Southern Grampians & Glenelg

Community Food Security Needs Assessment

Food Security Working Group

Southern Grampians & Glenelg Primary Care Partnership

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Executive Summary

'Food security – access and supply' is one of the five health promotion priorities of the Southern Grampians & Glenelg Primary Care Integrated Health Promotion Plan 2009-2012. The *Food Security Working Group* was formed from Primary Care Partnership member agencies to address the issue. The group conducted a local community food security needs assessment across the catchment over 2009 and 2010. This report outlines the methods, findings and recommendations of the needs assessment process.

VicHealth has identified population sub-groups 'at risk' of food insecurity. Existing **population data** was sourced to describe these sub-groups in the Southern Grampians and Glenelg Shires.

A **review of existing programs** identified 49 initiatives within the catchment that address elements of food security or emergency food relief. Schools, health, welfare and community organisations are involved in program delivery.

> Food Security is the state in which all persons obtain nutritionally adequate, culturally acceptable, safe foods regularly through local non-emergency sources [1]

Mapping of food outlets and public transport routes identified that fresh food outlets are centralised in town and Shire centres. Public transport options across the catchment have improved in recent years through the South West Community Transport Program.

A **Victorian Healthy Food Basket Survey** was conducted in all eligible stores across the catchment. It was found that food availability was lower and food cost higher outside of the main towns in the Shires. The results also provide a baseline for future comparisons and monitoring.

The **Southern Grampians and Glenelg Household Food Access Survey** was conducted to gather demographic and quantitative data on food insecurity in vulnerable populations. 536 community members participated in the survey from across the two Shires. Results provided quantitative data on food insecurity and suggest that food insecurity adversely affects food variety. Respondents indicated interest in a number of potential initiatives to increase food security at the local level.

Focus groups were conducted in both Shires with 20 service providers and 38 community members consulted. The focus groups provide descriptive data regarding food access, availability and affordability, food use, emergency food relief and possible solutions. Suggested strategies to improve food security centred on education and skill building programs and creating supportive environments.

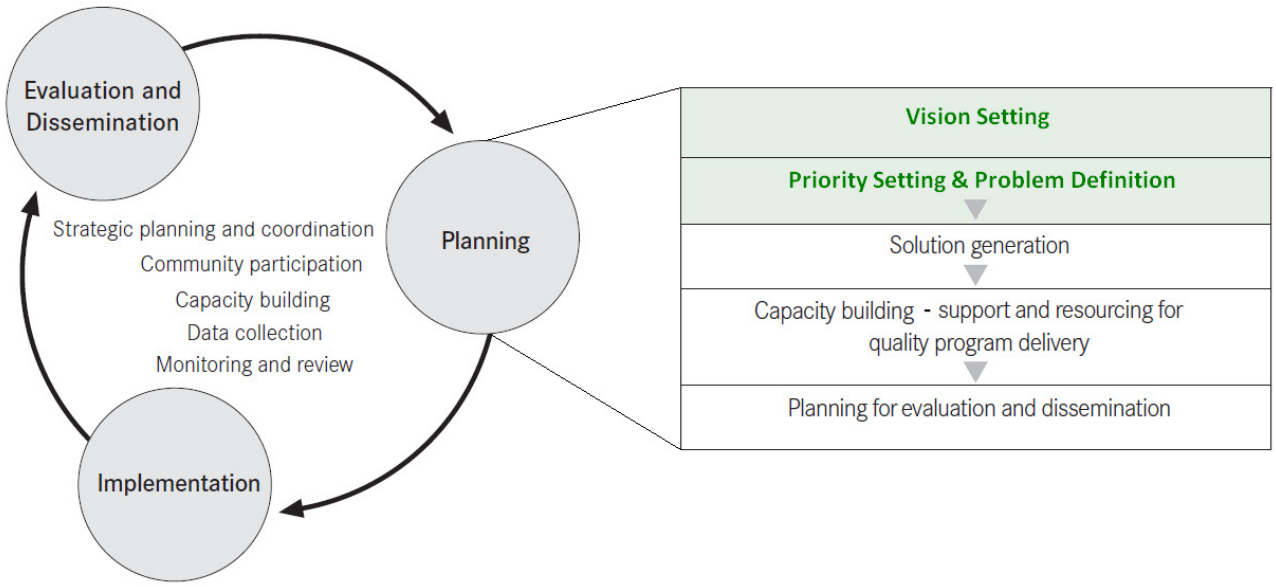
The information collected provides a starting point for solution generation. Health promotion initiatives to improve access to nutritious foods across the Southern Grampians and Glenelg Shires require integrated planning and collaboration using a multi-faceted approach. The *Food Security Working Group* proposes a set of general and targeted recommendations. This includes advocacy and policy to enhance physical access to healthy food, evaluating, strengthening and promoting existing initiatives and services, building personal knowledge and skills to budget, shop and cook healthy food and increasing social access through community initiatives that focus on growing, sharing, cooking and eating healthy foods.

Introduction

The Southern Grampians & Glenelg Primary Care Partnership (SGG PCP) has identified 'food security – access and supply' as one of five health promotion priorities areas for the Integrated Health Promotion Plan 2009-2012. Promoting accessible and nutritious foods is also a health promotion priority area for Victoria for the years 2007 to 2010[2]. The *Food Security Working Group* was established with representation from member agencies with the SGG PCP and other interested stakeholders across the Southern Grampians and Glenelg (SGG) catchment to address this priority issue (Appendix 1).

In order to fulfil the requirements of **Phase 1: Planning** of the Integrated Health Promotion Cycle[3] the *Food Security Working Group* first undertook the **Vision Setting** and **Problem Definition** steps (Figure 1). A local food security needs assessment was planned and conducted over 2009 and 2010. This included a range of research methods to investigate local circumstances and identify gaps in current activities in the SGG catchment areas. This report outlines the methods and key findings of the needs assessment process followed by a discussion of results. A set of key recommendations for future collaborative health promotion action is listed in the final section. The *Food Security Working Group* will consider these recommendations for action during the next **Solution Generation** step in the planning phase of the Integrated Health Promotion Cycle.

Figure 1. The Integrated Health Promotion Cycle [3, pg.31, 32]



Research strategies

The *Food Security Working Group* identified a range of food security needs assessment examples that have been conducted in Victoria[4-7] and one in the United States[8, 9]. These examples were used to guide the planning of the local needs assessment process in the Southern Grampians and Glenelg catchment areas.

The *Food Security Working Group* set out to investigate and report on the level of food insecurity by conducting a comprehensive food security needs assessment from 2009 to 2010. Seven research strategies were implemented (Box 1). This report will outline the research methods and results for each strategy and provide recommendations for future health promotion action.

Box 1. Needs Assessment Research Strategies

1. **Discussion paper**

   Develop a discussion paper outlining literature on food security and its implications

2. **Community profile**

   Collate existing and available demographic & socio-economic data into a brief community profile to assist in the identification of 'at risk' population sub-groups and locations

3. **Food and nutrition program audit**

   Investigate and collate a list of previous and existing food and nutrition programs addressing the determinants of food security in the Glenelg and Southern Grampians Shires

4. **Victorian Healthy Food Basket Survey**

   Investigate food cost and availability by using the Victorian Healthy Food Basket Survey to asses all stores across the catchment

5. **Households food access survey**

   Conduct a household food access survey to gain demographic and quantitative data on local experiences in households 'at risk of food insecurity

6. **Mapping**

   Complete spatial mapping of food outlets and public transport routes to determine physical access to nutritious food across the catchment

7. **Focus groups**

   Consult with the community through focus groups in order to gain qualitative data on food insecurity in vulnerable populations

Discussion paper

Method

A discussion paper was written[10] to provide background information to all members of the *Food Security Working Group.* It clearly defined the term food security, outlined the determinants of food security, provided information on the prevalence of food security patterns, and identified sub-population groups at risk of food insecurity. Gaps in the literature were identified and the *Food Security Working Group* set out to conduct local research to fill these gaps in information and understanding of how food insecurity is experienced by people living in the Southern Grampians and Glenelg catchment. The following results section summarises the information written in the discussion paper.

Results

Definition

There are many know definitions of the term 'food security' that have been used to guide research, program and policy development. The *Food Security Working Group* selected the definition from the Victorian Health Promotion Foundation (VicHealth): 'the state in which all persons obtain nutritionally adequate, culturally acceptable, safe foods regularly through non-emergency sources'[1].

Dimensions

Food insecurity manifests in many different ways[11]. Barriers to accessing food cover a complex and broad range of underlying political, economic, environmental and social factors that ultimately determine food choice behaviours[12]. The Food and Agriculture Organization of the United Nations identified four dimensions of food insecurity determinants: access, availability, utilisation and stability[13] (Box 2).

Box 2. The four food security dimensions

1. Access	
Economic and physical access to food	
2. Availability	
Physical availability and price of food	
3. Utilisation	
Food preferences, dietary intake, knowledge and skills	
4. Stability	
Stability of the above 3 dimensions	

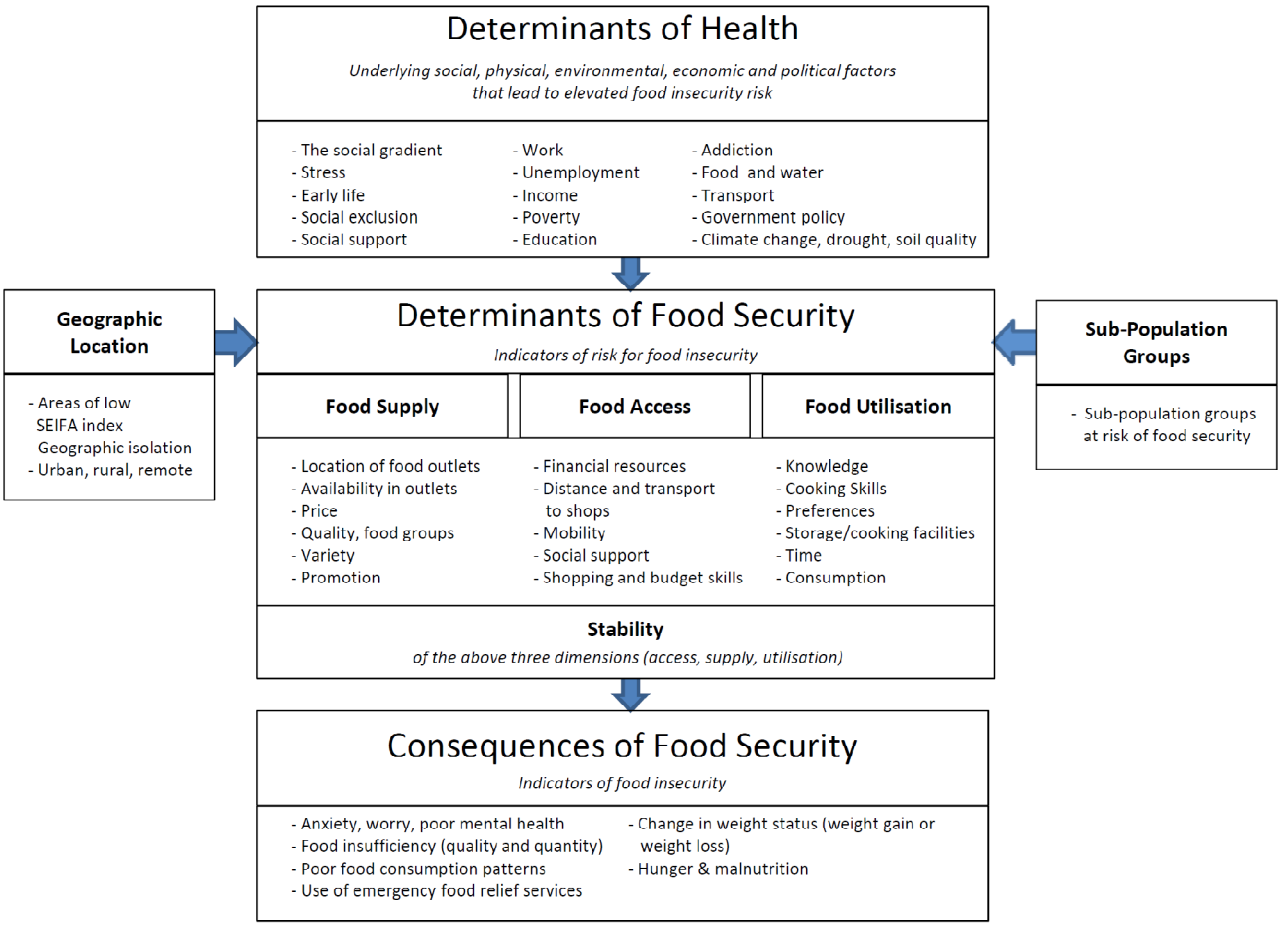
Consequences

Food insecurity can affect weight status. Food insecurity experiences can affect diet quality and may increase risk of becoming overweight or obese[14]. It is also associated with diet-related diseases such as type 2 diabetes mellitus[15]. In contrast, more severe experiences when food shortages are more frequent and of longer duration can result in hunger, underweight and malnutrition. Food insecurity can also affect psychological wellbeing. For example, people can become stressed, worried or anxious that food will run out[16].

Framework

The *Food Security Working Group* has designed a framework that takes into account all four dimensions of food insecurity (Figure 2). This framework was used to guide the selection of research methods conducted as part of the needs assessment process to ensure all possible underlying determinants of food insecurity were considered.

Figure 2. Food security framework, Southern Grampians & Glenelg [10, pg. 11]



Prevalence and experience

In 1995 the Australian National Nutrition Survey recorded a national estimate of food insecurity as 5.2% from a population sample of 13,205 adults aged 19 years and over[17]. This was measured as an affirmative answer to the single-item question, 'In the last 12 months, were there any times that you ran out of food and couldn't afford to buy more?' Survey participants who answered 'yes' to this question were more likely to be young (aged 19 to 24 years), have socioeconomic disadvantage as indicated by the lowest quintiles (1 & 2) for the Socio Economic Index For Areas (SEIFA), pay rent or board, be unemployed, not in the labour force, or receive government pensions and benefits as their main source of income[17]. Although this measure is over fifteen years old, it is currently the only national estimate of food insecurity in Australia.

A Victorian estimate of 6% was recorded in 2007 by the Community Indicators Victoria Survey[18]. Survey respondents were asked a similar single-item question to the 1995 National Nutrition Survey item: 'Have there been any times in the last 12 months when you ran out of food and could not afford to buy more?'

Telephone interviews were conducted with approximately 300 people in each of the 79 Local Government Areas (LGAs) in Victoria. In the Southern Grampians Shire 4% of the survey sample reported being food insecure[18], while 6% was reported for the Glenelg Shire[19].

