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Living In a Regional Area: Access, Utilisation and Health Care Quality

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ABSTRACT

Primary health care plays a significant role in the well-being of individuals and communities, yet access to these services can vary. Factors such as socio-economic status and location of residence can impact this access. A study was conducted to investigate the relationship between location, utilisation, quality and health outcomes of primary health care services in the Meander Valley municipality of Tasmania, Australia. This paper reports the findings of the study which adopted a mixed-methods approach with multiple sources of data including government reports, survey questionnaires and interviews. The regional socio-economic disadvantage reflected not only the health disparities and poorer health conditions, but also the affordability to seek care. This was compounded by the lower levels of available health services and private health insurance. The lack of local services or their low quality was the main motivation for many to seek care outside of the region, which was unaffordable and at times logistically impossible. On the basis of the findings, a number of recommendations are provided to guide the current and future health care services and to improve the well-being of the Meander Valley community.

Keywords: Availability, accessibility, accommodation, affordability, acceptability, health care, rural, socio-economic status.

INTRODUCTION

Primary health care plays a significant role in the well-being of individuals and their society (World Health Organisation, 1978). However, access to health care services varies among individuals and communities due to factors such as socio-economic status (SES) and location in relation to health services (Lawn et al., 2008). A study was conducted, with the use of survey questionnaires and interviews, to identify an association between spatial access, utilisation and quality of primary health care services. It attempted to examine the relationship between accessibility and remoteness and utilisation of primary health care services; to identify the spatial variation within rural areas of Tasmania in self-reported access to primary health care services; while investigating how this pattern is related to accessibility, remoteness and socio-economic status. This paper highlights from the comprehensive study, the relationship observed between access, socio-economics, remoteness and the utilisation of primary health care services by residents of Meander Valley, Tasmania.

Meander Valley

Meander Valley is a large and diverse municipality in Northern Tasmania which is on the western boundary of the City of Launceston, which covers 3,821km² and has a population of 18,972 (ABS, 2009b). The region consists of small to medium size townships servicing industries such as agriculture

and forestry. However, within Meander Valley region there are also elements of urban residential areas which form part of the western city limits of the Launceston City municipality. The two main centres within this region are Deloraine (population of 2,746) and Westbury (population of 422). The entire area is classified as outer regional and assessed as being in the lowest 50% in Socio-economic status relative to the rest of Australia, and (ABS, 2006b).

This disadvantage depends on indicators such as income, education, employment of a community or neighbourhood as a whole. This measure of disadvantage also includes a lack of public resources and transport infrastructure (Pink, 2008). The Index of Relative Socio-economic Disadvantage (IRSD), used to measure this advantage and disadvantage within a geographical area, such as Meander Valley. As shown in Figure 1, there is a wide range of SES within the study area (ABS, 2006b). The dark shading indicates advantage and light shading indicates disadvantage within Meander Valley regions. As such, the 4th or 5th Quintile has a relatively high incidence of advantage and a relatively low incidence of disadvantage (ABS, 2006c).

