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Overweight and Obesity in Rural and Regional Areas

**Submission to the Standing Committee on Health
and Ageing, Inquiry into Obesity**

by Nicholas Pucius

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Executive Summary

Overweight and obesity is a serious public health issue for developed economies worldwide, including Australia. According to the ABS, in 2004-05, 54 per cent of adults were classified as overweight or obese.¹ It is a “driving force behind type 2 diabetes”² as well as cardiovascular and other chronic diseases. Access Economics has estimated that the total cost of obesity in 2005 was \$3.767 billion.³

Rural populations in Australia have poorer health than their metropolitan counterparts with respect to several health indicators, including overweight and obesity. According to a 2007 study in the Medical Journal of Australia covering rural south-eastern Australia, 74 per cent of men and 64 per cent of women were overweight or obese.⁴

Despite these figures, this report found that the current data on obesity rates is inadequate, especially for children. While two pending surveys are a positive step, the report found more research and data collection is needed.

There are two core factors driving obesity: poor nutrition and inadequate physical activity. These in turn are influenced by various socioeconomic and behavioural factors. Differences in these factors may explain the disparity between rural and metropolitan obesity rates. This report examined these factors and found some evidence suggests that rural and regional areas:

- have higher rates of sedentary behaviour;
- have a lack of access to fresh food;
- are more socioeconomically disadvantaged than metropolitan areas;
- and have inferior access to health services.

Much work is being done already to tackle overweight and obesity, and in many cases the work is being done in rural and regional areas.

Some of the organizations which facilitate this work that are examined in this report are Primary Care Partnerships, Divisions of General Practice, local Sports Assemblies, and Government bodies like VicHealth, and Go For Your Life!.

Health promotion and prevention efforts centre around education and targeted interventions. This report examined a few of the main interventions and education programs directly targeting overweight and obesity, as well as some other initiatives that have an indirect impact.

¹ *Overweight and Obesity in Adults 2004-05*, (Canberra: ABS, Jan 2008)

² Zimmet, P.Z., Philip, W., and James, T., “The unstoppable Australian obesity and diabetes juggernaut. What should politicians do?” in *Medical Journal of Australia*, Vol. 185, No. 4, (2006), 187

³ *The economic costs of obesity*, (Canberra: Access Economics, 2006), v

⁴ Janus, E.D., et al., “Overweight, obesity and metabolic syndrome in rural south-eastern Australia,” in *Medical Journal of Australia*, Vol. 187 No. 3, (6 August 2007), 147

It found there were three key issues regarding health promotion and intervention efforts. These were:

- evaluation problems: the complex nature of health interventions makes it difficult to evaluate exactly which strategies worked best;
- transferability problems: the community nature of many health interventions, both in planning and running them, makes it difficult to apply the same strategies to other communities;
- and the relative merits of an education versus intervention approach: wide scale education programs, and wrongly targeted interventions can end up increasing health inequalities.

This report found that there was a need to design interventions so that evaluation is more useful; that existing interventions might be transferred to other rural communities more easily than major cities, due to their less transient nature; and that health promotion must have a mix of education and interventions, and that the intervention must be targeted towards those groups with the most need.

The cost of pre-emptive action to combat obesity, especially in rural areas, is far lower than a 'wait and see' approach. According to Deakin University Professor Boyd Swinburn, if the intervention program in Colac, Victoria, was implemented nationwide and assuming zero economies of scale, the total cost would be less than what is currently spent on *one* anti-cholesterol drug.⁵

Thus, the main recommendation of this report is to put into practice a multi-faceted health promotion strategy in rural areas as soon as any remaining issues are resolved. Crucially however, given the complex nature of rural health, other deficiencies in health system will also need to be addressed in concert if overweight and obesity is realistically going to be reduced.

⁵ Interview with Professor Boyd Swinburn, Chair in Population Health, School of Exercise and Nutrition Sciences, Deakin University; 26/5/2008

Summary of recommendations

RECOMMENDATION 1: Commission more research to confirm the links between rural areas, SES and overweight/obesity.

RECOMMENDATION 2: Continue and expand work centred around educating people, especially parents, about healthy body weight.

RECOMMENDATION 3: Expand the Active Script program to more Divisions of General Practice.

RECOMMENDATION 4: Have all schools measure BMI annually, with the results given to parents in the form of a health report, as well as being used to supplement other data sets.

RECOMMENDATION 5: Ensure that evaluation phases of interventions are adequately resourced.