Recently published results from the 2008 Victorian Population Health Survey[20] found that from a telephone survey sample of 34,168 persons aged 18 years and over, 5.6% reported running out of food in the previous 12 months and could not afford to buy more, 15.5% of which reported running out of food more than once every two weeks. Prevalence rates were further broken down to represent local government areas, with 2.9% in the Southern Grampians Shire and 6.8% in Glenelg Shire reporting food insecurity. Results indicate that residents in Glenelg Shire were significantly more likely to report foods being too expensive and that they can't always get the right quality and variety. However, estimates from Glenelg and Southern Grampians must be used with caution due to a relative standard error of between 25 and 50 per cent. This may be because the surveyors may not have reached their target of 426 interviews per local government area.

Sub-population groups at risk

As a developed nation with strong economic ties, Australia can be regarded as a country of wealth, opportunity and abundance, with the majority of the population being food secure[21]. Despite this, some sub-groups of our population are faced with the issue of food insecurity. International and national data on the patterns of food insecurity have consistently showed disproportionate trends in terms of social and economic indicators. Members of the population at higher risk of being food insecure come from a long list of sub-population groups listed in Box 3[1, 12, 21].

Box 3. Population groups 'at risk' of food insecurity

- Women
- Youth aged 16 to 24 years of age, especially students
- The unemployed and low income households (absolute or disposable income)
- Households paying rent or board
- Households with high living costs
- Households with sudden unexpected expenses such as medical or household bills
- Single parent households
- Those without a permanent home and people who are homeless
- People with long term health conditions
- People with intellectual, physical, mental illness and/or disability
- The frail elderly, especially those experiencing social isolation and living on low incomes
- People with drug and alcohol dependence
- Aboriginal and Torres Strait Islander people
- People from culturally and linguistically diverse backgrounds, including newly-arrived immigrants, refugees and asylum seekers
- People disadvantaged by geographic location, such as those who live in disadvantaged areas as indicated by Socio Economic Index For Areas (SEIFA) data, rural and remote areas, and residential areas not serviced by a supermarket or adequate public transport (E.g. new housing estates).

Community profile – Southern Grampians & Glenelg catchment

Method

Key documents were sourced by the *Food Security Working Group* to obtain demographic and socio-economic data for the catchment. The *Health & Wellbeing Profile – Southern Grampians & Glenelg* prepared by the Department of Human Services provided useful data[22]. Other statistical information was sourced from the Australian Bureau of Statistics (ABS) website, summary tables from the Census of Population & Housing 2006, and state population surveys such as the Victorian Population Health Survey and Community Indicators Victoria data.

Results

Demographic data

The SGG catchment is located in the Barwon-South West Region of Victoria (Figure 3). Both local government areas have a mix of regional, coastal, rural and remote communities across about 13000 km^2[2, 22]. The majority of the 39, 000 or so residents in the catchment live in the major towns of Hamilton and Portland, with the remainder being geographically dispersed throughout both local government areas. Figure 4 shows the age distribution across the catchment. It is projected that the proportion of older people aged 60 years and over will increase in the future. This will reflect national trends towards an ageing population[22].

Cultural diversity in the SGG catchment is concentrated by residents from English-speaking countries of origin, mainly Australian born[23]. The Glenelg Shire has the largest proportion of Aboriginal and Torres Strait Islander people in the Barwon-South West Region (1.9%)[22]. The Indigenous population in the SGG catchment has a young age structure compared to the non-Indigenous population, with the bulk of the Indigenous population aged less than 25 years (Figure 5).

Estimates for 2006 based on the 2003 Survey of Disability, Ageing and Carers approximates 21% of residents in Glenelg Shire and 22% in Southern Grampians Shire living with disability[22]. People with a profound or severe disability are defined by the ABS

Figure 3. SGG catchment map

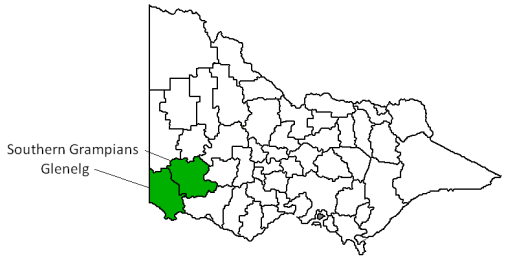


Figure 4. Age structure by age group in years, total population, SGG 2006 [22]

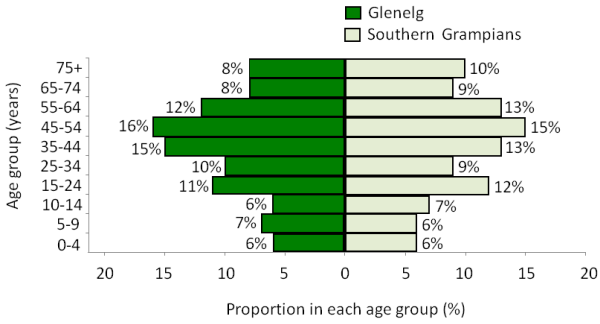
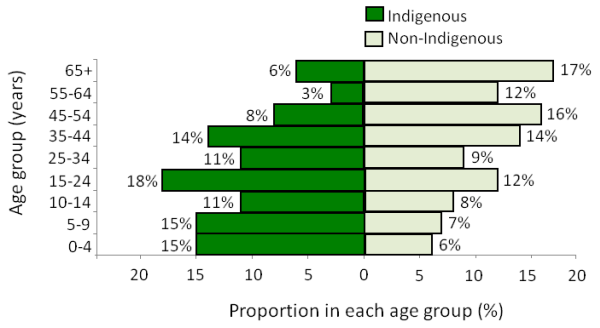


Figure 5. Age structure by age group in years, Aboriginal and Torres Strait Islander population, SGG 2006 [22]



as those 'people needing help or assistance in one or more of the three core activity areas of self-care, mobility and communication, because of a disability (lasting 6 months or more), long term health condition or old age'[24, pg. 25]. In 2006, almost 5% of the total SGG catchment population experienced a profound or severe level of disability requiring help or assistance in self-care, mobility and/or communication[22].

Socio-economic data

Within the SGG catchment are pockets of relative socio-economic disadvantage. These pockets can be found in Portland, Heywood and Merino in Glenelg Shire, and Hamilton and Glenthompson in Southern Grampians Shire[22]. Overall, the Glenelg Shire ranks as the 14th most disadvantaged local government area in Victoria (Table 1), according to the Index of Relative Socio-Economic Disadvantage (IRSED) which is calculated using data from the ABS 2006 Census of Population and Housing[22]. This index summarises a range of indicators for disadvantage for specific geographical areas, including income, education, employment, occupation, housing and transport[25]. Table 1 presents each of these selected indicators of socio-economic status for the SGG catchment. Glenelg Shire has IRSED scores for some collection districts that skew towards the lower end indicating a higher proportion of relative disadvantage than the Southern Grampians Shire.

Table 1. Socio Economic Index For Areas (SEIFA), deciles and rankings, 2006 [22]

	IRSED		IRSAD		IEO		IER	
	Decile	Rank*	Decile	Rank*	Decile	Rank*	Decile	Rank*
Glenelg	2	14th	2	14th	1	5th	3	22nd
Southern Grampians	6	42nd	4	31st	6	46th	5	38th

* Rank out or 79 LGAs in Victoria

***IRSED** = Index of relative socio-economic disadvantage, **IRSAD** = Index of relative socio-economic disadvantage and advantage, **IER** = Index of Economic Resources, **IEO** = Index of Education and Occupation*

Health inequity

Socio-economic disadvantage and disparity can be used to describe persistent health inequities within the SGG catchment[26], whereby the most disadvantaged population groups are at higher risk of poorer health outcomes than the least disadvantaged. This can be explained through life expectancy figures. Both male and female residents in Glenelg have, on average, significantly shorter life expectancies than average Victorian figures[27] (Table 2). While life expectancy in Southern Grampians in on par with average Victorian figures.

Table 2. Life expectancy at birth, SGG catchment 2007 [27]

	Glenelg		Southern Grampians		SGG Catchment		BSW Region		Rural Victoria	Victoria
	Years	Rank [a]	Years	Rank [a]	Years	Rank [b]	Years	Rank [c]	Years	Years
Male	76.9*	73	79.2	37	80.0	10	79.4*	4	78.9*	80.3
Female	81.5*	79	84.9	14	84.1	13	80.0	6	83.8*	84.4

[a] Rank out or 79 LGAs in Victoria

[b] Rank out of 31 PCP areas

[c] Rank out of 8 regional areas

* Significantly lower than the Victorian life expectancy ($p < 0.05$)

Food and nutrition programs

Method

Many past and present food and nutrition policies, practices and programs in the SGG catchment address elements of food security or emergency food relief. These were identified through local knowledge, focus group discussions with community members and local service providers, and individually contacting charity groups, health and community services through email. Information was collected on the program title, location, brief aims and contact person. The Southern Grampians and Glenelg Food Security Framework (Figure 2) was used to identify the dimension of food security addressed for each program.

Results

Forty-nine separate initiatives were identified across the catchment (Table 3). Whilst efforts were made to contact a broad range of agencies, it does not necessarily represent all programs operating in the Shires.

Food supply

Locally grown and made produce is available at monthly farmer's markets in Portland and Hamilton. Some of the smaller towns in the catchment also host local markets annually. In early 2010, an organic garden and food co-operative was established by a non-profit, volunteer based conservation organisation at the Hamilton Institute of Rural Learning, although this downgraded to a buying group from 2011. The Good Food Program was piloted in Casterton for six months in 2009 to identify and promote healthier food options in retail food outlets. It comprised a training program, menu development and a sticker system to identify healthier options available. Process evaluation indicated that changes in staff, business closure and lack of consumer education were barriers to the programs implementation and sustainability.

Emergency Food Relief

There were more emergency food relief agencies in the Southern Grampians Shire compared to Glenelg Shire as church and charity groups in Portland have united to form the Loaves and Fishes Portland District Emergency Relief Centre. Although emergency relief agencies are centred in the main town of each Shire, some church groups provide food relief in smaller outlying towns such as Casterton. Some residents may also access the food banks at Warrnambool and Mount Gambier outside the SGG catchment area. At the time of review the emergency relief in Hamilton was unable to include fresh produce. However, this may be available in future at a new food bank which is in the planning stages. Loaves and Fishes in Portland have a cool room to store donated fresh food. Current services in Hamilton and Portland are reportedly well utilised, and resources are meeting the community demand.

Meals

A number of schools and agencies provide meals at no cost, including breakfast and lunch programs. Residents at risk, with a disability and/or socially isolated have access to prepared meals through the Meals on Wheels and centre based activity programs.

The Meals on Wheels service can deliver up to seven meals per week to approved clients. Approximately 730 meals are provided for the Southern Grampians Shire each week by the Western District Health Service. In the Glenelg Shire, 250 meals are provided by Portland District Health each week, as well as some meals from Casterton Memorial Hospital. In addition to this, a significant number of cooked meals are provided through adult day activity programs across the catchment and a number of community members

access cooked meals at the Western District Health Service hospital cafeteria in Hamilton and the Better Living Centre at Loaves and Fishes in Portland.

Edible gardens and fruit trees

A number of established and planned edible gardens were identified across the catchment. Vegetable gardens have been initiated in a number of primary schools in both shires. In addition to this, Merino primary school received funding for a garden, fully-equipped kitchen and education program through the Stephanie Alexander Kitchen Garden Program in 2009 and 2010. Cavendish Primary was successful in their application for the Stephanie Alexander Kitchen Garden Program in 2011.

There are a number of vegetable gardens in place targeting the adult population, located at disability day programs and supported accommodation in both Shires, and one at Hamilton Community House. This includes edible and sensory gardens at STAY Residential Services and Mullerateronq in Hamilton, and Harbourside Lodge residential aged care facility and Kyeema Support Services (day program for people with a disability) in Portland. The recent SGG PCP Southern Grampians Community Gardens project has assisted the planning phase for community gardens in the towns of Balmoral and Penshurst during 2010 and identified a potential future site in Hamilton. In the Glenelg Shire, fruit trees have been planted and vegetable gardens established in all primary schools as part of the Get A Taste Of This! program.

Health promoting schools and kindergartens

Kids – 'Go For Your Life' is a state-wide healthy eating and physical activity program for Victorian children aged 0-12 years funded by the Victorian Government. Funding for the program ceased in June, 2011. Based on the Health Promoting Schools Framework, the program encouraged healthy eating and increased physical activity through six key messages and provided resources for curriculum and policy development. By 2011, Glenelg Shire was the most successful local government area in the state, with 100% of schools being members of the program and achieving award status. Eight of the 17 primary schools in the Southern Grampians Shire were members, including one school with award status. Uptake of the program has been enhanced in the Glenelg shire through the Glenelg Healthy Schools Network, which provides formal and ongoing support for schools in obtaining Kids – 'Go For Your Life' award status and advocates for compliance with government canteen guidelines and provision of healthy food choices to school children.

A number of primary schools in the Southern Grampians and Glenelg Shires have received State Government funding for the Free Fruit Friday program which involves students from prep to grade 2. As part of the Get A Taste Of This! program children from grade 3 to 6 in government schools and all children in independent schools received free fruit and vegetables once per week for two terms in 2010 to encourage increased consumption.

Smiles*4*Miles is an oral health program in early childhood centres coordinated by Dental Health Services Victoria. Based on the Health Promoting Schools Model[28], the program includes the development of water and nutrition policies and the integration of five key messages into curriculum. With the support of a project officer located in Portland servicing both Shires, six kindergartens were awarded with the program in Glenelg and four in Southern Grampians in 2010. In 2008 the program was piloted in three Indigenous playgroups across the catchment area.

Education Programs

Dietitians at Portland District Health and Western District Health Service provide group nutrition education sessions throughout the year focusing on diabetes management, weight loss, heart health, antenatal nutrition and introduction to solids. Nutrition education is also provided by Aboriginal Health Workers at

Winda-Mara Aboriginal Corporation in Heywood and Dhauwurd-Wurrung Elderly and Community Health Service in Portland, with the support of dietitians from the Otway Division of General Practice.

Portland Neighbourhood House, Hamilton Community House and Aspire run programs including nutrition, cooking classes and budgeting periodically and the Food Cent$ nutrition and budgeting program was run at Casterton Memorial Hospital in 2010.

From 2008 to 2009, Portland District Health produced 'The Well' quarterly newsletter, a 12 page children's health promotion newsletter for children, parents, carers, teachers and health professionals. It was distributed to all primary schools and early childhood centres in the Glenelg Shire to promote and support Kids – 'Go For Your Life', Get A Taste Of This! and *Smiles4Miles* program activities. Western District Health Service produced the 'Fuel for School' newsletter from 2007 to 2009 to support the implementation and uptake of Kids – 'Go For Your Life' in the Southern Grampians Shire. These initiatives were discontinued in 2010 due to lack of staff resources.

