the nature of rural and urban inequalities. Future effort should acknowledge rural and remote area advantages and build on the strength of rural and remote public health infrastructure, ingenuity and practice. It is also important to continue following a biomedical model, that not only focuses on illness treatment and cure but rather focuses on illness prevention or health promotion is not ideal in rural and remote areas (Bourke et al., 2014).

In addition, it is highly recommended that rural and remote area healthcare focuses on educating, recruiting and adequate retention of skilled health professionals. This can be achieved by providing a model of mentoring to strengthen and increase rural and remote health workforce, professional development, recognition, empowerment, and cultural integration (Thomas et al., 2015). There is also a need to educate local people to become healthcare professionals as they would be more likely to stay in the region. This can be achieved through incentives and support to enable local people to become healthcare workers.

It is also worth examining the health access needs of the elderly population particularly residing in rural and remote areas. Since there is a considerable population aged over 65 years and above in rural areas more resources and access should be available to address the needs of this population. Several recent studies have shown that while rural and remote communities are more prone to natural disasters, elder community have been more resilient and have contributed significantly towards disaster preparedness, response and recovery efforts (Rawsthorne et al., 2009). Their expertise in assisting the community should be utilised to help give them purpose in contributing to the resilience of the community.

One of the other areas that needs developing more in rural and remote areas is mental health support through targeted programs. There already exist certain programs such as Rural Minds which provides workshops that discuss information around mental health issues but there needs to be more work done within farming communities. Providing information through these workshops can help the community be more receptive to mental health concerns of people and help support people to acknowledge that they are experiencing difficulty and need help.

To improve the quality of life and health of rural and remote people, and be comparable to their urban counterparts, there is need to provide improved culture safety. This is because of the increased population of Indigenous people in the rural and remote areas. One way that this can be achieved is by increasing the number of Indigenous health care workers by supporting the education of local people to undertake these roles. In addition, there is a need to increase the availability of health care facilities that are run by Indigenous communities in these remote areas in order to achieve better health outcomes (Smith, 2016).

Conclusion

Australia is known to have one of the world class health management systems. Evidence suggest that 70% of the Australian population resides in large metropolitan areas and remaining 30% of the population are distributed across rural and remote communities. Life in the remote and rural areas is identified as challenging compared to the metropolitan areas including poor access to health resources and services in rural areas. This paper examined the disparities that exits between the rural and metropolitan populations and discussed some services which are offered across the regional and remote areas like RFDS, medical chest and the need for incorporating first aid courses and telehealth services which has proven quite effective and beneficial during the current COVID-19 crises. It could be argued that there is a heightened need for addressing the mental health problems and provision of accessible service to the vulnerable population. It may not be possible to mitigate some of the geographical challenges

but strengthening the rural population through education and bolstering their self-management practices will assist in managing some of the risks.

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