RECOMMENDATION 6: Conduct more research into the design of interventions, so that it is easier to isolate which individual measures have the greatest impact.

RECOMMENDATION 7: Ensure health promotion interventions targeting obesity have community ownership and input.

RECOMMENDATION 8: Allocate more money in the Federal Health Budget towards promotion of healthy eating and physical activity to prevent overweight and obesity.

RECOMMENDATION 9: Target health promotion initiatives for communities most in need, rather than a blanket approach.

RECOMMENDATION 10: Wait for results from existing community demonstrations before embarking on a larger strategy.

RECOMMENDATION 11: Better identify the groups most affected by overweight and obesity, so that future programs can be targeted more effectively.

RECOMMENDATION 12: When ready, put into place a multi-faceted health promotion strategy in rural areas, targeting overweight and obesity.

List of Abbreviations

AASC – Active After-school Communities

ABS – Australian Bureau of Statistics

AIHW – Australian Institute of Health and Welfare

BAEW – Be Active, Eat Well

DHS – Department of Human Services

GFKGFL – Good for Kids, Good for Life

GFYL – Go For Your Life!

GGT – Greater Green Triangle

HNEA HS – Hunter New England Area Health Service

KOPS - Kiel Obesity Prevention Study

LEAP – Live Eat and Play Study

NCNPAS – National Children’s Nutrition and Physical Activity Survey

NHS - National Health Survey

PCP – Primary Care Partnership

RCH - Royal Children’s Hospital

RRSB - Robinson’s Reduction of Sedentary Behaviour

SES – Socioeconomic Status

WHO – World Health Organisation

WSB – Walking School Bus

Chapter 1: The Prevalence of overweight and obesity in rural areas

1.1 Introduction

Overweight and obesity is a serious public health issue for developed economies worldwide, including Australia. It is a “driving force behind type 2 diabetes”⁶ as well as cardiovascular and other chronic diseases. Access Economics has estimated that the total cost of obesity in 2005 was \$3.767 billion.⁷

According to the ABS, in 2004-05, 54 per cent of adults were classified as overweight or obese.⁸ A recent Victorian DHS study found approximately 25 per cent of children aged 5 to 19 are overweight or obese.⁹ In particular, these rates are growing at an alarming rate. The same study found that based on past trends and no effective interventions, around one third of all children will be overweight or obese by 2025, as well as 83 per cent of adult males and 75 per cent of adult females aged 20 years and over.¹⁰

Chapter 1 of this report will outline the prevalence of overweight and obesity in rural areas. Chapter 2 will discuss potential reasons for disparities between regions. Chapter 3 will look at current work being done to combat obesity and how it applies in the rural and regional context. Finally, Chapter 4 will examine issues arising from Chapter 3, as well as contemplate what needs to be done going forward.

1.2 Rural and regional health

Rural populations in Australia have poorer health than their metropolitan counterparts with respect to several health indicators, including higher mortality rates, higher hospitalisation rates and higher rates of chronic disease.¹¹ Specifically, rates of overweight and obesity have in some cases been found to be higher in rural and regional areas than in metropolitan areas. According to a 2007 study in the *Medical Journal of Australia* covering rural south-eastern Australia, 74 per cent of men and 64 per cent of women were overweight or obese.¹² This rate is 12 percent higher than the rate in Major Cities.¹³ Furthermore, whilst the overall prevalence of obesity has increased over time, it has increased proportionally more in regional and remote

⁶ Zimmet, P.Z., Philip, W., and James, T., “The unstoppable Australian obesity and diabetes juggernaut. What should politicians do?” in *Medical Journal of Australia*, Vol. 185, No. 4, (2006), 187

⁷ *The economic costs of obesity*, (Canberra: Access Economics, 2006), v

⁸ *Overweight and Obesity in Adults 2004-05*, (Canberra: ABS, Jan 2008)

⁹ Dixon, N., *Childhood Obesity*, Queensland Parliamentary Library Research Publications, (2004), 1

¹⁰ Haby, M., Markwick, A., *Future prevalence of overweight and obesity in Australian children and adolescents, 2005-2025*, Department of Human Services, (March 2008), 4

¹¹ Strong, K., et al., *Health in Rural and Remote Australia*, (Canberra: AIHW, 1998), vi

¹² Janus, E.D., et al., “Overweight, obesity and metabolic syndrome in rural south-eastern Australia,” in *Medical Journal of Australia*, Vol. 187 No. 3, (6 August 2007), 147

¹³ *Rural, regional and remote health: indicators of health status and determinants of health*, Rural Health Series no. 9. Cat. no. PHE 97. (Canberra: Australian Institute of Health and Welfare, 2008), 126

areas.¹⁴ Thus, while rural areas are having to deal with similar obesity problems as the major cities, their experience is more acute.