Table 3. Food and nutrition initiatives in the SGG catchment

Food and nutrition initiatives	**Dimension of food insecurity**		
	Supply	**Access**	**Utilisation**
Food Security Working Group (SGG)	✓	✓	✓
Better Living Centre, Loaves & Fishes) (G)	✓	✓	✓
Kids – 'Go For Your Life' (SGG)	✓		✓
Glenelg Healthy Schools Network (G)	✓		✓
Get A Taste Of This! (G)	✓		✓
Stephanie Alexander Kitchen Garden, Merino Primary (G)	✓		✓
Basic budgeting program, Brophy Portland (G)		✓	✓
Budget beaters booklet, WDEA, L&F (G)		✓	✓
No interest loans scheme (e.g. whitegoods), Brophy (SGG)		✓	✓
Food $ence, Casterton (G) (past program)		✓	✓
Living Stronger, nutrition education program, DWECH (G)		✓	✓
Hamilton House Day Centre (SG)		✓	✓
Living skills program, Mulleraterong Centre (SG)		✓	✓
Making cents with food, WDHS and WMAC (SG) (past program)		✓	✓
Elders lunches, WMAC (SGG)	✓	✓	
Emergency food relief, WMAC, Heywood (SGG)	✓		
Emergency Relief Fund, Community Connections (SGG)	✓		
Loaves and Fishes (Portland District Christian Emergency Relief Centre) (G)	✓		
Salvation Army Emergency Relief – Housing and food, Hamilton (SG)	✓		
St Vincent de Paul Food Bank and Emergency Relief, Hamilton (SG)	✓		
Free Fruit Fridays, 5 x SGS Primary Schools (SG) Morning tea fruit platters, Merino Consolidated Primary School	✓		
School breakfast programs, Loaves & Fishes (G), two Primary Schools (SG)	✓		
Youth breakfast program, Hamilton Community Church (SG)	✓		
Good Food Program, Casterton (G) (past program)	✓		

Table 3. Food and nutrition initiatives in the SGG catchment **(continued)**

Food and nutrition initiatives	*Dimension of food insecurity*		
	Supply	**Access**	**Utilisation**
Fruit and vegetable delivery, MJ's Roadhouse Glenthompson (SG)	✓		
Town Green Farmer's Market, Portland (G)	✓		
Farmer's market, HIRL (SG)	✓		
Earth First Conservation Project Organic Garden, Hamilton (SG)	✓		
Community gardens project, SGG PCP (SG)	✓		
Balmoral Community Garden (SG)	✓		
Vegetable gardens in primary schools (SGG)	✓		
Raised garden beds at Harbourside Lodge (G)	✓		
Sensory garden at Kyeema Support Services (G)	✓		
Vegetable garden, Hamilton Community House (SG)	✓		
Vegetable garden, Mullerateronq Centre (SG)	✓		
Vegetable garden, STAY Residential Services (SG)	✓		
Community Church soup and salad bar, Hamilton (SG)	✓		
Hamilton Community House Monthly Meal (SG)	✓		
Uniting Church Tuesday meal, Hamilton (SG)	✓		
WDHS Hospital Cafeteria (SG)	✓		
Meals on Wheels, PDH, GSC & CMH, SGSC (SGG)		✓	
South West Transport Connections (SGG)		✓	
Home delivery of groceries from various supermarkets and food retailers (SGG)		✓	
Eating with friends, HRH (G)		✓	
Portland Accessible Eating Guide (G)		✓	
ADASS Day Activity Program, Hamilton & Penshurst (SG)		✓	
Balmoral Day Centre (SG)		✓	
Nutrition information group sessions, dietitians (SGG), WMAC (SGG) Gluten free supermarket tour, PDH (G) (past program)			✓
Smiles4Miles (SGG)			✓
'ABC of healthy living' program, Aspire (SGG)			✓
Cooking classes, PNH, Motorheads (youth), L&F (mums & bubs), Aspire, HRH (men) (G)			✓
Healthy Eating Better Learning Trial, All Saints Primary (G)			✓
'The Well' newsletter (G)			✓
Eating for Health Recipe Club, Hamilton (SG)			✓
Life skills program, Southern Grampians Adult Education (SG)			✓
Number of initiatives targeting Glenelg population groups	15	13	18
Number of initiatives targeting Southern Grampians population groups	22	10	10
Total number of initiatives across the SGG catchment	32	18	22

Notes: Casterton Memorial Hospital (CMH), Dhauwurd-Wurrung Elderly & Community Health (DWECH), Glenelg (G), Glenelg Shire Council (GSC), Hamilton Institute Rural Learning (HIRL), Heywood Rural Health (HRH), Portland District Health (PDH), Portland Neighbourhood House (PNH), Primary Care Partnership (SGG PCP), Southern Grampians (SG), Southern Grampians Shire Council (SGSC), Southern Grampians and Glenelg (SGG), Western District Health Service (WDHS), WInda-Marra Aboriginal Corporation (WMAC)

Victorian Healthy Food Basket Survey

Method

Rural areas in Australia typically have higher food costs, reduced variety and poorer quality of fresh food[29, 30]. This strategy aimed to fill the gap in available evidence on the availability of healthy food across the SGG catchment. The *Food Security Working Group* selected the Victorian Healthy Food Basket (VHFB) tool[31] to measure healthy food access, including cost and availability. The tool calculates the cost of food required to meet 80% of the nutrient requirements and at least 95% of energy requirements for four reference families (Table 4) over a period of two weeks, based on Nutrition Reference Values released in 2006[32]. It consists of a list of 44 food items across the five core food groups (fruits, vegetables, breads & cereals, meats & alternatives, and dairy) and non-core foods (sugar, fats & oils) from the Australian Guide to Healthy Eating[33]. Two energy-dense, nutrient poor items (Coca-Cola soft drink & Mars Bar chocolate) were also included for cost comparison between food outlets but were not included in the nutritional analysis of the basket.

Table 4. Four reference families included in the VHFB survey cost calculations

(i) Family of four	Two 44 year old adult parents and two children, an 18 year old female and 8 year old male
(ii) Single Parent Family	One 44 year old female with two children, an 18 year old female and 8 year old male
(iii) Elderly Pensioner	One 71 year old single female
(iv) Single Adult	One adult male greater than 31 years of age

A list of supermarkets, grocery stores and general stores in the SGG catchment was obtained from Internet searches using Google and the Yellow Pages™ search engines, lists of registered food premises on the local council website and local knowledge. Letters and pamphlets were sent to store owners and/or operators to inform them of the VHFB survey process and data collection dates. Follow-up phone calls were made a few days before each survey took place. Information was collected in the Southern Grampians Shire during a the fortnight from 19 to 30 October 2009, and in Glenelg Shire over a three week period from Wednesday 16th June to Wednesday 7th July 2010.

Data was observed by community health workers and two students studying dietetics from Monash University, and then entered onto standardised data collection sheets. Prices were manually adjusted if specified item sizes were not available. This data was then entered into an Excel spreadsheet provided by researchers from Monash University. This spreadsheet automatically calculated the data set into the total amount of money needed to buy a healthy basket of food for each family type.

Accessibility of the VHFB was calculated for all supermarkets and general stores in the SGG catchment. Cost of the VHFB was calculated and compared for stores who had no less than 40 items out the 44 item list in non-generic brands ($\geq$91% availability). Costs were then calculated as a percentage of fortnightly income based on maximum government unemployment benefit payment amounts (Newstart, Youth allowance, Age pension, Family Tax Benefits Part A & B) for each reference family, assuming that all family members were unemployed. The income figures for November 2009 and July 2010 were obtained from the Centrelink website[34, 35] (Table 5).

Table 5. Centrelink income figures per reference family (assuming unemployment) SGG catchment [34, 35]

Shire	Date	Family of four	Single parent family	Elderly pensioner	Single adult
Southern Grampians	November 2009	$1253.50	$975.88	$569.88	$453.30
Glenelg	July 2010	$1270.74	$948.10	$644.20	$462.80

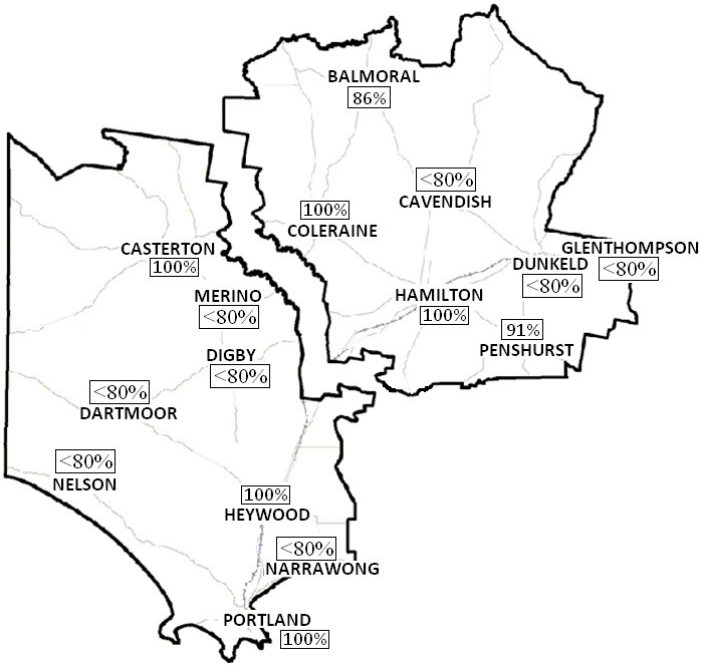
Results

A total of 10 stores across Glenelg Shire and 10 stores across Southern Grampians Shire were surveyed. It was found that food availability was lower and food costs higher in small outlying towns with a general store and no supermarket.

Availability

Figure 6 presents a map of the availability of the basket for each town. Ten stores across the SGG catchment met the inclusion criteria of no less than 40 of the 44 items available. All major chain supermarkets surveyed had 100% availability of the VHFB item list. Availability of items at independent supermarkets ranged from 86% to 100%.

Figure 6. Availability of basket per town, SGG catchment 2009/2010



All smaller towns had a local general store or convenience store, with availability of basket items ranging from 32% to 77%. Availability of items in the cereal food group at general stores was consistently higher than the other food groups. Fruit was consistently more available than vegetables and legumes, while the availability of items in the dairy and meat food groups varied.

The additional two unhealthy food items (soft drink & chocolate bar) included in the VHFB survey were available in all 20 stores surveyed across the SGG catchment.

Costs

The average fortnightly costs of the basket for the four reference families relative to income from government benefits are presented in Table 6.

Basket costs varied in stores across the SGG catchment with the lowest costs recorded for major chain supermarkets. In the Glenelg Shire the fortnightly basket cost for a 'family of four' ranged from $399 (31% of income from government benefits) to $504 (40% government income). In the Southern Grampians Shire fortnightly basket costs for a 'family of four' ranged from $374 (30% government income) to $470 (37% government income). This is a difference of $105 in Glenelg Shire (2010) and $96 in Southern Grampians (2009) between the cheapest supermarket and most expensive supermarket in these Shires for the same list of 44 food items.

The mean cost of a basket of healthy food for a 'family of four' was $425.36 in the Southern Grampians (2009) and $450.24 in Glenelg Shire (2010). This accounts for about 34% and 35% of government income figures, respectively. Both Portland and Hamilton, the main towns from each Shire had the lowest mean costs of a basket of healthy food. Town A in Glenelg Shire was the most expensive town averaging a basket cost of $479.12 for a 'family of four' (38% of income from government benefits). Town B in Southern Grampians Shire was the most expensive town averaged a cost of $469.71 (37% income) for a basket of healthy goods for a 'family of four'.

Table 6. Mean costs of VHFB per reference family, SGG catchment

Location	Mean cost of basket in $ (% income [a]) per reference family			
	Family of four	Single parent family	Elderly pensioner	Single adult male
Portland	$412.18 (32%)	$283.59 (30%)	$98.45 (15%)	$130.57 (28%)
Town A	$459.42 (36%)	$310.86 (33%)	$110.41 (17%)	$148.43 (32%)
Town B	$479.12 (38%)	$326.61 (34%)	$115.46 (18%)	$153.71 (33%)
Glenelg Shire total (2010)	**$450.24 (35%)**	**$307.02 (32%)**	**$108.12 (17%)**	**$144.24 (31%)**
Hamilton	$380.78 (30%)	$261.76 (27%)	$90.91 (16%)	$119.35 (26%)
Town A	$425.58 (34%)	$292.13 (30%)	$102.77 (18%)	$133.31 (29%)
Town B	$469.71 (37%)	$322.61 (33%)	$112.74 (20%)	$146.22 (32%)
Southern Grampians Shire total (2009)	**$425.36 (34%)**	**$292.17 (30%)**	**$102.14 (18%)**	**$132.96 (29%)**

[a] % income from government benefits calculated using Centrelink figures in Table 5

Household Food Access Survey

Method

A household food access survey was conducted in August 2010 across the SGG catchment. The survey design and distribution was targeted to reach population groups who may be at risk of food insecurity. The purpose of the survey was to understand local experiences of food insecurity and identify potential strategies that will alleviate barriers to accessing healthy food.

A variety of surveys from previously conducted food insecurity needs assessments were sourced[4-9]. A small team from the *Food Security Working Group* adapted these surveys to create the self-administered *SGG Food Access Survey* which was more suitable for use in a rural context. The survey had a total of 25 questions mostly using a simple tick-the-box format. There were four sections: (1) Demographic information; (2) Food access – causes and consequences of food insecurity; (3) Shopping and eating; (4) Intervention options.

The survey was tested for literacy level with the Flesch Reading Ease Test and Flesch-Kincaide Grade level tests[36] using Microsoft Office Word 2007 and scored within the recommended ranges that indicate a sixth grade literacy level. A large number of surveys were distributed in the SGG catchment, 900 in Glenelg Shire and 760 in the Southern Grampians. Surveys were available at over 60 locations across the SGG catchment, including community, health, social and welfare services, established groups, some schools and street stalls.

Analysis

All data from completed questionnaires was manually coded and entered into a Microsoft Office Excel 2007 spreadsheet for analysis. Food secure households were recorded as those that reported 'often' or 'sometimes' not having enough food, 'enough but not always the kinds of food we want', or had ran out of food in the last 12 months and couldn't afford to buy more. Various comparisons were then made between food insecure and food secure households and between locations.

Results

Response rate

A total of 536 surveys were returned in the SGG catchment, 293 from households in Glenelg and 243 from Southern Grampians. This equates to a 32% response rate.