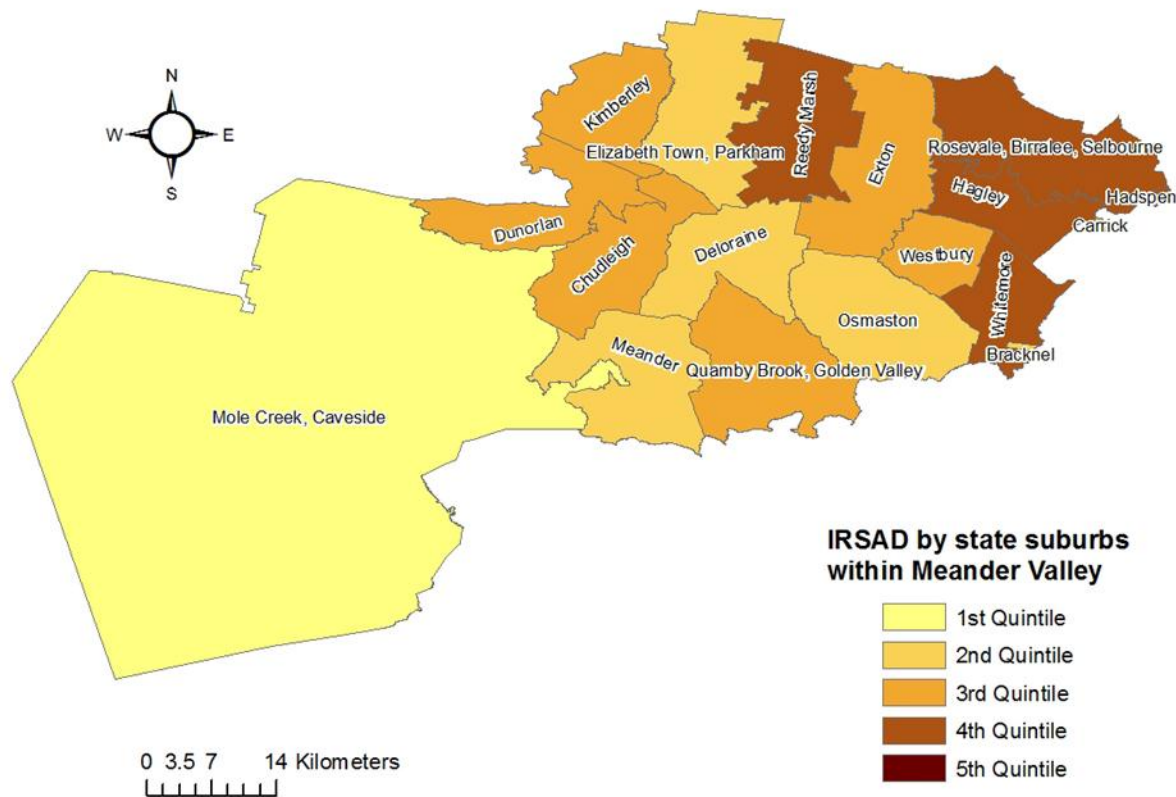


Figure 1: Index of Relative Socio-economic Disadvantage and Advantage within Meander Valley region.

Health services in Meander Valley

In 2010, there were 559 practicing GPs in Tasmania, with an average of 117.6 per 100,000 population in Tasmania. Meander Valley saw the rate of GPs in the region drop from 62 General Practitioners per 100,000 population in 2008 to 27.2 General Practitioners per 100,000 population in 2010. This municipality continues to have the lowest rate of GPs per head of population in Tasmania (General Practice Tasmania, 2008, 2010). Despite the observed decrease of GPs in Meander Valley, Barrett et al (2007) has stated other health services in the Meander Valley have increased over the past ten years.

The Meander Health map project and the redevelopment of the Deloraine Hospital and Westbury Community Health Centre as examples of this, where improvements in many services occurred (Barrett, et al., 2007). However, many health services in the Meander Valley region are serviced through outreach services on particular days, by visits on demand, or through telephone support. Regardless of the improvements, there have been a number of health care access challenges faced by Meander Valley residents (Barrett, et al., 2007).

BACKGROUND

Health care access remains a multifaceted concern for health professionals, health service providers, and policy makers, in Australia and internationally (Andersen, 1995). As with other aspects of population health, health care access issues have both similarities and differences across and within the various states of Australia (Turrell, Kavanagh, & Subramanian, 2006). Tasmania is a small island state, geographically contained and isolated off the south east coast of mainland Australia with a small population of with a population over n=500,000 (ABS, 2012). In addition, the population is also more widely distributed than any of the mainland States and Territories with more than 58% of the population living outside Hobart, the capital city (ABS, 2006a). As such, it was anticipated Tasmania possessed a unique relationship between regionality and population health issues including health care access.

Access in health

Defining what 'access' actually means has been problematic and challenging among health authorities, researchers and policy-makers for many years and there remains no clear consensus on its definition within the literature, nor an accepted way to measure it (Ansari, 2007). Despite this, a common framework has been outlined by Penchansky & Thomas (1981), which uses five interdependent factors to determine and aid an understanding of access. These aspects include availability, accessibility, accommodation, affordability, and acceptability. As a whole, this five-factor framework is comprehensive to include all possible factors of access, which enables decision makers to take into account both system and user characteristics.

An alternative access model has been proposed by Slifkin (2002), which focussed more on the end user rather than the system itself. This model also takes into account the potential health care barriers relevant to rural residents. From the point of view of the potential user, this model logically progresses through three stages. This includes a perceived need for the service, an assessment if they have the resources to access an appropriate service, and finally if this service is accessible in terms of time or distance (Slifkin, 2002).