1.3 What is different about rural and regional areas?

Rural and regional areas exhibit special characteristics, compared with metropolitan areas, which may help to explain disparities between obesity prevalence. These include a lower population density, geographical isolation, fewer transport options, and diminished access to health services and care.¹⁵ These characteristics in turn may influence the differences in rates of physical activity; nutrition; socioeconomic status and even cultural factors, which are the key drivers behind overweight and obesity.

1.4 What is overweight/obesity?

Overweight, and by extension obesity, is a condition of excess body fat that results from a sustained energy imbalance. If there is a mismatch, and energy going in is greater than energy being exerted, then the excess energy will be stored as fat, and a person will put on weight.

Thus, there are two core factors driving obesity: poor nutrition and inadequate physical activity. However, there are a number of behavioural and environmental factors which influence these two drivers, and these may help explain disparities of obesity prevalence between different geographical, cultural and demographic groups of people. These other factors can be summarised as those that are socio-economic, and those that are socio-cultural. Socio-economic factors include access to health services, the built environment, transport, income and occupation. Socio-cultural factors include norms and perceptions, attitudes towards body-weight and nutrition, and social support structures.

This report will show how both the drivers, and the behavioural and environmental factors underpinning those drivers differ between the rural and metropolitan settings and thus may help to explain the difference in geographic obesity levels described above.

1.5 What are the problems caused by obesity?

It is well documented that being overweight or obese increases the risk of developing a range of health problems, including Type 2 diabetes, cardiovascular disease, high blood pressure, certain cancers, sleep apnoea, osteoarthritis, as well as psychological and social problems.¹⁶

Furthermore, the increasing incidence of diseases such as diabetes as a direct result of rising obesity bring vastly increased health expenditure, with one report forecasting a 40 per cent increase to \$7 billion by 2032.¹⁷

Finally, it is known that children who are overweight or obese are at increased risk of remaining that way into adulthood.¹⁸ This is backed up by international evidence from

¹⁴ *Rural, regional and remote health: indicators of health status and determinants of health*

¹⁵ Strong, K., et al., *Health in Rural and Remote Australia*, (Canberra: AIHW, 1998), 1

¹⁶ AIHW, "Are all Australians gaining weight? Differentials in overweight and obesity among adults, 1989-90 to 2001," in *AIHW Bulletin*, No. 11, December (2003), 2

¹⁷ Haby, M., Markwick, A., *Future prevalence of overweight and obesity in Australian children and adolescents, 2005-2025*, Department of Human Services, (March 2008), 14

the United Kingdom and the USA, which found that “between 8% and 22% of adult obesity could be accounted for by obesity in childhood.”¹⁹

It is not in the scope of this report to outline these problems in detail, rather to mention that they are the key incentive to reducing rates of overweight and obesity in the general population.

1.6 Measuring Overweight/Obesity

The most common method of measuring overweight or obesity is via a person’s Body Mass Index (BMI), defined as the weight in kilograms divided by the square of the height in metres (kg/m^2). According to World Health Organization guidelines, for adults aged 18 years and over, a BMI above 25 is classified as overweight, and a BMI over 30 is classified as obese.²⁰ In Australia, a child is classified as overweight if their BMI is above the 85th percentile for their age, and obese if their BMI is above the 95th percentile.²¹

There are two key issues with the BMI measure. Firstly, it doesn’t account for the heavier weight of muscle mass compared to fat, and thus a given BMI may not correspond to the same degree of fatness across populations, making comparison between ethnicities less effective.²² Secondly, much BMI data is ‘self-reported’ as opposed to measured by trained practitioners. When self-reporting, people tend to underestimate weight, and overestimate height, creating a downward bias in the BMI that needs to be compensated for using statistical techniques.²³ Increasing people’s awareness and acceptance of weight categories may lead to a lessening of the self-reported problem.

On the whole, the BMI measure is the most useful because it is commonly collected in population health surveys, has high subject acceptance and good reliability and validity.²⁴

1.7 Data problems

In order to effectively manage overweight and obesity, accurate and comprehensive data is needed. However, much of the existing data is either very outdated, not specific enough, or measured in a way that reduces its usefulness.