Demographics of survey sample

The majority (89%) of survey respondents were born in Australia with 31 (5.8%) households identified as having members with Aboriginal and/or Torres Strait Islander background. Young people aged 18 years or younger occupied almost half (44%) of all households surveyed (Table 9). Almost one-third (32%) of households surveyed had adults aged 60 years and older. About a quarter (27%) were households with five or more residents and twelve per cent (n=65) were single parent families with children aged 18 years and under. One in five households surveyed were lone person households.

Survey respondents reported a range of income sources within their households. A little under half (42%) of the households surveyed reported that their main source of income came from government support only (Table 9). This included the aged pension (21%), Centrelink's unemployment benefits (11%) such as the

Newstart Allowance or Youth Allowance, parenting payments (3%), disability support pensions (14%) and carer's payments (6%). Paid employment was the main source of income for 263 survey respondents (49%) and 27 respondents were self-funded retirees (5%), reporting income sources such as superannuation.

Most households surveyed were owned (42%) or in the process of being owned with a mortgage (28%). Eighty nine (17%) of the households surveyed were rental properties or share houses and forty (8%) were leased as Government housing, public housing or supported accommodation.

Location

A large proportion of households surveyed were in the major towns of Portland (n=122, 23%) and Hamilton (n=139, 26%). The remaining respondents were from 42 identified towns and locations spread over the Southern Grampians and Glenelg Shires, including Casterton (n=71), Heywood (n=29), Balmoral (n=24), Coleraine (n=20) and Glenthompson (n=18). The majority (78%) of survey respondents lived in towns with a supermarket (Table 7). Thirteen per cent of respondents lived in towns with a general store.

Table 7. Location of survey respondents

Location of survey respondents	Glenelg		Southern Grampians		SGG catchment	
	n	*(%)*	n	*(%)*	n	*(%)*
Number of households	293	*(55)*	243	*(45)*	536	*(100)*
Towns with supermarket	222	*(76)*	196	*(81)*	418	*(78)*
Towns with general store	43	*(15)*	28	*(12)*	71	*(13)*
Towns with <1000 residents not serviced by a supermarket or general store	27	*(9)*	13	*(5)*	40	*(7)*

Food secure households

The majority of households surveyed indicated that they did not run out of food in the last 12 months (n=434, 81%) and 'always' had enough quantity and kinds of food they wanted to eat (n=327, 61%).

Food insecure households

A total of 214 households (40% of total survey sample) were classified as food insecure (Table 8) as they answered either 'yes' to running out of food in the last 12 months, 'often' or 'sometimes' did not have enough to eat, and/or had 'enough but not always the kinds of foods we want to eat'.

Twenty nine per cent (n=153) of all households had enough but could not always acquire the 'kinds' of foods they would like to eat, and around 7% 'often' (n=14) or 'sometimes' (n=25) had not enough to eat at all.

Ninety-nine households (18.5%) had run out of food in the last 12 months and could not afford to buy more. Eighteen of these respondents ran out of food only once in the past year. Thirty six reported this happening a few times a year, 24 reported once a month and 15 had run out of food once a fortnight or more in the past year. The survey then asked households that ran out of food in the last 12 months whether their situation had changed from 2 years ago. Thirteen percent of respondents who had run out of food reported an improvement in their situation. Thirty six percent reported no change and 46% reported that their situation had worsened.

Table 8. Number of households reporting food insecurity

No. households	Food insecure		Food secure		Missing		Total	
	n	*(%)*	n	*(%)*	n	*(%)*	n	*(%)*
Glenelg	116	*(40)*	171	*(58)*	6	*(2)*	293	*(100)*
Southern Grampians	98	*(40)*	142	*(58)*	3	*(1)*	243	*(100)*
SGG Catchment	214	*(40)*	313	*(58)*	9	*(2)*	536	*(100)*

Demographics of the food insecure

Compared with the total survey sample, respondents reporting food insecurity were more likely to be households with young people aged 18 years or less, have 5 or more people, lone person households, single parent families and households with Aboriginal and Torres Strait Islander people (Table 9). They were also more likely to receive unemployment benefits and the disability pension as their main source of income, and live in a rented, government or mortgaged house. Respondents reporting food insecurity were less likely to be employed, own their own home, be older people aged 60 years or less and receive the aged pension.

Table 9. Demographics of survey respondents who reported food insecurity, SGG catchment

	Food insecurity Total = 214		Food security Total = 313		Total Total = 536		Missing Total = 9
	n	*(%)*	*n*	*(%)*	*n*	*(%)*	*n*
Household composition							
Young people (≤18 years)	113	*(53)*	123	*(39)*	237	*(44)*	1
Older people (≥60 years)	30	*(14)*	117	*(37)*	151	*(28)*	4
5 people or more	44	*(21)*	41	*(13)*	85	*(16)*	0
Lone person	49	*(23)*	57	*(18)*	107	*(20)*	1
Single parent	47	*(31)*	18	*(6)*	65	*(12)*	0
Aboriginal & Torres Strait Islander people	15	*(7)*	16	*(5)*	31	*(6)*	0
Income							
Unemployment	47	*(31)*	15	*(5)*	62	*(12)*	0
Disability pension	58	*(27)*	19	*(6)*	79	*(15)*	2
Carer payment	14	*(7)*	20	*(6)*	34	*(6)*	0
Aged pension	24	*(11)*	82	*(26)*	111	*(21)*	5
Employment	95	*(44)*	167	*(53)*	263	*(49)*	1
Housing							
Own	52	*(24)*	166	*(53)*	224	*(42)*	6
Mortgage	70	*(33)*	81	*(26)*	152	*(28)*	1
Rental	47	*(20)*	42	*(13)*	89	*(17)*	0
Government	30	*(14)*	9	*(3)*	40	*(7)*	1

Reasons why respondents were food insecure

Respondents reporting restricted access to food indicated reasons why this was so (Table 10). The main reasons were due to financial factors such as food being too expensive in local shops (56%) and not enough money to buy food regularly (45%). The rising cost of petrol (44%) and housing (27%), food availability (26%) and quality (23%) were also placing strain of food access. There were a range of 'other' reported reasons that were not in the survey list (n=23). Family demands placed pressure on households. Some quotes include: '*hard to cook with a toddler'*, *'children all want different variety'*, and '*separated'* or broken families. One respondent quoted that '*sometimes the kids are dropped off to me when I'm not prepared and after I'm left with no food*'. The rising costs of living expenses were also of concern, particularly financial costs of medical expenses including medication, travel and accommodation. Such '*living expenses come first then what's left over to food*', explained a respondent.

Table 10. Reasons why food access restricted for survey respondents

	n	*(%)*
Food is too expensive in local shops	**114**	*(53)*
Not enough money to buy food regularly	**91**	*(43)*
Rising cost of petrol prices	**90**	*(42)*
Rising cost of housing prices	**54**	*(25)*
Can't find sort of food wanted in local shops	**52**	*(24)*
Quality of food is poor in local shops	**45**	*(21)*
Not motivated to cook	**39**	*(18)*
Shops are too far away	**39**	*(18)*
Lack of transport options to get to shops	**22**	*(10)*
Not enough time for shopping or cooking	**21**	*(10)*
Not able to cook or eat because of health problems	**18**	*(8)*
Difficult to carry shopping home	**17**	*(8)*
Don't know how to cook	**6**	*(3)*
No fridge to store food	**3**	*(1)*
No oven or cooking equipment	**2**	*(1)*
Other	**12**	*(6)*

Note: Total food insecure (n=214)

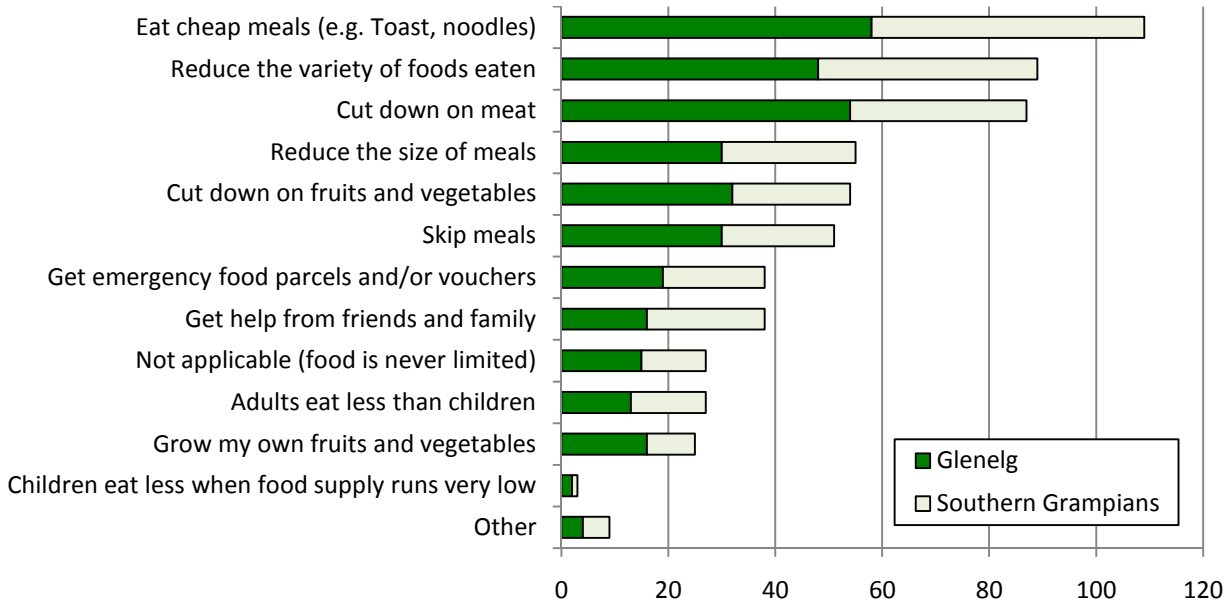
Managing when food is limited or has run out

Most households were resorting to eating cheap meals (n=109, 51%) and reducing the variety of foods they ate (n=89, 42%), including cutting down on meat (n=87, 41%), fruits and vegetables (n=54, 25%) (Figure 7). Other households were reducing the quantity of food they ate by reducing the size of meals (n=55, 26%) and skipping meals (n=51, 24%). Getting help from friends and family (n=38, 18%) was common. There were a range of 'other' ways household's managed that were not in the survey list. This included '*buying no-name brands instead of better stuff'*, and innovating by buying '*things on special and freeze what I can'*, '*make do with what is in the cupboard'* or *'hunt out a recipe that uses what I've got*'. This was further explained by one respondent who reported never having '*limited (quantity of) food in our house as I stock up when I have spare money'*. Some respondents also reported '*using credit cards'* or avoiding bill payments so they could '*spend the money on food instead'.*

Emergency food relief

Less than half of all survey respondents (n=223, 42%), both food insecure (45%) and food secure (40%), knew where to access emergency food relief. Only 38 (18%) households with food insecurity managed their situation by accessing emergency food relief services, such as food parcels or vouchers (Figure 7), with the majority (n=147, 69%) never having accessed emergency food relief before.

Figure 7. What households did do to manage when food was limited



Consumption of food groups

Food insecure households were less likely to report consumption for all food groups on most days of the week than the food secure. The most notable difference is found for daily consumption of fruit (food insecure 51% vs. food secure 81%), vegetables (63% vs. 89%), and meat (58% vs. 89%). There were no differences in self-reported consumption of foods prepared away from home, including take-away, fast-food and café style foods between food secure and food insecure households.

Shopping for food

The majority of survey respondents (n=520, 97%) shopped for food at supermarkets at least once a fortnight. It was most common to shop at supermarkets on a weekly basis (n=231, 43%). Over half of survey respondents reported shopping at a green grocer (56%) at least once a fortnight. Butchers were frequented fortnightly or more by 43% of the respondent sample. General stores were less utilised, with only 35% of survey respondents shopping here once a fortnight or more. Fresh food markets were the least accessed food outlet, with 47% of respondents indicated shopping for food here 'less often' than fortnightly or 'never'.

Transport to shops

Respondents reported an array of transport modes to get to the shops. Travelling in private vehicle was the most population mode of transport to shops to buy food. Respondents mostly travelled as the driver (food insecure 73% vs. food secure 82%), followed by travelling as a passenger (22% vs. 26%). Food insecure respondents were more likely to travel to the shops by walking, bus, taxi, community bus and cycling.

Activities to improve food access

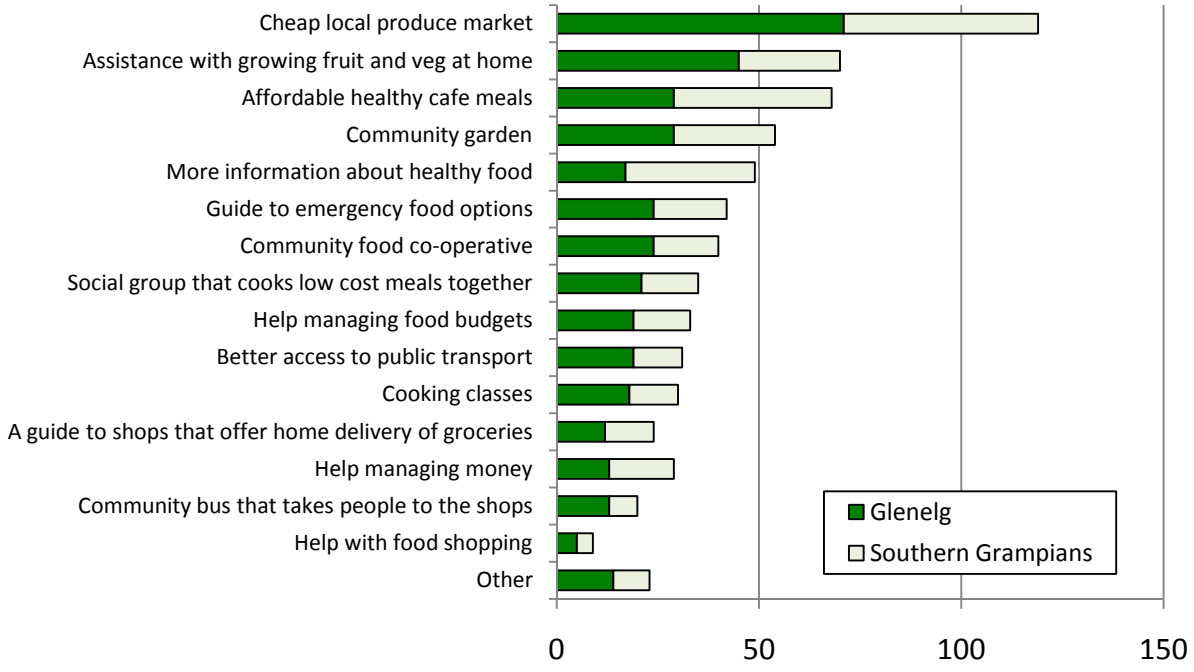
Respondents were asked what activities would be useful to improve their household's access to nutritious foods, including breads, cereals and grains, vegetables and legumes, meat, fish, chicken, nuts, eggs, milk yoghurt and cheese. Almost half of all survey respondents (n=235, 44%) wanted a cheap fruit and vegetable market in their area. This was the most requested activity to improve food access, followed by affordable healthy meals at local cafes (n=140, 26%), assistance growing fruit and vegetables at home (n=134, 25%) and a community garden (n=91, 17%).