Socio-economic status and health care access

To demonstrate Slifkin's accessibility model, it has been shown there is a complex interplay between socio-economic status and health outcomes. This relationship has long been a subject of interest to researchers, where family income, the socio-economic status variable, has the strongest positive association with total health care access (Scarinci, Slawson, Watson, Klesges, & Murray, 2001). However, it has also been shown socio-economic status requires a multi-dimensional understanding of many other factors such as family income, education levels, occupation, and ethnicity, which relate to the health care access aspects of affordability and acceptability (Strickland & Strickland, 1996).

Rurality and health care access

In addition to socio-economic status, rurality has the potential to impact on access and health outcomes. It has been shown that individuals living in rural and remote areas experience poorer health, increased incidence of diseases and higher mortality (Eckert, Taylor, & Wilkinson, 2004). Health workforce shortages, has been observed to further impact the health of individuals, especially in rural and remote areas and certain special-needs sectors (Productivity Commission, 2005).

In addition, individuals in rural areas differ from their urban counterparts in the way they perceive their own needs for health care. One way this has been conceptualised is the notion of a role performance model of health. According to this concept, individuals assume they are healthy as long as their performance is not seriously impaired, seek medical attention only when problems are severe, and devalue preventive health services (Strickland & Strickland, 1996). This is in keeping with a broader concept of geographical influences in health care access, which notes that place has both direct influences, such as distance while having indirect influences, such as the shaping of attitudes and beliefs (Judd et al., 2002).

METHODS

To achieve the research objectives, a mixed method approach was adopted, using a survey questionnaire and semi-structured telephone interviews. These methods produced information enabling an understanding of the health access issues within the study area and captured the specific choices and experiences of individuals in accessing health care. Meander Valley community was chosen as the target of the current research for three main reasons. Firstly, it is perceived by State Health authorities as a leading exponent of a primary health care approach and a community development approach to health planning (DHHS, 2009). Secondly, it was judged likely to show variations in socioeconomics, demography, health disparities and access to health services. Thirdly, a pre-existing relationship existed between the University and key health decision makers within Meander Valley.

Data collection

The self-reported health survey was administered (mail out and online) to residents in the Meander Valley municipality in Northern Tasmania, via a questionnaire using third party recruitment through the University Department of Rural Health (UDRH) Community network. The questionnaire was developed in consultation with key stakeholders of the UDRH Community network and a range of experts. The questionnaire consists of closed, partially closed and open-ended questions which cover the participants' socio-demographics; means of transport used to health care services; frequency of health care service use; costs of service; people's views towards health care services; and a number of additional questions related to health care access.

A random distribution of n=800 survey questionnaires were distributed to residents within the Meander Valley municipality of Tasmania, using stratified sampling. The response rate was 60.5% with n=484 completed questionnaires returned. A total of n=202 out of the n=484 survey respondents provided an answer to the open-ended question 33: "Are there any other comments you would like to make about health services in your area?" However, 23 were comments on the survey relevance to the respondent rather than responding to the questions. As such, n=179 survey responses were included in the qualitative analysis.

The qualitative data was obtained from two sources, firstly through open ended questions within the survey. The qualitative component provided detailed information on the perceptions of accessibility in this particular area. It was anticipated data analysis would identify meaningful disparities in health access between neighbouring communities associated with differences in socio-economic status and physical access issues. Information obtained from interviews could then be used to further explore these disparities.

The second source was through semi-structured telephone interviews. These were conducted with a total of 20 Meander Valley residents and ranged from 15 – 45 minutes in duration. Interviewees were drawn from two sources, including 13 individuals who indicated voluntary participation from the questionnaire (one later declining participation). The final eight individuals were recruited through a second source by through contacting individuals in areas who had a low survey response rate. These individuals were known from a previous health survey and were either interviewed or further snowball sampled from these known contacts.

Ethics approval was received from the University Human Research Ethics Committee.