¹⁸ Booth, et al., “The epidemiology of overweight and obesity among Australian children and adolescents, 1995-1997,” in *Australian and New Zealand Journal of Public Health*, Vol. 25, No. 2, (2001), 162

¹⁹ Venn, et al., “Overweight and obesity from childhood to adulthood: a follow-up of participants in the 1985 Australian Schools Health and Fitness Survey,” in *Medical Journal of Australia*, Vol. 186, No. 9, (7 May 2007), 458

²⁰ WHO/Obesity and Overweight,

<<http://www.who.int/dietphysicalactivity/publications/facts/obesity/en/>>, World Health Organisation, accessed on 20/5/2008

²¹ based on BMI for age percentile charts recommended for use in Australia and developed by the Centre for Disease Control, Royal Children’s Hospital.

²² Crawford, D., Jeffery, R.W., *Obesity Prevention and Public Health*, (Oxford: Oxford University Press, 2005), 15

²³ Venn, et al., “Overweight and obesity from childhood to adulthood”, 460

²⁴ Haby, M., Markwick, A., *Future prevalence of overweight and obesity in Australian children and adolescents, 2005-2025*, 4

Two new surveys will go some way to mitigate this problem.

- The National Children's Nutrition and Physical Activity Survey ('Kids Eat Kids Play'), has recently been completed, with the results to be released in mid 2008. The survey will provide information about the dietary intake and body size and weight of children aged 2 to 16 years and activity patterns of children aged 5 to 16 years.²⁵ It had a large sample size, with over 4400 respondents from every state and territory.²⁶
- The National Health Survey (NHS) 2007-08 from the ABS is currently in progress. The survey will be very similar to the 2004-05 NHS, however some new topics will be added focusing on chronic disease and risk management. Furthermore, physical measurements, including height, weight, waist and hip circumference, will be collected from persons aged 5 and above, the first time this has occurred since 1995.²⁷

Even if quality data is collected however, it is crucial that this is backed up by action. Obtaining new data has the power to raise expectations, which is a good thing, but there is also the risk that the expectations are not met, rendering the exercise a waste of time and money.

Chapter 2: Key drivers of overweight and obesity

2.1 Sedentary Behaviour

Inadequate physical activity is a key driver behind obesity, and may be a cause of the disparity between rural and metropolitan areas.

The Australian National Physical Activity Guidelines recommend "at least 60 minutes of moderate to vigorous physical activity every day for young people under 18 years, and at least 30 mins of moderate-intensity physical activity on most, preferably all, days of the week for adults aged 18 years and over."²⁸ However, according to the AIHW, males in regional and remote areas are significantly more likely than those in major cities to report being sedentary, that is, undertake less than 100 minutes of exercise in the two weeks prior to being surveyed.²⁹ This difference has widened, with the prevalence of physical inactivity among males from major cities declining by about 5–10per cent, and physical inactivity among males from outer regional areas increasing by about 10per cent.³⁰

²⁵ *Kids Eat Kids Play latest news*, < <http://www.kidseatkidsplay.com.au/page1.asp>>, accessed on 21/5/2008

²⁶ *ibid.*

²⁷ *Noticeboard*, <

<http://www.abs.gov.au/Websitedbs/C311215.nsf/20564c23f3183fdaca25672100813ef1/39722f1c46cb8015ca2572f300163c92!OpenDocument>> ABS Notice Board, accessed 18/5/2008

²⁸ *Young Australians: Their health and wellbeing 2007*, (Canberra: AIHW, May 2007), 74

²⁹ *Rural, regional and remote health: indicators of health status and determinants of health*

³⁰ *ibid.*, 107

Despite guidelines stating that children should not spend more than two hours per day using electronic media such as television for entertainment,³¹ a typical Australian child spends 2.5 hour per day watching television alone.³² The link between television viewing as a proxy for sedentary behaviour and obesity has significance. A 2004 Lancet study found that watching television for more than two hours per day during childhood and adolescence explains 17per cent of overweight in 26 year olds.³³ Indeed another study suggests that simply asking whether a child watches more than two hours of television daily is a useful indicator for health practitioners to determine a child's risk of poor diet and low physical activity level.³⁴