Figure 8 shows activities selected by food insecure households only (n=214). A cheap fruit and vegetable market in the local area (n=119, 56%), assistance with growing fruit and vegetables at home (n=70, 33%), affordable healthy cafe meals (n=68, 32%) and a community garden (n=54, 25%) were the most suggested activities to improve food access among food insecure households. This was followed by more information about healthy food (n=49, 23%), a guide to emergency food options (n=42, 20%), community food co-operative (n=40, 19%), social low-cost cooking groups (n=35, 16%) such as community kitchens and help managing food budgets (n=33, 15%).

Twenty-three food insecure respondents selected 'other' activities to improve food access that were not on the original list. This included increasing variety available to choose from. Quotes include '*more access to organic produce and meat'*, '*more choices in local supermarket so shop in town'*, '*supermarkets and cafes to supply and be informed*' of '*special dietary needs'*, such as coeliac (gluten free), hypertension and diabetes, and to improve the availability of '*good quality fruit and vegetables'*.

Respondents also requested lower, more competitive food prices, including '*cheaper supermarket'*. One respondent wanted stores to '*cut the price of meat and veg'* as their household has '*forgotten what a treat is'*. '*Cheaper meat'* was specifically mentioned by 5 respondents, with one respondent noting that they live in the '*lamb capital!*' There were the options to '*get my own car'*, or get '*more income'* to improve food access. Another was '*not sure'* how their situation could be improved.

Figure 8. Intervention options for food insecure households



Mapping

Method

Spatial mapping of public transport, food outlets and Index of Relative Socio-Economic Disadvantage (IRSED) scores was conducted to determine physical access to nutritious food across the SGG catchment. Maps of the Southern Grampians and Glenelg Shires and the major town centres Hamilton and Portland were sourced from the Department of Human Services[22]. Public transport routes and food outlets were manually added to these maps.

Public transport routes and community transport options were obtained from the South West Community Transport[37], V/Line[38], and VicLink[39] websites and communications with local service providers. Supermarket and general store listings were sourced from Internet searches using Google and the Yellow Pages™ search engines, lists of registered premises on the local council websites and local knowledge.

Results

A range of transport options were identified, including the South West Community Transport Program[37], local and regional public transport services, community transport options and taxi services. These options transport passengers travelling from small towns to major town centres Portland and Hamilton in the SGG catchment and major regional centres outside the SGG catchment area such as Warrnambool, Mt Gambier, Horsham and Ballarat.

Index of Relative Socio-Economic Disadvantage

Areas with relative socio-economic disadvantage according to IRSED scores[22] are colour coded on the maps presented in Figure 9. Red represents areas with the most relative disadvantage (Decile 1). Colour coded in blue from darkest to lightest represent areas with relative socio-economic disadvantage (Decile 2 in dark blue) to the least disadvantaged (Deciles 9 & 10 in light blue).

South West Community Transport Program

The South West Community Transport Program[37] commenced in 1999 and operates across the local government areas of Glenelg, Southern Grampians, Moyne, Corangamite and the City of Warrnambool. The program encourages use of existing transport services and works with communities to develop solutions to transport issues including trialling new services.

Community transport

There is a range of community transport options for people in the South-West with special needs who are unable to access public transport due to limited mobility, frailty or disability who live independently in the community, but have no means of transport.

Community transport services in Glenelg Shire are provided through Portland District Health, Heywood Rural Health and Casterton Memorial Hospital. These services are usually driven by volunteers and are subject to availability. Travel is mostly to medical appointments but can take community members to shops and social activities in special circumstances, although not on a regular basis. The Portland Community Bus is a door-to-door service which transports Home and Community Care (HACC) clients on Friday mornings and afternoons to do their food shopping. The HACC Active Service model offers extra assistance when required.

There are many community transport services run in Southern Grampians Shire. Balmoral Bush Nursing Centre coordinates car transport for HACC and respite clients from Monday to Friday, alternating between Horsham and Hamilton and picking up community members from Cavendish on the way. Coleraine & District Health Service also have their own community cars which travel to Hamilton. The Hamilton Community Bus services to Dunkeld, Glenthompson, Cavendish and Penshurst from Monday to Saturday and provides fortnightly transport for HACC clients. This service offers transport assistance for eligible clients, including those who cannot access conventional public transport due to disability, geographic isolation or economic disadvantage, taking clients to shopping centres, social activities and medical appointments. The Macarthur Community Bus can pick up Byaduk passengers on their fortnightly Friday trips to Hamilton.

Regional Bus Services

There are four main regional bus services travelling through Hamilton. A VLine service travels from Mt Gambier (South Australia) through Casterton, Sandford, Merino, Coleraine, Hamilton, Tarrington, Penshurst, Caramut, Mortlake, Koroit, Port Fairy and Warrnambool. Another takes passengers from Hamilton to Ballarat through Dunkeld and Glenthompson. The Hamilton-Portland service travels along the Glenelg Highway (A1) through Branxholme, Condah, Myamyn, Milltown and Heywood.

There are three regional services travelling through Portland. The Warrnambool-Portland-Mt Gambier VLine service departs Warrnambool, travelling through Koroit, Port Fairy, Yambuk, Tyrendarra, Narrawong, Portland, Heywood, Dartmoor and Mt Gambier (South Australia). Another service travels from Portland to Mt Gambier from Mondays to Fridays via an alternative route through Gorae West, Mount Richmond and Nelson. The Portland-Hamilton service (South Western) is described above.

The Warrnambool-Ararat service travels through Port Fairy, Macarthur, Byaduk, Hamilton and Dunkeld from Tuesday to Friday and Sundays. The Horsham-Hamilton service travels through Balmoral, Vasey and Cavendish from Monday to Friday.

Town bus services

There are two town bus routes in Portland available from Monday to Saturday. These services travel through areas of relative disadvantage as marked by the red and dark blue shaded areas of North and South Portland (Figure 9).

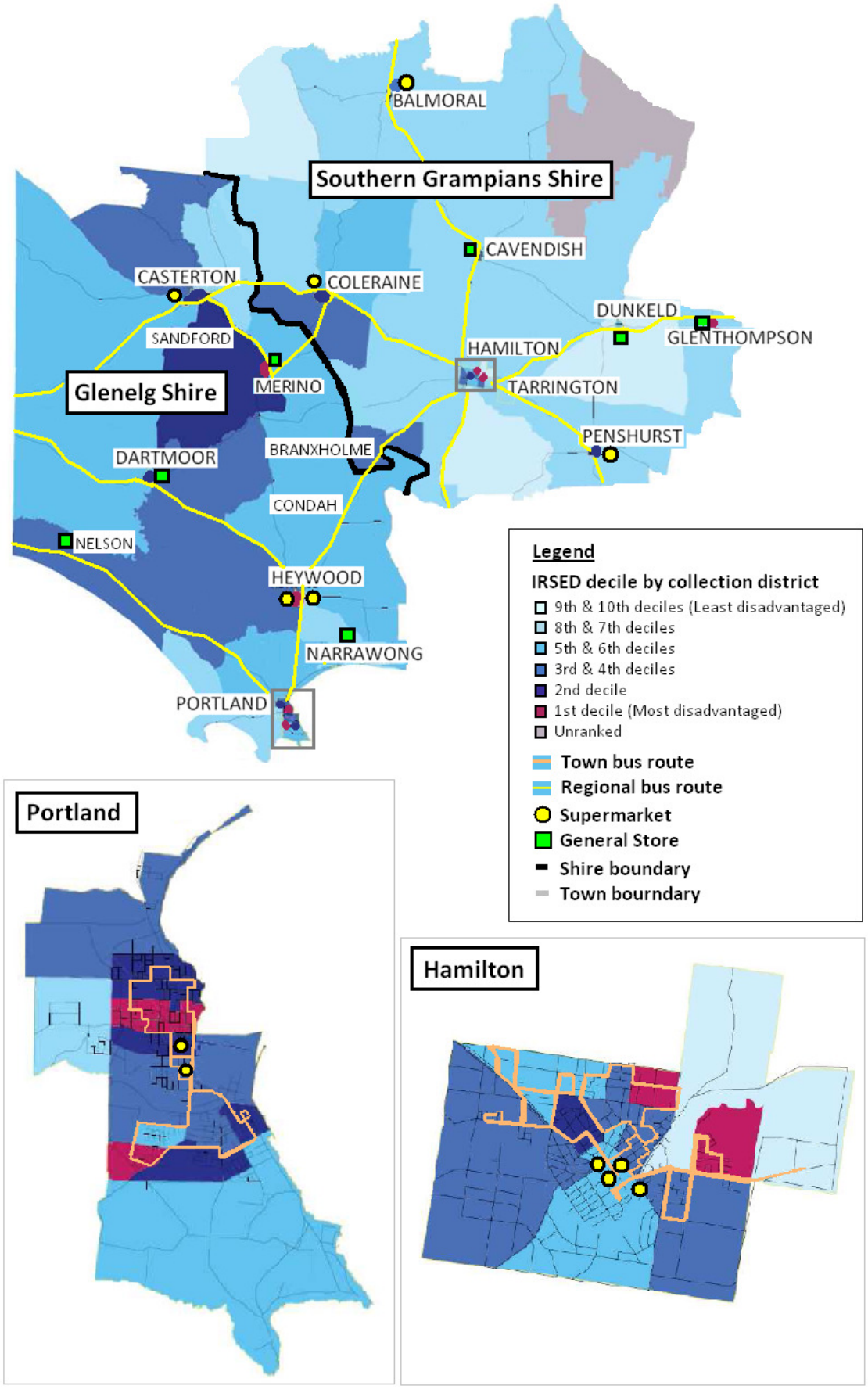
There are three different town bus routes operating from Hamilton Central connecting to Hamilton West via Coleraine Road (Route 1), Hamilton North via Kent Road (Route 2) and Hamilton East via Ballarat Road (Route 3). These trips include stops near the supermarkets and the railway station and travel through the North and East areas of Hamilton with relative disadvantage as marked by red shading in Figure 9.

Recent upgrades to low floor buses on Hamilton and Portland town routes has improved access for wheelchairs, walking aides and prams.

Taxi services

Hamilton and Portland have 24 hour taxi services. Residents with a severe and permanent disability that prevents independent use of public transport may be eligible for the State government multi-purpose taxi program which subsidises taxi fares.

Figure 9. Southern Grampians & Glenelg map, including major towns Hamilton & Portland



Focus groups

Methods

Focus groups were conducted in October 2010 across the SGG catchment to gather qualitative data from local community members and service providers on food access.

Seven focus group sessions were conducted in the Glenelg Shire, five sessions with community members in Portland, Heywood, Merino and Casterton and two sessions with service providers in Portland. Two dietetics students from Monash University coordinated and conducted the focus group sessions in the Glenelg Shire with assistance from a Health Promotion Officer at Portland District Health. In Southern Grampians Shire focus group sessions were conducted by dietitians from Western District Health Service, two with community members in Glenthompson and Hamilton, and one with service providers in Hamilton.

Community participants were recruited from existing groups at health and community centres and people who had seen a promotional flyer. People who filled out the *SGG Food Access Survey* feedback form were also invited to attend. Service providers from a range of local healthcare, social and community organisations who support people that are vulnerable to food insecurity were invited using established local primary care partnership networks and service directories.

Sessions took no longer than 1.5 hours each. Each focus group session aimed to gain a local picture of the views, opinions and experiences of food insecurity, including causes and potential solutions. To achieve this each session followed a set of open-ended questions (Box 4).

Box 4. Focus group questions

Questions to Community Members

How important is having a balanced diet to you and your family?
What are some of the barriers you face when obtaining food?
Do you get food from places other than the supermarket?
What current activities or support systems exist in the community that help people obtain food?
What else would you like to see help people obtain food?
How could we go about doing this?

Questions to Service Providers

What are the first things you think of when you hear the terms ‘food access’ or ‘food security’?
Have food insecurity or food access issues surfaced in your daily work?
What are some of the barriers in the community for accessing healthy food?
What current activities exist in the community that improve people’s access to healthy food?
Who or what else could make accessing healthy food easier?
Can you think of any existing people, organisations, things or places that could help/be involved?

Ethics approval for the focus group sessions conducted by the dietetics students in Glenelg Shire was ascertained by the Monash University Human Research Ethics Committee. At the commencement of each discussion session explanatory statements and consent forms were provided to participants. Verbal consent for taking voice recordings was also obtained.

Analysis

The content of each focus group session was documented by a scribe and audio recording, which was later transcribed into a written format. Data was manually coded and analysed to determine themes.

Results

Attendance

A total of 58 people participated in the focus groups discussions across the SGG catchment. Forty-one participated in Glenelg Shire, 29 of which were community members and 12 service providers. Seventeen people participated in Southern Grampians with 9 community members and 8 service providers.

Complexity

Food security was described by service providers and community members as "*a very complex issue"* with *"so many aspects"* that *"manifest differently"*. These aspects ranged from *"having enough food"* to "*the quality of food and knowing what to do with it".* A service provider noted that *"it all comes back to.. seeing your life a bit differently.. It's not right or wrong. It's just different values".* All focus group participants expressed a range of opinions, understandings, assumptions and judgements about food access issues experienced across the SGG catchment. A variety of solutions were discussed with the perception that addressing food security is *"a cultural change.. a huge behaviour change and challenge"* for both service providers and community members themselves.

Themes

Many topics and standout quotations arose from the analysis of the transcripts. These topics have been grouped into major themes in line with the three dimensions of food insecurity (availability, access and utilisation), as well as coping strategies, emergency food relief and other possible solutions (Box 5). The qualitative data collected gives context, background and detail to the quantitative data collected by the *SGG Food Access Survey*.

Food availability

Food affordability

Community members and service providers held a general consensus that, *"compared to the city, it probably is more expensive to buy food here (in rural areas)".* Many also perceived fresh fruit, vegetables and meat as the most expensive groceries to buy which led to people restricting their intakes of these core foods if money was short. As one resident explained "*It's too dear for me at the moment (and) wouldn't have fed everyone (in the family)*". Specialty food items such as organic and gluten free products were also perceived to be more expensive than comparable products. Quite often people were faced with the choice of paying more for these products or not adhering to the diet.

