TEMUKA, SOUTH CANTERBURY, NEW ZEALAND: COMMUNITY ASSESSMENT, NEEDS ANALYSIS AND HEALTH PROMOTION

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INTRODUCTION

This report outlines the community assessment, health interventions and recommendations, and evaluation of the Temuka, South Canterbury area by a group of Year three students from the School of Nursing at Otago Polytechnic, over a three-week period in August, 2018.

The students undertook a community profile of Temuka based on the Community as Partner model (Francis, Chapman, Hoare & Birks, 2013) and the CHASE model developed by Ross, Crawley and Mahoney (2017) to support the student's learning and outcome for this project.

Temuka is a rural town in a river delta surrounded by productive agricultural industry. It is 15 kilometres north of Timaru which is the main city and the rural hub of the South Canterbury region in the South Island of New Zealand as depicted in Figure 1.

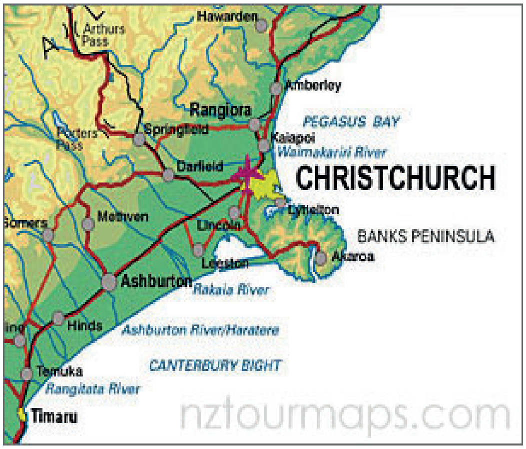

Figure 1: Map of Canterbury New Zealand
Source: New Zealand Tour Maps

The town of Temuka is South Canterbury's second largest centre and is situated on State Highway One, 18km north of Timaru and 145km south of Christchurch (Wilson, 1991). It lies on the southern part of the flat alluvial Canterbury Plain near the junction of the Temuka and Ōpihi Rivers (McLintock, 1966). The geographic boundaries of this Community Profile includes the following geographical boundaries encompassing the main township of Temuka, and the settlements of Arowhenua, Georgetown, Ōrakipaoa, and Milford Huts.

The Community-as-Partner Wheel (Anderson & McFarlane, 1996 as cited by Francis, Chapman, Hoare & Birks, 2013) was used as a model to assess the community. This model describes the core of the community surrounded by subsystems which aid in identifying the function together as a 'whole' (Francis, et.al, 2013). The eight subsystems of the Community-as-Partner Wheel are: communication, recreation, health and social services, physical environment, transport and safety, economics, education and politics and government (Francis, et al., 2013). These eight subsystems influence each other as they are not clear-cut and can overlap each other (Francis, et al., 2013). The information provided in this community assessment was obtained by the students from a variety of resources including data and information collected from a foot survey of Temuka, secondary information in the public domain, primary information obtained from speaking to community leaders, and personal knowledge of the area.

From this, a needs analysis and SWAT (strengths, weaknesses, opportunities and threats/challenges) analysis was developed to identify the vulnerable groups in the community and identified health needs.

Ethical Approval was granted by Otago Polytechnic Ethics Comittee, including Māori consultation with the Kaitohutohu office at Otago Polytechnic.

Needs analysis

The needs analysis involved mapping the findings of the Community Wheel, and the interviews with community leaders using the social determinants of health. These are the major factors that circumscribe people's life and health and have been found to be more influential in deciding health status than medical care. The ten social determinants of health are: biological or genetic characteristics; the influence of culture and gender; physical environments and geography; social environments including inclusion and exclusion; education and literacy factors; child health and development; employment and financial status; social support networks, including access for vulnerable groups and volunteer networks; health services and resources, and health practices and services that enhance individuals' coping skills (McMurray & Clendon, 2015).

A strong theme of health literacy-related was identified as a risk in Temuka by the students who defined their target population as a cross-section of the vulnerable groups. Therefore, the target population and unmet need was identified as: *Temuka people who are socio-economically disadvantaged and who lack the health literacy and social connectedness to independently access existing affordable health support services available to them. These include, but are not limited to: elderly, Māori, youth, and those with detected and undetected chronic health conditions*. From this a SWAT was developed to identify the major vulnerable populations and their unmet needs in the community and these are replicated in Table 1 below.