Data analysis

Descriptive statistics such as frequency and percentage were used to describe nominal data distribution. Inferential statistical techniques are engaged where possible to determine significance of the results. Predictive Analytics Software (PASW) version 18 was used for statistical analysis. Interview data were transcribed and likewise entered into NVivo 8 which was used for data coding and analysis. In addition, answers to the qualitative survey question were de-identified and were also entered into NVivo. Using the auto-coding function of NVivo, data were collated based on question headings while integrity of the grouped data were achieved through double checking. Thematic analysis of data was conducted to identify key patterns and trends within the data and to compare the views articulated. In the first stage, broad categories were identified within an overall schema, and in the second stage, a detailed series of hierarchical nodes and sub-nodes were developed. Data were coded and, where necessary, extra nodes were built into the schema.

RESULTS

Demographics of questionnaire and interview respondents

The respondents of the questionnaire administered to the residents in the Meander Valley municipality consisted of approximately n=330 (68.2%) females and n=146 (30.1%) males. Further, when compared to the age profile for the Meander Valley in the ABS Census data (2010), the questionnaire data shows the younger age groups were under represented in the survey respondents and the older age groups were significantly over represented. For example, 32.6% (n=161) of responses were from the 65 years and over age group, which was more than double (16.7%) the rate of that year group indicated in the ABS (ABS, 2010). Additionally, n=338 (70%) of all survey respondents were Australian born with European ancestry while n=63 (or 13%) of respondents were born overseas.

Due to the lack of opportunity to select interviewees on the basis of demographics, all participants volunteered were interviewed. Seven interviewees were in the 35-44 age range, five in the 45-54 age range, four in the 55-64 age range, and four were aged over 65. A summary of the demographics including location, age and gender of those interviewed is presented in table 1.

Table 1: Demographic details of interviewees

Township	Gender		Age groups			
	Female	Male	35-44	45-54	55-64	65+
Caveside	1		1			
Deloraine	3	3	1	1	2	2
Dunorlan	1			1		
Elizabeth Town	1		1			
Exton	1				1	
Golden Valley		1			1	
Hadspen	2	1	2			1
Hagley	1					1
Mole Creek	1			1		
Quamby Brook	1			1		
Rosevale	1			1		
Westbury	2		2			
Total	15	5	7	5	4	4

Health service accessibility and utilisation

The use of local services

The data showed that 90.9% (n=440) of respondents stated they had a regular GP, while 55.2% (n=267) visit their GP monthly to yearly, 19.2% (n=94) weekly to monthly, and 12.2% (n=59) yearly to every five years. Respondents living in the most disadvantaged areas were more likely than others to consult their GP frequently with 77.5% consulting their GP at least monthly to yearly in comparison to 66% of those living in the least disadvantaged areas of Meander Valley. It was shown there was no significance in medical specialist attendance between the most and least disadvantaged areas.

It was shown 38.4% (n=186) respondents visited a medical specialist yearly to every five years while 31% (n=150) respondents said they visited a medical specialist more frequently. There were 28.1% (n=102) of respondents who indicated the Department of Emergency at the Launceston General Hospital was their most frequently used health care provider while 21.5% (n=78) reported the community health clinic was their next option and used this service for routine health check-up. It was shown 14.3% (n=52) of respondents were routinely receiving services from family and friends as shown in figure 2.