Some Casterton residents were concerned about the lack of competition between supermarkets driving food prices higher. Some community members living in smaller outlying towns reported driving to major town centres to do their shopping at larger or discount supermarkets and warehouses such as ALDI stores or the Meat Barn in Warrnambool. A Merino resident described that, *"It's cheaper for me to drive to*

Hamilton to do my shopping at ALDI... than it is to drive to Casterton. It's half the price at ALDI. It costs me $10-$20 (in petrol) to get there, but I'm saving $50 or $60 (on food) in ALDI. It makes a big difference".

The rising cost of food services such as Meals on Wheels or day centre meals is placing stress on household budgets. Meals on Wheels was reported to have "*gone up from $6.20 to $7.10.. (and then) you've got to buy milk and bread and cereal .. people on a pension just cannot afford to do it*".

Box 5. Themes identified in focus group discussions

1. Availability

The availability of food varied between towns, with food being more available in larger towns like Portland. Ethnic foods and special dietary foods were least available. The price of fresh fruit and vegetables, meat and special dietary products made these items unaffordable for some people.

2. Access

Transport and mobility were the most discussed barriers to accessing food, particularly for low income earners and the elderly. Storage and kitchen facilities, store opening hours, time, self sufficiency and food wastage also influenced access to food. The perception of how these factors helped or hindered an individual's ability to obtain food varied between towns and population groups.

3. Utilisation

A balanced diet featuring fresh produce was desirable for health reasons, yet there were many barriers indentified which made this difficult to achieve. Lack of knowledge and skills related to budgeting, shopping, food preparation and organisation influence food selection, with a trend towards expensive and nutritionally poor convenience items. Role modelling allows for the transfer of skills and knowledge required to obtain food, although not all people have this opportunity and therefore are at risk of food insecurity. The personal characteristics of individuals including their motivation, priorities and values also influence food choice.

4. Coping strategies

Community members undertook a wide range of coping strategies to improve their individual access to food, including growing and sharing produce, bulk buying and cooking and sourcing cheaper food.

5. Emergency food relief

Emergency food relief agencies exist to provide food on a temporary basis. However, stigma around food hand outs, limited accessibility of food relief organisations, inappropriate referral pathways, misconception that food provided is poor quality and impractical, and the reluctance to forfeit personal pride were factors which may reduce the likelihood of people using food relief services.

6. Possible solutions

Food access issues surfaced daily in the work of local service providers. A variety of existing programs and services to increase access to food were identified. Targeted and innovative solutions tailored to local needs were suggested, including local program and service guides focusing on food and nutrition, initiatives to build knowledge and skills to budget, shop and cook nutritious food and initiatives to increase food supply such as home and community gardening and social cooking.

Variety of food sold local food outlets

Community members agreed that, *"there aren't many options apart from supermarkets".* General stores in smaller towns mostly stocked basic products. Fresh produce was *'not there at all'* in small outlying towns such as Glenthompson and Merino. These local stores were used mostly in "*an emergency*". Residents in these towns travelled to major towns such as Hamilton and Portland to do their food shopping at supermarkets. To make the trip feasible, most individuals went less frequently, when it coincided with other reasons to travel out of town or when carpooling and community transport were available. Other options were travelling suppliers selling fruit and vegetables with some *"young families"* in Glenthompson accessing a supplier on route to Ararat. A van used to travel through Casterton and Merino but residents *"haven't seen him for a while"* and *"don't really know why it stopped".*

Casterton residents felt that they were, *"lucky to have such good fruit and vegetables in (the local FoodWorks) supermarket"* and did *"most of the shopping (there to) support your own town".* Casterton also had a green grocer and butcher shop which received positive reviews from community members for their prices, service and *"very good variety".* The butcher in Casterton offered a delivery service to Merino residents "*in a refrigerated van*" and community members who grow their own meat *"get (their) beasts (cows) done through Richardson's (butcher in Casterton)".*

It was common for residents across the SGG catchment to express difficulty in sourcing ethnic foods in most food outlets across the catchment. Products were mainly marketed for Anglo-Saxon community members who represent the majority of residents. This made it difficult for community members from different cultural backgrounds or interested in multicultural cooking to source culturally appropriate foods. These residents had to travel to larger towns such as Warrnambool or Mount Gambier or ask family members to send down parcels from Melbourne to acquire these foods.

There are fresh food markets in Portland, Casterton, Hamilton, however there were mixed reports about the size, affordability, variety and quality of food sold. One person described the Town Green Farmer's Market in Portland as "*small and very limited*", sold gourmet produce and tended not to attract people who were financially and socially disadvantaged. The Glenthompson market is only held once a year and the Merino Consolidated Primary School infrequently hosted markets to sell produce from their school kitchen garden program.

Although most participants perceived ALDI as a cheaper supermarket it was mentioned that shopping at ALDI was limited *"because they make their packages up in family size and I can't use them up before they go off.. (and) it's limited what they've got*". Contrastingly, a community member told the group that "*Woolworths have by far the better range.. but whether that's important I don't know".*

Glenthompson residents mentioned that Meals on Wheels provided frozen meals delivered weekly by the hospital, but were once fresh, hot meals delivered daily by a group of ladies in town. This change in service was motivated by factors such as cost, kitchen requirements and loss of volunteer drivers.

Community residents gave some examples of how they access fresh produce when it was not available at local stores. "*Some people do leave lemons and that at the shop for people to take.. happens when they're in season, when there's a glut".* One person mentioned that *"you can pick up a bag of potatoes, onions or eggs from the properties along the road.. get it from the farm door",* while another talked about *"a lady down the street sells eggs, so you can always get eggs".*

Food access

Relative poverty and financial stress

Financial stress was the most overbearing barrier to food access discussed by focus group participations. Community members who were unemployed, receiving welfare payments or a pension had difficulty finding the money to buy food. For example, one lady receiving Newstart Centrelink payments "*live(s) off $75 a week.. make ends meet but I do struggle".* Financial stress was also impacting on aspiring families who *"earn a good wage out there (major local industry). A lot of people.. get into financial strife, mortgage themselves very highly.. You live by your income I suppose or beyond it sometimes",* described one person. Service providers were *"seeing a lot of people now that (they) would never have seen before.. they don't really know how to navigate the welfare service".*

Food was generally a discretionary item in household budgets. Service providers discussed clients who were struggling on very low incomes, *"They are just surviving, not living.. Centrelink payment is very much subsistence living". "By the time they pay their rent and their bills they don't have much left over for food".* Service providers also described situations where people no longer had a stable residence which alters their prioritisation of obtaining food, *"The content of food wasn't actually a great priority when it came to them trying to save their house".* It was mentioned that *"there is an endless strain on people's wallets"* and *"one phone bill just puts everything out of whack".* Other participants discussed expenditure on *"alcohol, drugs and cigarettes", "Austar (pay TV) and DVDs every night"* and *"that instant buzz that's lacking form the rest of their life".* Service providers also stated that *"it's expensive to be sick".* They encouraged clients with mental health issues to prioritise buying medication rather than food because this was more important to the stability of their wellbeing at the time. All these different experiences and financial burdens *"comes back to.. see(ing) your life a bit differently"* and *"respect(ing) what (people) want to do and work within their capacity".*

Transport

Most participants relied on a car to access the shops in order to obtain food. A range of issues were discussed with having to drive to major towns such as Portland & Hamilton to purchase food. One Glenthompson resident described that *"petrol prices are shocking!".* Although some residents were happy to travel to major towns *"because (they're) over there for (other) things".* The elderly or mothers with young children were perceived to have issues with mobility and transporting groceries home, as well as participants living in isolated areas serviced only by a general store such as Merino. There is a community bus in Merino which travels to *"Casterton three weeks a month"* and *"Hamilton the other week".* Loss of independence was undesirable, especially if the bus was travelling to areas that were perceived to have expensive food prices, had limited space for shopping bags and took all day to pick up and drop off passengers. One community member remarked on the difficulty of doing a fortnightly shop *"in the few hours".* The taxi service in Casterton was considered to be reasonably priced and young mothers were using *"the community centre for vouchers for the taxi"* in order to access food. One Portland resident described her transport limitations, *"I didn't have a car and I live up South so I had to walk everywhere. I couldn't really afford a taxi and you have to pay to have (groceries) delivered".*

Grocery deliveries were offered by supermarkets but within major towns only. Many participants were not aware of these services and the associated costs. All Casterton participants were aware of the free home delivery provided by their local supermarket.

Cooking and storage facilities

Lack of storage and kitchen facilities were perceived as a significant issue for the homeless which were compounded by financial instability and continual relocation. As one participant described, *"I know people who don't have a fridge, living out of eskies".* A local support service had a *'No Interest Loan Scheme'* for *"someone who wants a fridge.. but doesn't have great credit etc, they can have access to a loan that has no interest. But even more for a lot of the young people.. no use to them because they don't have anywhere to live (or put a fridge for example)".*

Time and convenience

Participants who described themselves as *"time poor"* were more likely to buy food from one location. A Portland resident described the difficulty in accessing multiple food outlets, *"I find that it's just a case of: I've got to get some cat food, some cat litter, washing powder, toilet paper so you go down to the supermarkets for that and by the time I'm done I'm not going to the butchers".* Some participants stated that they were more inclined to buy ingredients that required limited cooking time, such as pre-packaged and take-away meals. *"People have a lot on their plates and can just put it in the too hard basket".*

Food utilisation

Dietary consumption patterns and effects on health

The importance of consuming and following a balanced diet was expressed by all participants to varying degrees. Community members acknowledged the relationship between diet and health. Healthy eating was perceived important, particularly for those managing diet-related disease such as diabetes, gallstones and heart disease. *"I have a son (who) is a diabetic, so I have to watch what I buy'*. Despite its importance many participants were not able to eat a healthy balanced diet for a wide variety of reasons. "*I don't eat enough fruit, no way. Last fortnight I only bought three apples. It's just hard. I try to remain healthy*". *"I'm finding that the money runs out before my next pay and the only alternative for me is what's left in the cupboard"* or a *"tummy filler".* Some Meals on Wheels recipients *"will eat the main meal at lunch time and the soup and sweet at night"* which limits their nutritional intake.

Knowledge and skills

Food affordability was closely linked to an individual's skills and knowledge on how to budget, shop, prepare and cook healthy foods with low disposable income. A number of elderly community members credited their *"wealth of knowledge"*, creativity, resourcefulness and well developed cooking skills to being raised during the years of the *"depression"* when food was scarcer and there was a greater need to learn and use limited ingredients to prepare food from scratch. On the other hand, some pensioners and older people living alone were lacking in knowledge and skills. For example, "*if the female partner has done all the cooking and that is no longer the case.. (because she has) passed away.. all of a sudden"* and the male partner who has *"never cooked in his life.. has to learn in a hurry".* One participant described the difficulty faced when cooking for *"one person and be motivated to do it.. It's also hard to shop for one person".*

Focus group participants agreed that*, "people don't know how to budget"* and therefore they are buying the *"pre-packaged expensive option".* It was acknowledged that the *"skill set as well as knowledge might be lacking"* and that *"things are not being passed on from parents to children"* because *"for them it's not a choice.. they don't have the knowledge of the alternative".* This all has a significant impact on the children *"because they see these mixed messages from everywhere".* Pre-packaged and take-away foods are "*so prevalent now, they think it's really special to eat something cooked from scratch".*

It was perceived that the younger generation did not share the same attitude, skills or knowledge as the *"older generation"*. This is compounded by the advent of convenience foods and changing family roles and school curriculums. A service provider described the budgeting skills of young people today as *"non-existent". "A lot of kids come from dysfunctional families (or are struggling with mental health issues) and actually leave home before they get those skill sets...Things continually break down and you don't get that transfer of skills or those skill sets (from parents) weren't there to begin with".*

Living alone, motivation and mental health

Lack of motivation to shop and cook was common among people living on their own or with mental health issues. A community member who lives alone explained that, "*I can cook but I'm unwilling.. I've got other things to do".* Another said that, "*I live alone so I tend to cook whatever is in the fridge or look in the freezer sometimes*".

One person described, *"When I'm on a down, as I call it, because I don't take medication, I just fumble through and struggle through. I don't want to leave the house".* Service providers mentioned that their clients who have anxiety and depression *"nominated that the supermarket is the most terrifying place.. where most major panic attacks occur because of the lights.. the choice.. movement of shelves"* and the public space where "*people (are) watch(ing) you".* They explained that their clients "*know what's best for them(selves), so they work out their own personal strategies.. (such as) shopping very early"* or late and using a shopping list.

Coping strategies

Focus group participants described numerous coping strategies that individuals use to improve their access to food. Some community members explained that they *"couldn't survive if I didn't grow my own vegetables"* and that they eat all their "*own grown vegetables and meat... most farmers do".* However, others described limitations with having the *"property to be able to do it and the skills".* If you "*live in a flat.. (you're) not allowed to (grow your own)".* Excess produce was generally shared between family, friends and neighbours or bartered, which increased variety and reduced wastage.

Seeking out and purchasing food that is cheap, *"seasonal", "marked down"* or *"on special"* were strategies commonly used. This approach was not limited only to people who were food insecure, with the majority of participants valuing bargain purchases.

Buying discounted food in bulk was another strategy used for obtaining affordable food and making significant savings. Cooking food in bulk and then freezing the leftovers was another strategy. However it was mentioned that bulk buying and cooking isn't feasible for everyone due to the high cost of a bulk purchase, inability to carry groceries home, lack of storage facilities or short-life of fresh foods. It was common for some individuals living on their own to buy smaller portions of food to save money and minimise waste

Other coping strategies included "*keeping a shopping list*", hunting, fishing, preserving food and stealing food when in dire circumstances.

Emergency food relief

Services

Emergency food relief agencies exist to provide food on a temporary basis. However, stigma around food hand outs, the limited accessibility of food relief organisations, the misconception that food provided is poor quality and impractical, and the reluctance to forfeit personal pride were factors which may reduce the likelihood of people using food relief services.

Knowledge of existing emergency food relief services was highly variable. Loaves & Fishes Portland Christian Emergency Relief Centre was the topic of much discussion. This organisation was formed when the local churches amalgamated to provide a single service because *"people would present themselves to different churches.. in one day and access food".* They decided that it was "*better start a co-operative so we can monitor this"*.

There were assumptions that relief services distribute "*cheap and nasty food.. high processed stuff"* and that clients "*take what you can get"*. Focus group participants also raised the issue that the hamper of food packed to last a few days was heavy, *"people cannot carry that much.. How do they carry it home?"* A service provider did note that Loaves & Fishes have *"got some new staff members*" and *"are using things more wisely"*. A service provider suggested that they *"could do amazing work with a small refrigerated vehicle. We could just go out and get so much (food)".* Some focus group participants speculated that the characteristics, experiences and training of some workers and volunteers at Loaves and Fishes made them limited in the options they provided to clients.