The amount of time allocated to structured physical activity in schools is declining and thus puts more pressure on children and parents to exercise after hours.³⁵ Despite national guidelines for recommended physical activity as mentioned above, schools provide just a fraction of this, as seen in Table 1.³⁶

Table 1

Prescribed curriculum times for physical education and sport	
Year Level	Prescribed minutes per week
Prep to Yr 2	100-150 mins per week (20-30 mins daily)
Yr 3 to Yr 6	180 mins per week, with at least 50 per cent allocated to physical education
Yr 7 to Yr 10	200 mins per week, with a minimum 100 mins of physical education, and 100 mins of sports per week
Yr 11 and Yr 12	Recommended duration not specified

In the early years of Prep to Year 2, children in government schools are prescribed just twenty to thirty minutes of daily physical education, and in the final years of school, physical education and/or sport is not prescribed at all. Programs such as Active Afterschool, which is described below, are a partial response to this situation.

2.2 Nutrition

The other key driver behind overweight and obesity is poor nutrition. This is influenced by a range of socioeconomic and cultural factors. These include a lack access to fresh food, both in a physical and cost sense, as well as a lack of nutrition

³¹ *National Obesity Taskforce 2004 Overview*, <[http://www.health.gov.au/internet/healthyactive/Publishing.nsf/Content/activities_2004.pdf/\\$File/activities_2004.pdf](http://www.health.gov.au/internet/healthyactive/Publishing.nsf/Content/activities_2004.pdf/$File/activities_2004.pdf)>, accessed on 13/4/2008

³² *Preventing Overweight and Obesity*, Centre for Community Child Health, Royal Children's Hospital, Melbourne, 2006, 23

³³ Hancox, R.J., Milne, B.J., Poulton, R., "Association between child and adolescent television viewing and adult health: a longitudinal birth cohort study", in *Lancet*, Vol. 364, No. 9430, (2004 July 17-23)

³⁴ Salmon, J., Campbell, K.J., and Crawford, D.A., "Television viewing habits associated with obesity risk factors: a survey of Melbourne schoolchildren," in *Medical Journal of Australia*, Vol. 184, No. 2, (16 January 2006), 64

³⁵ Dixon, N., *Childhood Obesity*, 16

³⁶ *Promoting Better Health Through Healthy Eating and Physical Activity*, Victorian Auditor-General, PP No. 24, Session 2006-07, 66

education. Lack of access to nutrition may also be a factor behind rural obesity disparities.

According to Mandi Stewart and Donna Bridge, from the Wimmera Primary Care Partnership (PCP), one of the big issues surrounding obesity in the Wimmera region is food security.³⁷ Firstly, many local businesses don't sell quality fruit and vegetables because it is too expensive. Secondly, many people, including the elderly and poor, lack transport options to go to shops which do sell quality food. In some areas, the only food stores are fish and chip shops or milk bars which don't offer healthy eating options.³⁸ Children or adults lacking transport are thus compelled to eat from these stores, rather than trying to find healthier alternatives elsewhere. The issue is similar in lower socioeconomic areas of Melbourne such as West Heidelberg.³⁹ However according to Stewart, it is exacerbated in rural towns because of the lack of public transport options such as buses, which residents in Melbourne have access to.⁴⁰

This anecdotal lack of access to foods like fruit is partly backed up by statistical evidence from the AIHW. In 2004-05, people living in regional or remote areas were significantly less likely to consume low fat milk and the recommended two serves of fruit per day.⁴¹ In another 2006 survey, 15 per cent of rural children aged five to eight years ate fruit less than once a day and 8 per cent ate vegetables less than once a day.⁴² Thus, it is clear that alarmingly few rural children are receiving recommended necessary nutrition levels.

2.3 Other influences

2.3.1 Socioeconomic Status

Socioeconomic status (SES) is a measure of an individual's place within a social group based on various social factors. These factors can include income, occupation and education. SES is a key variable which may explain the rural disparity outlined in Chapter 1.

Rural and regional areas tend to be more disadvantaged than metropolitan areas, as seen in Figure 1 below. The figure shows Victoria in terms of socio-economic advantage and disadvantage. The darker the area, the less advantaged the region.