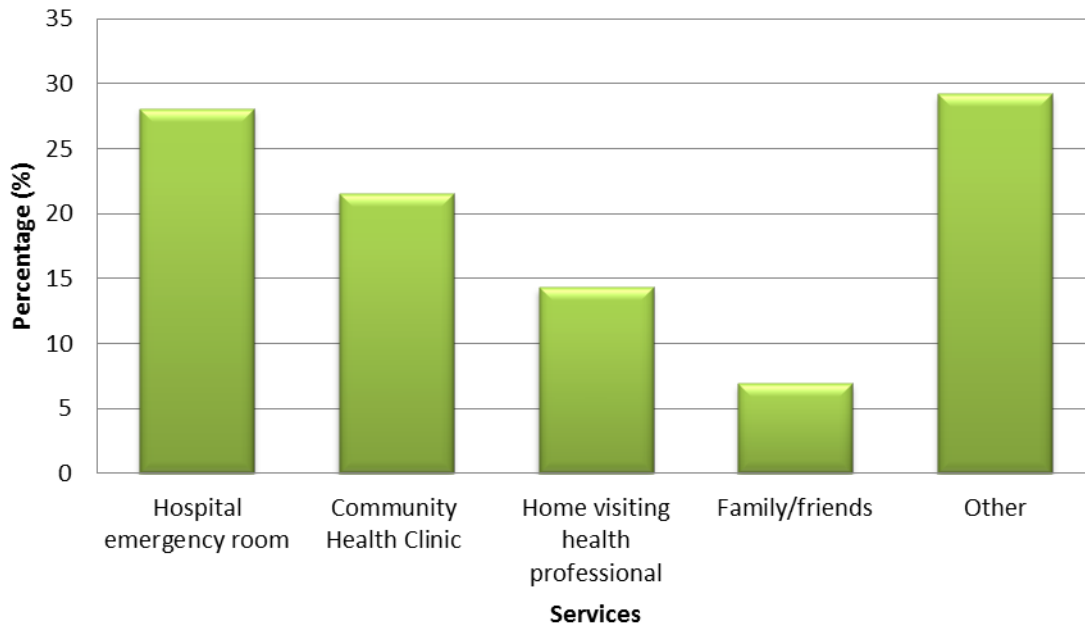


Figure 1 Respondents using other health care providers by percentage, n = 363

There were 39.8% (n=193) respondents who reported not using a routine health care provider, of those 75.1% (n=145) indicated the principle reason was they had never needed one, 6.2% (n=12) respondents cited they experienced transport difficulties, 4.7% (n=9) felt the cost of such services was too costly, while 4.7% (n=9) reported they disliked their local providers.

Availability

The need for more effective local after-hours and emergency services was the issue which was highlighted by both survey and interview participants. It was observed that it would reduce the need to travel to Launceston and it would create a greater sense of security. This was highlighted by one participant who had been living in the area for 18 months. He found the health service adequate for his needs, but he stated

... I wouldn't want to be needing emergency care for a heart attack or something like that. I come from interstate and I think I would have a better chance of survival (back there). (Participant 9)

While, another participant said

My daughter-in-law lives next door, she has three small children...[she] sent a message to say that the little baby who is three months old is sick, runny nose, fever and all the rest of it. I went over and had a look...and rang the doctor surgery to get an appointment in Deloraine. No-one was available, no-one. She was told that she will have to take it to a doctor in Launceston otherwise she will have to go to the emergency in the LGH and sit there and wait for hours...so the child is still at home and is still sick. (Participant 10)

A shorter ambulance response time was suggested as a partial solution with one participant relaying that she had to wait 52 minutes for an ambulance to attend a child in her care with a possible spinal injury, which was deemed a non-emergency. Other services identified as needing greater availability were adult dental services. Additional services which were highlighted to be essential but lacking services were x-ray, a defibrillator, kidney dialysis, mental health services and other specialist services,

such as paediatric and geriatric specialists. The absence of local services was the main reason, reported by 74.7% (n=162) respondents, for accessing services from outside of the region.

Accessibility

As there were challenging or limited services locally, 46.5% (n= 225) respondents reported using out-of-region services. 95.0% (n=214) of these respondents reported they travel routinely outside their local area to access health care services. As such, 73.8% (n=158) travelled weekly to monthly or at least monthly to yearly to obtain health care services which included one-off trip to seeking ongoing treatment. Additional reasons for seeking services outside of region included choice of doctor and being more convenient to access doctor from place of work such as Launceston.

The use of a private vehicle was the principal mode of transport for accessing out-of-region services for 67.0% (n=193) respondents. Other respondents reported they used community transport 8.0% (n=20), public transport 5.2% (n=13) and 9.6% (n=24) reported using other modes of transport, which included ambulance, cancer clinic bus and air travel to access used for out-of-region services. Public transport was dismissed as a viable option in the region, and many respondents who had private transport expressed concern at the difficulties they believed would be faced by those who did not have private transport. In addition, in some cases many of these options were not suitable, for example one interview participant shared her frustration.

I have an elderly mother and it has been really tricky to organise patient transport to get her the necessary treatment for her wounds....specialist wound care is not available in a rural area.
(Participant 19)

Even in Hadspen, 7 kilometres away from Prospect an outer suburb of Launceston, transport was perceived as an issue for some.

...there is an issue here for transport for elderly people that can't drive and they have to get to appointments. (Participant 14)

Only 22.7% (n=49) stated their travel required an overnight stay. However, due to the lack of local after hours or emergency services, when a situation occurred, which required treatment individuals tolerated the problem, rather than attending the Launceston General Hospital department of emergency services.