Other emergency relief options in Glenelg Shire discussed include food vouchers distributed by Winda Mara Aboriginal Corporation to their clients in Heywood and St Vincent de Paul in Casterton which is run by volunteers. They *"give vouchers and.. have a huge food cupboard".*

Most emergency relief services in Southern Grampians are concentrated in Hamilton. There is a "*soup kitchen at Hamilton Station"*, monthly community lunches at the Uniting Church and meals provided by the Anglican Church to "*people in need two days a week*". The Hamilton "*Hospital has cafeteria meals for $5 for the community*". Community members in Glenthompson stated that there was *"no-where for you to go (to get emergency food relief in Glenthompson), except your neighbours.. if you're a bit short or you're really desperate".* The Country Women's Association and Red Cross programs in Glenthompson are *"well gone now".*

Service providers across the SGG catchment explained that *"getting in touch with our financial counsellor is ridiculous. The waiting list is huge. People are in strife before they can get to them".*

There was discussion about the role of emergency food relief services across the SGG catchment. These services don't just provide food hampers and "*handouts".* There role was also *"to teach, to educate the community about how they could be preparing meals to fit in with their very hectic daily lives... sustainable access and education".* One important point reminded focus group participants that *"we're talking about people.. they're in crisis.. people in a chaotic state are not thinking, 'Oh, (I must go to) cooking classes next week'.. They are thinking of lots and lots of other things.. particularly with mental health".*

Referral pathways

People wishing to access emergency relief at Loaves & Fishes in Portland have to *"go to Centrelink to get a voucher"* first. Service providers in Hamilton requested that referrals to emergency food relief should also be made through Centrelink to stop people from misusing existing services and "*trying to soften the initial contact in some way"*. Limitations with this referral process includes some confusion among service providers who *"can't make referrals for food anymore"* on behalf of their clients. They are concerned that their clients are *"already seeing someone. They have already told their story and there is no need to tell it again".* Community members also felt that visiting Centrelink is an arduous and demoralising experience, with one person stating that she would "*rather starve*" than go to Centrelink for a referral to Loaves & Fishes.

Stigma, guilt and clientele

Stigma was a significant barrier to accessing emergency food relief services and gaining financial support from local businesses. There was a common perception that people who use food relief had *"certain habits"* with some people not wanting to be seen associated with this. However, one person mentioned that due to mortgage stress, job loss, and large companies closing down in town *"you begin to see these faces coming in that were fairly healthy families". "Everyone has a threshold".* These people are also *"less likely to know about the Loaves & Fishes service"* or how to "*navigate the welfare service".*

Embarrassment and confidentiality was an issue for people in *"small communities*" such as Merino, Casterton, Heywood and Glenthompson as "*it's so close knit, everyone knows everything".* It was also suggested that many *"community members in these towns would not know how to access emergency relief".* One resident witnessed a lady at the supermarket checkout who had a food voucher from St Vincent de Paul. *"The girl on the checkout didn't know how to do it (process the voucher)"* so she, *"shouted across the supermarket for her manager".*

Pride and worthiness were factors that limited people seeking help. Some people felt that they didn't deserve to use emergency food with one person explaining that "*you go away thinking, hang on, there has got to be someone else worse off than me. I don't want to take this food". "I don't want to be putting someone else out who needs it more than me".* People who used food relief services were likely to recall it as a negative, "*soul destroying*" emotional experience, with some indicating that they would refrain from using a similar service again.

There were mixed opinions about how emergency food relief agencies treated their clients. St Vincent de Paul in Hamilton and Casterton were *"managed by a group of lovely ladies who have been doing it for years"* and staff at Loaves & Fishes in Portland were described as *"kind and nice".* However, there were some poor opinions that *"people in there, they degrade you".*

Solutions to increase access to healthy foods

Service providers taking part in the discussion group said that food access issues surfaced daily in their working role. *"We couldn't come up with a sustainable solution without a lot of other agencies jumping on board and having a group effort".* Service providers suggested some programs and services that could help to increase access to food. It was mentioned that one off programs and events do not work from past experiences and that people need not rely on emergency relief and breakfast programs as they don't build knowledge and skills. Community members were more likely to discuss individual coping strategies.

Guide to local services and programs

Many educational and skill-building programs were identified by service providers and community members. Some were current programs and others had been implemented in the past. Many focus group participants were not aware of existing services and programs and whether they were eligible to be involved in them. Service providers in Hamilton suggested compiling a resource pack with information about services that promote access to food and programs that build these skills if needed. This guide could be available in the community at all health, social and welfare organisations in Southern Grampians and Glenelg Shires. This will help to promote and improve current programs and existing services.

Food budgeting

Some service providers had run a "*FOODcents (food budgeting and cooking) program .. with the dietitian.. It wasn't as well supported as (they) would have hoped.. The dietitian only comes down here once every fortnight and we buy her services in*". There was a perception that you had to be an *"accredited trainer to run the program".* One possible solution to the sustainability of this program could be to train up local workers and volunteers to run the FOODcents program[40].

Community gardens

It was mentioned that a community garden was a good idea for Casterton as "*it's a very garden orientated town",* but it was acknowledged that support "*has to come from the community. It will not work from top down".* Community members in Portland North have "*hit the Council for a community garden"* to *"run along the fence"* where all the *"housing commission units"* are. These ideas to start up community gardens across the SGG catchment could use a community development approach to ensure sustainability. An example of where this approach could have been effective was when a local community group "*started (a community garden) at Lewis Court (aged care independent residential facility in Portland). But they shut it down because of public liability insurance"* and disagreements about the community model in which to use as a foundation. It has now "*fallen over"* and there are many *"lessons learnt from that".* "*It has to have that community drive"* and community workers and service providers are aware of that now. "*The best way to start a nutrition thing is to get people involved with grass roots stuff. You know, start with your community garden". "Try to encourage that ground to table appreciation of what our food is about".* However, this approach does take time and effort to progress to a sustainable model. *"Everyone is so busy they just want to keep to themselves. They won't want to share their property. If you could have a purpose built place that belonged to the community you'd probably do quite well".*

Communities like Glenthompson would benefit from a "*skill plot"* for gardening lessons or a produce sharing system as opposed to a community garden as many residents already grew their own produce.

Community co-operatives

As well as community gardens and sharing excess produce and food co-operatives were discussed as possible solutions to food access issues. *"A stockman's co-op would be great. You could have some people who could grow some beef for you".* "*Food co-operatives that people start themselves are a very good idea". "You could get a system where someone.. could get a $15 box of fruit and vegetables". "It would be useful but I don't know who the clientele would be and how many people would use it".*

Community kitchens and other social programs

Community kitchens and social eating groups were also perceived as solutions as they address social and cultural access to food. *"Eating a meal together because so many people live in isolation".* These types of programs provide a forum for people to get together and eat, share stories and advice and meet new

people. Social interaction and connectedness was seen as just as important as the food and meal sharing. It leads to social connections and relationships. Service providers in Hamilton suggested cooking demonstrations, community kitchen groups set up at the soup kitchen and Nutrition Australia's 'Cooking for 1 or 2' program for veterans. These initiatives could utilise schools, churches and local halls as venues.

One service provider has plans to start up a community kitchen and community garden "*at the new (Merino Bush Nursing) Centre (in) the courtyard"* to teach people that they can "*buy fresh food and prepare it themselves".*

This social eating model has been attempted with the Motorheads program in Portland for youth at risk of school disengagement. Participants are "*pick(ed) up... and (they) teach them how to cook, and other life skills. It seems to be a great program. They get their parents to come in and serve them meals.. They seem to enjoy it. Whether they retain it or not is another thing"*

A social worker described a *"youth cooking program"* she used to run where they "*used to sit there and start with all the shopping catalogues.. go through all the specials.. do the supermarket tour.. do the buying.. come back and do the cooking and they all went home with about four meals that day".* She explained that program success is built on *"consistency"* and "*sustainability*", but *"a lot of funding is short-term when you do those programs".*

Nutrition education

A nutrition education program run at an Aboriginal Community Controlled Health Organisation *"was failing to get the numbers of woman and men showing up"* so the Aboriginal Health Worker considered "*changing the strategy of delivering it"* by asking community members "*what they want to do so I can keep getting the word out there about nutrition".* This raised the importance of coming "*up with different ways". "Coming in a room and putting a PowerPoint up and handing out pieces of paper and me standing at the front talking and doing it – It just doesn't work, they don't want to hear".* This example highlights the importance of using a community development approach where the community dictates what works best for them. *"Incidental education*" on food, nutrition and health would be trialled during future programs at this orgranisation.

Discussion

Access to healthy food is universally acknowledged as a basic human right[41] and a fundamental determinant of health and wellbeing[42]. Despite this, some people living in the Southern Grampians and Glenelg Shires are faced with food insecurity experiences.

> 'Everyone has the right to a standard of living adequate for the health and wellbeing of himself and of his family, including food' [41]

This Southern Grampians & Glenelg Community Food Security Needs Assessment is the first comprehensive integrated food security research project to be conducted across the SGG catchment. The results highlight the complexity of food insecurity experiences, including the physical, economic, sociocultural and political determinants[43]. The needs assessment provides local baseline data as a starting point for solution generation and monitoring changes over time.

The findings of the needs assessment suggest that some residents across SGG do not always have access to nutritionally adequate, affordable, culturally acceptable, safe foods regularly through non-emergency sources[1] and are thus vulnerable to food insecurity. These residents include people living in small outlying or isolated towns not serviced by a supermarket, people without access to independent vehicles, people living in large households, people with Aboriginal and Torres Strait Islander background, households with young people, young people at risk of homelessness, older people living alone, low-income earners, people living in government or rented accommodation and areas of marked socio-economic disadvantage. These findings are consistent with previous research on community food insecurity[5, 12, 44-46].

Although the majority of SGG residents are food secure, the high proportion of people living with relative socio-economic disadvantage and the prospect of an ageing population[22] in certain areas of Glenelg and Southern Grampians Shire, leaves a large variety of people at significant risk of food security.

Food availability

The physical environment in which food is sourced from is an important factor affecting access to food and promoting healthy eating behaviours[47, 48]. Without the regular physical presence of food there is no access to food for utilisation[10, 44, 49].

Mapping demonstrated that there are large distances between some small towns and the nearest supermarket. These towns include Dartmoor, Merino, Digby and Condah in Glenelg Shire and Branxholme, Cavendish, Dunkeld and Glenthompson in Southern Grampians. Availability of essential healthy food is limited in these towns and food costs are comparably higher than major towns with a supermarket.

The Victorian Health Food Basket survey and focus group discussions confirmed that quality and variety of food is adequate in supermarkets across the SGG catchment but limited in general stores located in smaller towns such as the Merino and Glenthompson areas, especially fresh fruit and vegetables. This forced some residents to travel long distances to shop for fresh food in supermarkets and others to go without, resulting in negative implications to their diet.

Previous research conducted by Palermo & colleagues[29] found limited evidence that food costs are higher in rural areas of Victoria. The average fortnightly cost of a basket of food for a family of four has increased from 2007[29] to 2010 at supermarkets in Portland ($393 to $412 respectively), although not by much. In Hamilton the fortnightly cost has remained the same ($380 to $381 respectively). However, the Southern Grampians & Glenelg Community Food Security Needs Assessment measured supermarket costs in Heywood, Casterton, Coleraine, Penshurst and Balmoral as well as the two major towns of Portland and Hamilton, which have previously been the only towns measured in the SGG catchment[49]. Results from the VHFB survey showed that the price of food available in supermarkets across the SGG catchment varied. It found a difference of up to $100 between the cheapest and most expensive stores to purchase a basket of food to feed a family of four for a fortnight.

Reasons for high costs and low availability in small towns may include lower buying power of independent supermarkets compared with larger chain stores, limited turnover due to small town populations, less competition and distribution costs associated with long distances from the supplier[45, 50].

Focus groups indicated that some residents increase their access to nutritious foods through shopping at farmers markets, growing their own produce including fruit, vegetables, poultry, meat and eggs, and trading with others in the community.

Food access

There are strong associations between socio-economic disadvantage, relative poverty, food insecurity and diet quality[49, 51-53]. This needs assessment has identified limited household financial resources as the leading risk factor of food insecurity for residents living in the Southern Grampians & Glenelg Shires, particularly people residing in areas of greatest socio-economic disadvantage. These associations were consistent across focus groups discussions, VHFB surveys and *SGG Food Access Surveys*. Many people were affected by financial barriers including people living on low-incomes or government welfare payments, in government or rental accommodation and families with high living costs and debt. These findings are consistent with the literature on food insecurity.

Food costs have been found to significantly influence food choices among people in financial strife[51, 54] as food becomes a discretionary item in household budgets after housing and utility payments[49, 51]. Financial constraints related to household income consistency, asset wealth, debt, ability to access credit, capacity to save, employment, unexpected expenses, basic costs of living and housing have been identified as prominent barriers to accessing food[43]. Other financial factors placing stress on some household food budgets include inappropriate spending such as problem gambling, purchase of cigarettes, alcohol and illicit drugs[43]. Community members and service providers participating in local focus group discussions confirmed this fragile balancing act between the basic costs of living and keeping '*your roof over your head*'.

Transportation has been identified as a major determinant of shopping frequency[52]. Following Australian trends, the majority of community members consulted in this needs assessment relied on a private vehicle to access food[55]. However, for those that can't physically drive or do not own a vehicle physical access to food was an issue[45]. Mapping showed that there is an extensive public transportation network across the SGG catchment connecting residents in outlying towns to major town centres with supermarket options. The trialling and provision of innovative public transport schemes through the South West Transport program has improved food access for some people in the SGG catchment. However, focus group discussions with community members revealed that there are still issues with awareness of services, mobility, disability, transport costs, travel time, infrequency of services, bad weather, lack of choice and

difficulty carrying shopping home which complicates use of some public and community transport options. People with limited or no access to transport may have to rely on small local food outlets which have higher costs and lower availability of healthy fresh foods compared to supermarkets[43].

Access to adequate food storage, preparation and cooking facilities in the household is also a risk factor for food insecurity[43, 52, 56]. This affects few residents in the SGG catchment but is a major concern for people at risk of homelessness and in extreme financial crisis. A 'No Interest Loan Scheme' exists to help SGG residents who are in strife to pay off expensive kitchen appliances. However, this still does not alleviate the risk of homelessness for people in dire circumstances. These material limitations also limits vulnerable people from bulk buying low cost food as a coping strategy to save money as there would be no where to store this food[43].