³⁷ Interview with Mandi Stewart and Donna Bridge, Wimmera Primary Care Partnership, 28/8/2008

³⁸ *ibid.*

³⁹ Interview with Julie Watson and Anita Gibbons, Executive officers, Banyule Nillumbik Primary Care Alliance, 24/4/2008

⁴⁰ Interview with Mandi Stewart and Donna Bridge, Wimmera Primary Care Partnership, 28/8/2008

⁴¹ *Rural, regional and remote health: indicators of health status and determinants of health*, 110

⁴² Fisher, L., Fraser, J., and Alexander, C., "Caregivers' inability to identify childhood adiposity: A cross-sectional survey of rural children and their caregivers' attitudes" in *Aust. J. Rural Health*, Vol. 14, (2006), 60

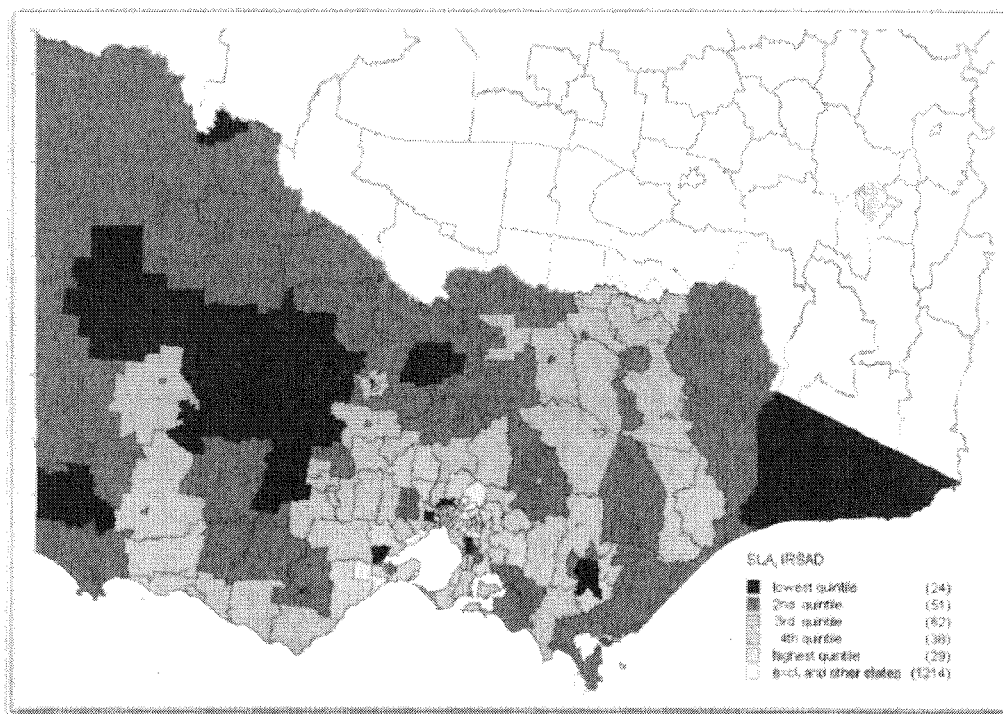


Figure 1. Source: SEIFA 2006, Index of Advantage and Disadvantage, ABS

SES directly influences physical activity levels, and nutrition. Several studies have shown that individuals with lower SES are more likely to consume fast food, less likely to consume fruit and vegetables and less likely to participate in organized sport and leisure-time physical activity.⁴³ Areas of low SES have three times as many fast food outlets as areas of high SES.⁴⁴ These associations seem to hold across a range of different indicators of SES. According to Smith et al, “population groups with the worst health status, whether rural or urban, are generally also characterised by highest poverty rates and lowest levels of education.”⁴⁵

Some SES factors have a greater impact than others for determining obesity. A person’s occupation is the most important factor, followed by their level of education.

This relationship is clearly present in Figure 2 below, where the proportion of obese people increases as you move down the ABS index of education and occupation.

⁴³ Crawford, D., Jeffery, R.W., *Obesity Prevention and Public Health*, 41

⁴⁴ Interview with Kelly-Ann Jolly, Director, Active Communities & Healthy Eating Unit, VicHealth; 2/6/2008

⁴⁵ Smith, K.B., et al., “Addressing the health disadvantage of rural populations: How does epidemiological evidence inform rural health policies and research?,” in *Aust. J. Rural Health*, Vol. 16, (2008), 59