Vulnerable populations	**Unmet needs**
Elderly without sufficient health status, cognitive ability or quality social networks	25% of the community is aged 65 years and over and so are more vulnerable to illness, complex health conditions and mishaps associated with the aging process. The pending shortage of space in the existing rest home could mean that some of the elderly population will need to move from Temuka to access appropriate care. Although it cannot be assumed, of the 555 single occupied homes in Temuka, there is a reasonable chance that many of these are single elderly people. Many of those in the retired population are on a reduced income.
Māori especially males over 40 with lower health literacy	There are approximately 500 Māori living in Temuka (12% of the Temuka community) and are statistically more prone to certain chronic health conditions such as mental illness and diabetes.
Youth lacking social support and access to appropriate health services, especially failing in the education system.	32% of youth lack formal education qualifications and this may indicate an inadequacy of accessing and comprehending health-related information, diminished income and employment security, less control over life circumstances and fewer life opportunities.

Table 1: Vulnerable groups and unmet needs in Temuka
Source: Authors

Access issues

Access to local and national services and supports and funding entitlements may be denied to vulnerable populations – particularly those who live with chronic health conditions and lack health literacy or awareness of the availability of these services. Other access barriers may include:

- Poor promotion of existing services, ineffective outreach, or diminished self-efficacy;
- Failure of the health system to identify candidates for screening underlying health conditions such as diabetes, cardiovascular disease, peripheral vascular disease;
- A stoic rural attitude (of males in particular);
- Out-of-pocket costs, and the inability to have release time from work for health appointments;
- Inadequate public transportation. The lack of appropriate, available, accessible, acceptable and affordable public transportation raises concerns for the safety of those needing to access local and specialist health care out of the district. Absence of transport also increases the potential for social isolation for those across all age groups who have no way of getting around the town and district.
- The prevalence of health care information and communication with service providers such as Work and Income being digitalised lends to the inaccessibility of needed and sought-after information for many due to inadequate digital literacy.

Needs Analysis

We came up with the following question as an identified health need *Among rurally-based, socio-economically disadvantaged people or those with poor health literacy, does plain English health promotion enhance access to health services?*

It is difficult to analyse the health of rural populations because they constitute some of the richest and poorest of New Zealanders, and averages can therefore distort the true picture for those at greatest risk of experiencing health disparities and inequities (Haynes & Gale, 2000). Living in a rural area can be healthier than living in cities in some respects, even taking deprivation into account. A 2007 analysis comparing the health status of rural and urban New Zealanders found rural populations to be healthier than urban populations overall, although less markedly in rural centres than in "true rural" locations. Chronic conditions such as heart disease, diabetes, asthma, arthritis and osteoporosis are less marked in rural areas than in cities, although rural men have more spinal disorders. Rural people have significant protective factors, including better diet and more activity, and their life expectancies are similar to urban counterparts. Rural people tend to drink and smoke more than urban people, however in deprivation, rural people are more likely to reduce consumption.

Access to health care seems to be a problem for some rural people as they utilise health services less, have barriers to accessing eye treatments, with females taking up less immunisation, and rural males more likely to experience injury and poisoning (Triggs, 2007). Rural doctors (GPs) tend to cost less than their city counterparts. True rural populations are more likely to utilise dental care and seek complementary medicines. Females in rural centres like Temuka are the most likely cohort to use hospitals. Rural people report better health status than their urban counterparts, with better physical functioning and role stability in females, and better general and mental health in males (Triggs, 2007).

While it can be argued that there is some degree of personal choice involved in whether individuals have a poor health risk profile, there is clear evidence that external factors such as environment, opportunity, and community culture have strong influences particularly when the social determinants of health are considered (McMurray & Clendon, 2015). For example, access to affordable healthy food can often be poor in smaller communities and this, coupled with lower incomes in these areas, adversely affects the quality of peoples' diets, and the prevalence of obesity and chronic disease (National Rural Health Alliance, n.d.). Deprivation can exacerbate the remoteness of rural communities, further reducing their access to these determinants. Health risk factors like smoking, excessive drinking, illicit drug use, lack of physical activity, inadequate fruit and vegetable intake and obesity have powerful influences on health, and Australian researchers have found clear inter-regional differences between the prevalence of these (Australian Institute of Health and Welfare, 2017).

BARRIERS TO ACCESSING HEALTHCARE

Access is seen as a key component of health and is a particular challenge in the provision of rural health services. Levesque, Harris and Russell (2013) define access as the opportunity to identify healthcare needs, to seek healthcare services, to reach, obtain and use health care services, and to have a need for services fulfilled in the form of an improvement in health status. Access is recognised as the successful meeting of health-seeking motivation by patients and their families. A model put forward by Levesque, et.al., (2013) suggests there are five junctures at which the health system needs to meet individual's health needs, and five corresponding milestones in patients' health seeking behaviour. These are: care that is *approachable* when the patient has sufficient health literacy, beliefs and trust to perceive a need for care; *acceptable* when the patient has sought culturally safe options for care; *available* when the patient has the mobility, transportation and social support to reach out to the health system; *affordable* when the patient has secured sufficient income to pay for health care; and *appropriate*, when the patient has been able to engage with the system, empowered by good quality information. This should result in better health care outcomes, and the ability for the person to prosper with improved health status.