Further, it was found 36.4% (n=88) who were not using out-of-region services were from the most advantaged areas within Meander Valley, while 2.9% (n=7) of respondents were from the most disadvantaged areas. Nevertheless, those within the lowest quintile areas were those with the most services, such as Deloraine. As such this may explain the difference in data observations as those in these areas may have had a different understanding of the meaning of accessing services away from home.

Affordability

In terms of affordability, the study showed 51.2% (n=248) of respondents reported they had private health insurance coverage, which was consistent with 53.0% the national average in 2007-2008 (ABS, 2009a). However, what is noted within the data is 8.5% (n=24) were from the most disadvantaged areas while 35.0% (n=87) of respondents were from the most advantaged areas, who reported they had private health insurance. For those who reported not having private health insurance, the most common reported reason was they could not afford private health insurance for themselves or their dependents.

Meanwhile 24.4% (n=48) respondents reported the public health service was good enough and private insurance cover is unnecessary. Conversely, it was highlighted by one interview respondent that bulk-

billing (free care) was readily available in GP Clinics in the Meander Valley, which was in contrast with Launceston based clinics. This was contradicted by two survey respondents, who stated the cost of GP services was excessive and the other saying bulk-billing was clogging up the system.

In addition to private health insurance, 58.1% respondents, (n=111), reported travelling and any cost incurred from accommodation when accessing out-of-region health services was affordable. However, 41.9% (n=80) respondents felt these out of pocket expenses made accessing care unaffordable. The challenges of affordability were made particularly apparent for those who required regular specialist treatment.

I had to go to radiation therapy every day and I found it was probably cheaper to take my own car than pay \$20 a trip for the community car. I mean people that use it are people that actually need it, people who can't drive or people who don't have access to a car. I was going to Launceston five days a week for eleven or twelve weeks and it was a huge burden on our finances, and I wasn't eligible for any travel assistance because you have to live further away than 70 km.....
(Participant 17)

Acceptability

In addition to cost and affordability, there were 75.4% (n=365) individuals who indicated they were having regular physical examinations or 'check-ups'. As such, the data showed these individuals were from the most advantaged areas 30.4% (n=111), while only 10.1% (n=37) were from the least disadvantaged areas of Meander Valley. When highlighting their reasons why they were not having regular check-ups with health professionals, most indicated that regular health examinations were not needed as they were healthy. The remainder of respondents felt they or did not have the time or that it was not important for routine check-ups, whereas 19.8% (n=23) had a dislike of going to the doctor or lacked of confidence in their services. In some cases there was preference for alternative health treatments

I went to the doctor and...he put me on a high dose of an inhibitor, two days later he put me on a dose of something else... a week later he wanted to put me on the third one....I booked into a retreat and the naturopath referred me to a dentist who identified an abscess and said it will be compromising my immune system and impact on my blood pressure. Then at the retreat I found I had sleep apnoea and that affects blood pressure. So I feel that through that alternative means I am getting to the bottom of why my blood pressure is high. (Participant 2)

In addition to the lack of confidence and seeking alternative health treatment, some individuals choose to live in Meander Valley because of health-related lifestyle issues and were prepared to compromise on access to formal health services. However, the raw data suggests those with low SES had a lower perceived need for preventative health care than those with high SES; yet no statistical significance was demonstrated. Nevertheless, this was consistent with the role-performance model of health likely to be held by those in rural areas (Strickland & Strickland, 1996). As such, health promotion programs should take into account such variation in health perception between difference groups or locations.

The view that the local health services were adequate were strongly agreed or agreed by 48.2% (n=204) of respondents. However, 29.8% (n=126) disagreed with this statement and 22.0% (n=93) were not sure. For example one interview participant stated

You can't get good quality service in an isolated place: you are just not going to. (Participant 16)

To add to these statements, 66.3% (n=268) indicated they felt happy after visiting a health service, while only 8.7% (n=35) either disagreed or strongly disagreed. 49.0% (n=197) of participants indicated the local health services were adequate in the Meander Valley area. It must be noted, those questionnaire

participant living within the 3rd quintile, as outline in Figure 1, demonstrated a different pattern to the remaining questionnaire participants. This quintile included Westbury, where there was widespread dissatisfaction with the GP Clinic, which closed down during the study period. It is likely that this feature is responsible of the significant results achieved, rather than the SES itself.