Food utilisation

Dietary consumption and food shopping behaviours are influenced by food insecurity experiences. This needs assessment has provided local evidence to suggest that dietary consumption may be altered as a result of food insecurity among populations at risk in the SGG catchment. Focus group participants described that despite placing a high importance on healthy eating, there are a number of reasons why this may not be achieved. Resilience was demonstrated throughout the community as households were adapting their diet to their personal situations using a variety of coping strategies[57], sometimes by compromising diet quality and quantity.

The *SGG Food Access Survey* found that food insecure respondents were less likely to report fruit, vegetable and meat consumption on most days of the week compared to food secure respondents. Many food insecure households reported managing their situation by reducing the variety of foods eaten such as cutting down on core food groups such as fruit, vegetables and meat. These findings are consistent with other reports in the literature showing that diet quality is usually altered before diet quantity[58] by the food insecure and that food access issues affect consumption of healthy food, in particular fresh fruit and vegetables[47, 59]. The reduced consumption in fresh healthy foods may be partially explained by perceptions that fruit and vegetables are more expensive[60] and less available in outlying areas[46], which was mentioned by many community members in focus group discussions. The issue of higher costs and lower availability in outlying towns without a supermarket has been verified by results from the VHFB survey in this needs assessment.

Food insecure households participating in the *SGG Food Access Survey* reported eating cheap meals such as toast or noodles when food was limited. Focus group discussions also revealed that some people experiencing food insecurity resort to eating energy dense pre-packaged foods and take-away foods. They felt that these foods '*filled*' them up when time and money was short, motivation was low and when other more pressing priorities took precedence such as bills and medication payments. These foods are also marketed as cheap, tasty and convenient and seen as giving value for money. Taste preferences were also a common factor in choosing these types of foods among young people as they are typically higher in energy, fat, sugar and salt[58, 61] which increase the palatability of food.

The *SGG Food Access Survey* also found that some food insecure households were cutting down on the size of their meals and in some cases skipping meals when food was limited. These are more extreme circumstances involving lowered quantity of food which may lead to hunger, weight loss and malnutrition if prolonged[62]. Although these circumstances were less common they are still of major concern, especially if children were not meeting their energy and nutritional requirements for healthy growth and maturation, or

for people with conditions such as diabetes where low blood sugar levels are life threatening. To address these shortages of food some households were accessing emergency food relief services and getting help from family and friends.

Personal knowledge and skills are integral factors in the budgeting, purchasing, cooking and eating of healthy food. Anecdotal evidence from focus group discussions suggest that some people lack these skills and that knowledge and skills are not being transferred or modelled to the younger generations or from females to males. Some studies have revealed there is a real lack of nutrition knowledge among socio-economically disadvantaged populations[63, 64, 65]. However, knowledge and skills are not always lacking[66] and once acquired they may not be translated into practice[67] due to financial constraints[43, 68] and the wide range of other factors listed throughout this report[67]. Motivation and mental health were also identified as integral personal factors affecting access to food for some people living in the SGG catchment.

Food insecurity has been associated with diet related conditions[51] such as overweight, obesity[12, 69] and type 2 diabetes[70]. The obesity-poverty paradox[12, 69, 71] is used to explain the association between food insecurity, socio-economic status, diet quality and diet-related disease and health conditions[51-53]. The latest figures from the Victorian Population Health Survey[20] show that trends for diet-related disease follow a socio-economic gradient whereby low socioeconomic circumstances are disproportionately associated with higher prevalence of type 2 diabetes mellitus, obesity and lower proportion of meeting dietary guidelines for fruit and vegetable intakes. However, more research is needed to confirm whether the obesity-poverty paradox[12, 69] has local manifestations and whether food insecurity and socio-economic disadvantage is associated with the high prevalence of obesity and type 2 diabetes mellitus complications in the Glenelg Shire[22] compared to the Southern Grampians Shire and Victorian averages[20].

Other factors that regularly surfaced during the local research process were personal experiences with psychosocial wellbeing, social connection, motivation, and mental health issues. These factors have been found to influence stress and anxiety around food access[72].

Emergency food relief

Findings from the focus groups and *SGG Food Access Survey* indicate that not everyone at risk of food insecurity knows how to access emergency food relief services. Focus group participants also described referral pathways, stigma and embarrassment as common deterrents to accessing these services. People living in outlying towns had limited access to these services as emergency relief tended to be concentrated in the major town centres of Portland, Hamilton and Casterton. Although emergency food relief is essential for people in crisis community members and service providers need to work together to develop sustainable, socially acceptable solutions to improving access to food and avoid reliance on relief services for regular access to food. These needs have been reported by users of emergency relief services in Australia[56] but further local research will reveal whether this is a need for local clients.

Although food security is defined as ".. through non-emergency sources"[1], emergency relief services are strategically placed to provide health promotion initiatives to reduce a clients reliance on these services by addressing individual determinants of food insecurity such as building cooking skills, food budgeting and shopping skills, nutrition knowledge, social cohesion and support.

Implications for the *Food Security Working Group*

The information presented in this needs assessment report gives a comprehensive understanding of the range of food insecurity experiences, issues and perceptions across the Southern Grampians and Glenelg Shires. It provides baseline data for future analysis and comparisons, and has guided the development of a list of recommendations for action. This completes the 'problem definition' step of the Integrated Health Promotion planning cycle[22] that will support the next 'solution generation' step where comprehensive action at all levels will be considered in partnership with all *Food Security Working Group* members, interested agencies and the community.

Innovative solutions tailored to local needs will specifically address the root causes and experiences of food insecurity[51] for people living in the Southern Grampians and Glenelg Shires identified in this report. A range of solutions were identified by the *SGG Food Access Survey* , focus group discussions and local program audit that will be considered during the 'solution generation' phase. Possible solutions considered for implementation will need to have demonstrated effectiveness throughout the literature and local services and communities must have the capacity to plan, implement and evaluate these local initiatives.

Strengths and challenges

Measuring food insecurity has been described as an important yet difficult endeavor with many associated challenges[73]. Detailed below are the strengths, challenges and limitations that surfaced while conducting the various research methods in the Southern Grampians & Glenelg Community Food Security Needs Assessment.

Discussion paper

Food security is a complex issue. A review of the literature revealed the diverse definitions, determinants, population sub-groups 'at risk', consequences, prevalence and frameworks of food security and identified relevant papers detailing research methods to conduct a needs assessment. It was difficult to combine all this into a concise document that would be read and utilised by *Food Security Working Group* members. The discussion paper revealed a lack of local data on food security issues and gave the group a framework to base their needs assessment on. This formed a basis for integrated health promotion work through a cohesive understanding of this complex issue.

Community profile

Collating data for the community profile helped the *Food Security Working Group* members to understand the demographic and socio-economic trends across the SGG catchment and identify geographic locations and sub-population groups where food security may be experienced. Summarising this data aided comparisons between towns and between Shires.

Audit of existing food and nutrition programs

Existing initiatives across the SGG catchment were identified through local knowledge, focus group discussions and contact with community health and welfare services. Not all services were able to be contacted despite persistent emailing and calling. Therefore, this is not an exhaustive list. Forty-nine food and nutrition initiatives were identified, some of which were short term opportunistic programs dependent on funding streams. Frequent staff movements affected program knowledge and sustainability and the process and impacts of most programs were not evaluated. The information was collected at one point in time. Since then new food and nutrition programs have commenced and others have ceased.

Victorian Healthy Food Basket Survey

The survey was simple to administer and all stores were compliant. The instructions and Excel spreadsheet for data entry that was retrieved from Monash University allowed conformity in data collection methods and analysis. Data was collected by different researchers at different times which may have introduced research bias and inconsistency in data collection. The survey was administered in Southern Grampians during November in 2009 and in Glenelg during July 2010. This time difference introduced bias with seasonal differences in prices and changes in Centrelink income figures which prevented price comparisons between Shires. To maintain the compliancy and confidentiality with individual food stores basket costs were written as unidentified town averages preventing price comparisons between stores. Other common limitations with use of the VHFB Survey include that the list of 44 food items is based on a limited cuisine and doesn't include cheaper generic brands[5], even though financially conscious consumers purchase these types of foods for their lower prices.

Household Food Access Survey

The *SGG Food Access Survey* was heavily promoted in the media and throughout the community using a targeted approach. The respondent sample was a convenience, non-randomised sample. This restricts making generalised assumptions based on the data collected. The questions used to assess food security are not validated questions and rely on respondents to self-report their experiences which introduces respondent bias. Analysis was done manually using Microsoft Office Excel 2007 AutoSum formulas. The 25 questions and 162 indicators to select from took a significant amount of time to enter into an Excel spreadsheet. Errors may have been introduced during the re-coding of some data such as the coding of towns that sit across Shire boundaries. The *Food Security Working Group* had no access to statistical computer software such as SPSS (Statistical Package for the Social Sciences) or Intercooled STATA. Use of these programs and research assistance from a university or statistician would have saved time, decreased errors and allowed for more in-depth statistical analysis such as significance testing, multivariate analysis and logistic regression.

Mapping

Existing maps were gathered from a regional community profile document[22]. Microsoft Windows Paint program was used to compile the information. This could have been presented more clearly using sophisticated mapping software such as GIS or Adobe Illustrator, which was not feasible at the time. The maps selected show socio-economic data using a colour coding scheme which makes it easy to locate areas where community members may be vulnerable to food insecurity. Public transport routes and food outlet information were correct at the time of data collection. It was decided not to use the concept of 'food deserts' to identify areas where access to nutritious food was limited[5]. This concept defines an area of 500m to 1000m walking distance to food outlets with access to public transportation links. This is not applicable for use in the rural SGG catchment where large distances to shops are common.

Focus groups

There were more focus groups conducted in locations across Glenelg Shire compared to Southern Grampians Shire. The Glenelg groups were facilitated by university students as part of a unit placement which increased the capacity to run extra groups. Many community residents were recruited for focus groups from contact information retrieved from optional feedback forms handed out *SGG Food Access Survey*. There were more focus groups planned in Southern Grampians but unfortunately due to low participant numbers some groups were cancelled. All focus groups where audio recorded and transcribed apart from one due to an equipment failure. The findings from the discussions give context and detail to food security experiences but the small group sizes portray a limited set of personal experiences, opinions and assumptions affecting generalisation of results[48]. Other possible biases include the leading of group facilitators and individual group participants, alteration and/or concealment of some opinions due to lack of anonymity in small rural environments.

Recommendations

Health promotion initiatives to improve access to nutritious foods across the Southern Grampians and Glenelg Shires will require integrated planning and collaboration across different sectors, agencies and community groups with a shared interest in improving the health and wellbeing of those most in need. This includes a multi-faceted approach addressing the determinants of food insecurity across the three dimensions; availability, access and utilisation. Recommendations for action will focus on a solution-orientated approach[43] balancing focus between the immediate factors that affect individual behaviours within the context of the broader social, economic, physical and political environmental factors influencing food choice[45].

A comprehensive approach to addressing food insecurity through health promotion action is recommended by utilising population-wide, place-based and targeted approaches. The *Food Security Working Group* proposes a set of general and targeted recommendations to improve access to food across the SGG catchment. These recommendations are designed to address the five action areas of the Ottawa Charter for Health Promotion[74].

Box 6 lists general recommendations for action to improve food access. These recommendations are for agencies involved in policy decision making processes that influence the broader structural determinants of food insecurity. Key action areas from the Ottawa Charter for Health Promotion[74] include 'Creating supportive environments' and 'Building public policy'.

Box 6. General recommendations for action to improve food access

- Local advocacy for food security
- Local government policy to support the availability of affordable, accessible food outlets, including fresh produce markets where viable
- Utilise resources for local government from the VicHealth Food For All program[75, 76]
- Competitive pricing of healthy meal options at retail food outlets
- Continue support of public transport initiatives that provide transport for food shopping

Box 7 provides recommendations for local action through the *Food Security Working Group.* They include collaborating with existing and new partners to focus on local initiatives that improve food availability, access and utilisation. Promising areas for local action aim to address three key action areas from the Ottawa Charter for Health Promotion[74]; 'Develop personal skills', 'Strengthen community action' and 'Create supportive environments'.

Box 8 outlines recommendations to build the capacity of agencies and the community to act on food insecurity. The *Food Security Working Group* can have a key role in addressing the capacity of local partners to collaboratively implement the recommendations listed in Box 6 and Box 7. This will insure that action on food insecurity is monitored and evaluated to ensure efficacy and sustainability.

Box 7. Recommendations for local action through the *Food Security Working Group*

- Strengthen and build on current initiatives that address the determinants of food security. Consider evaluation of program reach, impacts and outcomes
- Develop a local food access guide and resource package to promote awareness of local initiatives and services
- Build awareness of local food insecurity experiences and possible solutions through social marketing initiatives that utilise local networks, events and media to reach the target population groups
- Support 'home-grown' produce through community gardens, providing assistance for people to grow food at home and produce sharing initiatives
- Education and skill building programs targeting population groups at risk of food insecurity. Focus on budgeting, shopping and cooking healthy food. Appropriate initiatives include community kitchens and food budgeting sessions
- Support the establishment of community food co-operatives that buy healthy food in bulk at cheaper prices

Box 8. Recommendations to build capacity for local action on food insecurity

- Continue to gather local data on food security through research and monitoring of food insecurity across the SGG catchment, including a strong focus on impact and outcome evaluation of implemented initiatives
- Review the literature of evaluated programs and models that aim to address food insecurity to inform the solution generation phase of the Integrated Health Promotion planning cycle.
- Utilise data collected by the *SGG Food Access Survey* to identify sub-population groups and locations for potential interventions
- Investigate the potential to use a train the trainer model to up-skill service providers and local volunteers to implement, evaluate and sustain local food and nutrition initiatives

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Acronyms

ABS	Australian Bureau of Statistics
HACC	Home and Community Care
IRSED	Index of Relative Socio-Economic Disadvantage
LGA	Local Government Area
PCP	Primary Care Partnership
SEIFA	Socio Economic Index For Areas
SGG	Southern Grampians and Glenelg
VHFB	Victorian Healthy Food Basket
VicHealth	Victorian Health Promotion Foundation

Appendix 1 Food Security Working Group members

Active Members

Regular attendance and decision making

Project Officer, Southern Grampians & Glenelg Primary Care Partnership
Health Promotion Officer, Portland District Health
Dietitians, Western District Health Service

Associate Members

Meeting attendance from time-to-time as required

Community Health Nurses, Casterton Memorial Hospital
Coordinator, Better Living Centre, Loaves & Fishes Emergency Relief Centre
Dietitian & Health Promotion Officer, Heywood Rural Health
Sustainability Officer, Southern Grampians Shire Council

Interested Members

Email of minutes and updates, input as required.

Aspire – A pathway to mental health
Dhauwurd-Wurrung Elderly & Community Health
Merino Bush Nursing Centre
Glenelg Shire Council
Southern Grampians Shire Council
Department of Human Services
Community Connections
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