In a rural context, the availability of health care professionals, and the rural culture exacerbate access issues. Specific concerns include socioeconomic deprivation, geographical barriers and distance, transport, telecommunications, the cost of accessing services, and service acceptability. These isolate communities which frequently have poor levels of internet access, education or digital literacy, and socioeconomic deprivation. Overcoming these barriers leads to greater out-of-pocket costs (National Health Committee, 2010).

Transportation, geographic distance and weather issues can be overcome if the rural patient and their family have access to community supports and rurally-located services such as a local van operator (Brundisini et al., 2013). However, even if rural populations seek out health care, one-quarter of New Zealand rural general practices are unable to recruit the necessary number of GPs and one-third of rural pharmacies have difficulty with recruitment (Lawrenson, Reid, Nixon & Laurenson, 2016). This, coupled with low health literacy, makes rural patients feel more vulnerable. A long-term therapeutic relationship is valued; and urban health models culturally marginalise rural patients, especially if their health literacy is low. This is often mitigated, as the students found in Temuka, by a culture of self-reliance and community belonging (Brundisini et al., 2013).

Reducing rural barriers to healthcare

Community cohesion is a significant protective factor supporting the health of people in rural centres such as Temuka (Brundisini et al., 2013). In partnership with Temuka people, healthcare providers have made significant contributions to the improvement of health status in Temuka residents (as shown in the above community assessment), but this cannot result in systematic improvement without the power to address the social determinants compromising rural patients' health status, which is beyond the scope of practitioners to systematically address (National Advisory Committee on Health and Disability, 1998).

Rural access to primary healthcare remains a priority for policy makers. The National Health Committee (2010) identified that to protect and improve rural New Zealand communities' health, more effective investment is required in:

- linking rural communities with comprehensive primary health care;
- supportive technology (medical and non-medical);
- visiting services and transport support;
- supportive business models based on consistent policies;
- community governance enabling tailored, appropriate solutions;
- increased scopes of practice for practitioners such as nurses;
- flexible, sustainable and efficient contract and funding arrangements.

Inequities in health care

The inequity of provision of health care between urban and rural populations is no secret, and the Ministry of Health [MOH] has responded with free and subsidised services designed to close the gap experienced by rural people (MOH, 2011). For instance, it's Services to Improve Access scheme offers funding to reduce inequalities among those populations that are known to have the worst health status – Māori, Pacifika, and those with a high deprivation index (MOH, 2014). Here, the problem with averages may work against the most deprived people of Temuka, as the strict funding criteria and population-based funding may exclude economically disadvantaged rural people if their decile rating is masked by the relatively high-income status of land-owners.

Travel costs for GP visits, outpatient attendance and laboratory tests is a significant cost and deterrent of accessing health services. Distance was the major determinant of costs. Around 8% of those surveyed reported receiving financial assistance such as publicly-funded subsidies to support their transportation costs. For 13% of those surveyed, the out-of-pocket cost of transportation and lost wages to visit a free health practitioner/ publicly-funded service was significant. The risk of under-utilisation and inaccessibility is apparent in feedback to the researchers that these costs were difficult to afford, and to justify (Fearnley, Kerse & Nixon, 2016). The concept of access to healthcare is a complex area that combines patients' attitudes, motivations and capacity for reaching out to health services with the ability of the health services to tailor and make available the right care, at the right time, in the right way. The cost of time and transportation in obtaining healthcare imposes and additional cost burden on Temuka people compared with their wealthier or more urban counterparts, including out-of-pocket expenses for seemingly free health services.

Health literacy or illiteracy!

When it comes to socio-economic, and to a certain extent rural New Zealand, information is power and the absence of adequate information is distinctly disempowering. Health literacy intersects a two-way relationship between the person and the health system. For individuals, it is a function of people's general literacy skills and knowledge, along with psycho-social factors, such as familiarity with the health topic and system, the amount of stress the person is under, the time and resources available to the person, and their confidence, attitudes, values and beliefs. However, navigating the health system requires significant literacy skill. The health system is complex and not intuitive to use, with multiple siloes and its own culture, jargon and hierarchies; processes are confusing; funding criteria are complex; health issues can be complicated, especially in the case of chronic or co-morbid conditions; the health workforce can underestimate the communication skills required, and health resources are complex and come from multiple sources (Falvo, 2011; Ministry of Health, 2012). Meanwhile, people are required to develop ever-increasing health literacy. People are living longer, with a wider range of health issues, there is a trend towards self-management of chronic health conditions and wellness; and ethically there is an emphasis on autonomy, which translates into self-responsibility for health decisions. The health system is in a state of dynamic change, with exponential increases in the number and complexity of new technologies and the amount of health information available, especially on the internet. The New Zealand population exhibit poor health literacy regardless of employment status, educational achievement or ethnicity with vulnerable populations who often need the most empowering health information typically have poor health literacy skills (Ministry of Health, 2012).