Despite the challenges with the Westbury GP Clinic, the Deloraine Hospital and Westbury Community Centre were reported to have good and efficient services as they provided regular podiatry and diabetes services. This was in contrast to the reports made by interview respondents regarding the services at the Launceston General Hospital. In addition, the child dental service in Deloraine was also observed as a great investment for the community. Discussion and poor reports of the local health services were often intertwined with praise. For example, these widely divergent experiences were highlighted by one participant who state

At the Deloraine hospital...the dietician, podiatrist and physiologist were all good... (but) a friend of mine was having a stroke and they took him there and they couldn't do anything, like having a hospital without a hospital. (Participant 7)

Similarly, another participant had changed GPs after an unsatisfactory experience in Deloraine, but was still hopeful of improved local services. She said

Actually my last visit to the GP wasn't very successful to be honest....I had a problem with my groin and she thought it might be osteoarthritis....I have since went to a doctor in Launceston and he identified a hernia straight away....if I wasn't working in Launceston obviously it's a time and cost factor....we need more incentives to get more GPs in rural areas.... (Participant 3)

Overall, within the data, it is observed some residents continue to review their health access options and often change between service providers in response to perceptions of availability, acceptability and accessibility.

DISCUSSION AND FUTURE RESEARCH DIRECTIONS

The Index of Relative Socio-economic Disadvantage and Advantage (IRSDA) for the Meander Valley region showed those who on the western boundary of the city of Launceston were among the more advantaged members of the Meander Valley municipality, while those on the more eastern areas of the municipal have are more disadvantaged socio-economically. The socio-economic disadvantage in these areas reflected not only the health disparities and poorer health conditions, but also the affordability to seek care which is compounded by the lower levels of available GPs, but also local specialist services, other health services and the ability to afford private health insurance.

The lack of local services or the quality was the main motivation to seek care outside of the region, which for many was unaffordable. This was particularly evident for those where it was logistically impossible due to an inability to drive and relied on available public services, community transport or the generosity of others. As such, it was the department of emergency at the Launceston General Hospital followed by Community Health Clinics which were most frequented by those from the Meander Valley region. This highlights the needs of the community which are not being met, in terms of accessibility, acceptability or affordability, including the need for an after-hours GP within a practicable distance from those in the region.

Additional challenges which were highlighted related to the need for greater service provision for such things as specialty services. This includes greater availability, accessibility, accommodation, affordability, and acceptability to services such as dialysis; defibrillators; x-ray; chronic disease management; hearing

services; optometry; podiatry; social work; and mental health services. It must be noted these services require greater feasibility studies to be conducted.

Despite this it must be noted, the study did not target or engage balanced numbers of participants by age and gender within the Meander Valley area. This may have led to a bias in views, attitudes and concerns regarding the health services and health needs of the residents in the area. In light of the study limitations, future research requires a greater focus on more balanced numbers of participants by age and gender. In addition future research needs to specific focus on health and mental health needs of the youth and young men in non-metropolitan areas of Meander Valley. Such studies must focus on what, if and how these services are accessed by this cohort. Lastly, future studies are required to focus on the assessment of walkability and public transports to health service locations within the meander valley area.

CONCLUSION

Primary health care plays a significant role in the well-being of individuals in a society. However, access to health care services varies among individuals and communities due to factors such as socio-economic status and spatial location in relation to health services. This study was conducted with the aim of exploring health care access by the population of the Meander Valley in Tasmania in terms of their socio-economic status and remoteness. A number of recommendations were made from the research which included such things as Meander Valley health centres being supported and expanding the services available with a priority given to adult dental services; further assessment of emergency service needs in the area; a feasibility study on providing high use specialty services such as dialysis, defibrillator, x-ray, including high prevalence of chronic diseases; more support for the recruitment, retention and appropriate training of GPs, including a feasibility study on an after-hours GP service within the area; and such things as promoting and greater support provided to the community car scheme with cost reduction to be considered for those who use this service regularly. These recommendations aim to provide guidance and a focus for current and future health care services and to improve the well-being of the Meander Valley community.

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