Health promotion needs to be understood as comprehensive care, involving not only the provision of health care services, but also knowledge dissemination and the facilitation of access to these services. There is a place for written material in helping people with literacy issues to make sense of their healthcare needs. For instance, a person's literacy may be low, but this does not necessarily prevent them from reading a document, if it is written in plain, concrete terms and they have time to digest the information. Falvo (2011) describes how a simple pamphlet can provide useful patient education that they can refer to at home.

We created a plain-English health resource providing easy to understand information about affordable existing holistic health and social support services would empower our target population to access health services to which they are entitled. This literature review shows that, among rurally-based, socio-economically disadvantaged people or those with poor health literacy, plain English health promotion resources can enhance access to health services.

HEALTH RESOURCE

Considering the key themes from the analysis above (health literacy challenges, access issues, social isolation, cost and transportation), the students decided to develop a plain-English brochure and poster summarising the affordable holistic health and support services available to Temuka people.

- The poster and brochure feature:
- a magpie, which is a recognisably Temuka mascot;
- a plain English format (Did You Know?");
- short, easy to understand list-form descriptions of the services available;
- a focus on free, cheap and subsidised health support options;
- 'calls to action' explaining exactly how to make use of each service.

The resources features a wide range of free and affordable services in one document, with the underlying message being: *Let us navigate the health system so you don't have to.* It provides a one-stop-shop of key information at the fingertips of the reader, in an approachable style and a format that can be taken away and studied in privacy by the people who receive it. The following distribution strategy was developed;

- Sharing the draft resources at a community meeting;
- Gifting the brochure and poster artwork to the community;

- Encouraging the community to fund the printing of the brochure using philanthropic and/or community grant mechanisms such as the Community Trust grants scheme;
- Recommending brochure distribution via a mass mechanism such as the Temuka Telegraph;
- Placement of the posters on the numerous information boards around the town.

A health promotion strategy was developed for the community's use of the resources using a community nursing intervention to outline the aims, goals, activities, learning outcomes if relevant, timeframe, and resources required for a successful outcome of the resource (Francis, et.al., 2013).

Aim	Goals/ success indicators	Activities
• To reduce barriers and inequities in healthcare for vulnerable populations (e.g. the elderly, Māori, youth, those with chronic health conditions and the low socioeconomic population) of the Temuka community. • Empower vulnerable populations with useful, understandable information	• Encourage use of existing free and affordable primary health services • Increase target population's ability to self-manage their healthcare needs by reducing their need to hunt for information regarding their entitlements; • Reduce demand for secondary healthcare services by providing information supporting earlier intervention.	• Find out on these populations' behalf what free and inexpensive health and support services are available • Communicate these in a brochure and poster format (see health promotion marketing plan below) • Encourage the widespread distribution of the brochure and poster in Temuka so that it is easy for the target populations to access

Table 2: Health promotion aims, goals and activities
Source: Authors

EVALUATION

Evaluation occurs after needs have been assessed, a diagnosis or problem definition arrived at, goals and plans established, and implementation put into place (Falvo, 2011). Evaluation measures the degree to which the goals have been achieved.

The aims set out in the students' strategy, with attendant success indicators, were to:

- Reduce barriers and inequities in healthcare for vulnerable populations, measured by increased utilisation of existing free health services;
- Empower vulnerable populations to present earlier with health concerns utilising existing affordable services, with a reduction in demand for secondary healthcare services by providing information supporting earlier intervention.

We identified that it is difficult to measure these indicators in a three-week project. However, they held a consultation session with Temuka community leaders on August 2, 2018, and their response about the value of the process, the project, and the resource was favourable. The verbal feedback received at the time acknowledged the comprehensive nature of the brochure, and its integration of a wide range of health-supporting options and intangibles such as transport.

CONCLUSION

The Temuka community is a resilient, close-knit community with a strong sense of self-determination and inclusiveness. However, some vulnerable sub-populations may be missing out on needed mental and physical healthcare. The reasons for this are complex and relate to the interplay between the health system, and the individuals themselves. The community's strong volunteer network, and its grass-roots health-enhancing services are highly protective of the vulnerable. The areas of greatest risk which we identified came at the intersection of low health literacy, low socio-economic status, and social isolation.

In response to this, the students created an easy-to-digest health resource pointing those people in the direction of existing free services.

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