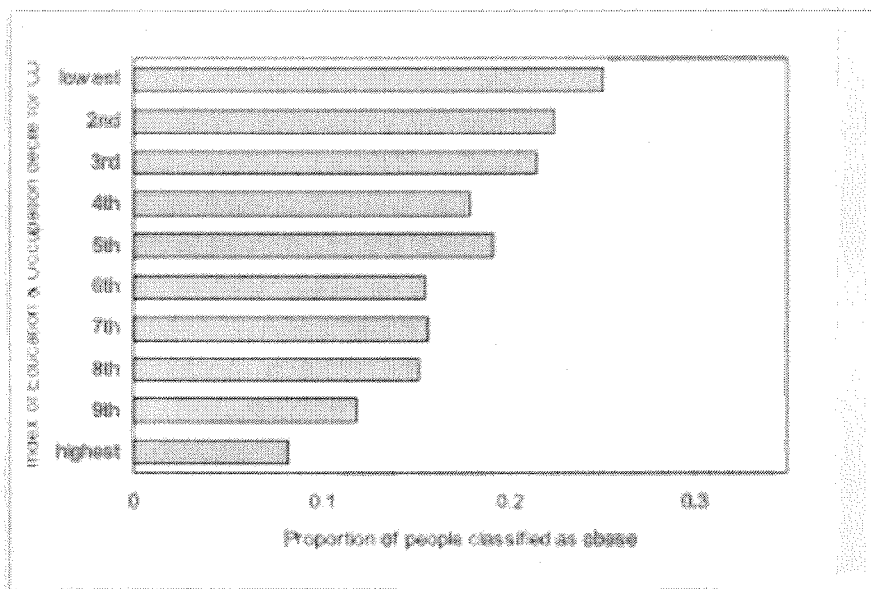


Figure 2. Proportion of people classified as obese, by Index of Education and occupation decile. Source: SEIFA Technical paper 2006, ABS.

The relationship is reinforced by South Australian statistics, which show that children from lower socioeconomic quintiles are more likely than other children to be overweight or obese, regardless of whether they live in a metropolitan or non-metropolitan area.⁴⁶

An important component of SES is the level of access to health services, and this is a key difference between rural and metropolitan areas. According to Sally Philip this difference is the main issue which needs to be overcome.⁴⁷ Access is a problem because people in rural areas live greater distances to health services and have limited transport options.⁴⁸

Thus, a possible reason why health outcomes, including obesity levels, are worse in rural areas is partly due to the fact that rural areas tend to have a lower SES, as opposed to any inherent 'rurality' causing the variation. Indeed, several older studies have found little rural-urban variation in health status for particular diseases and conditions after controlling for socioeconomic factors.⁴⁹

RECOMMENDATION 1: Commission more research to investigate the links between rural areas, SES and overweight/obesity.

⁴⁶ *A picture of Australia's children*, AIHW cat. no. PHE 58. (Canberra: Australian Institute of Health and Welfare, 2005), 46

⁴⁷ Interview with Sally Philip, Executive Officer, West Vic Division of General Practice, 28/4/2008

⁴⁸ Smith, K.B., et al., "Addressing the health disadvantage of rural populations: How does epidemiological evidence inform rural health policies and research?," in *Aust. J. Rural Health*, Vol. 16, (2008), 57

⁴⁹ *ibid.*, 59

2.3.1.1 Built Environment

Another major SES difference between rural and metropolitan communities is the 'built environment'. The built environment consists of the man-made structures present in the community. These include transportation systems, roads and paths; exercise areas and public parks; and workplaces, schools and houses.⁵⁰ A poor built environment can promote a sedentary lifestyle, which in turn promotes overweight and obesity. According to Lutfiyya et al, rural residents in the USA have more limited access to all the components of the built environment listed above⁵¹ This finding is relevant to the Australian context, as a 2006 Victorian parliamentary inquiry found that "the lack of a range of public transport options represents a significant barrier to the wellbeing of rural young people."⁵²

2.3.1.2 Nutrition and SES

According to allied health professionals in Horsham, poorer primary schools in the Wimmera run their lunch program through a local eatery or milk bar. However, often the food available is not healthy at all.⁵³ School canteens need parent volunteers to function effectively, and the commitment needed has increased. Often a full time manager is needed to run the canteen.

Thus the combination of lack of parent involvement as well as rising costs forces many schools to outsource.⁵⁴ That said, according to the Victorian Auditor General, by 2006 "all schools had introduced healthier food choices to their canteen menus and had reduced less healthy foods."⁵⁵

2.3.2 Socio-cultural factors

Another way of examining differences in obesity prevalence is to look at differences in attitudes and norms. Each community has its own set of norms towards a wide range of issues, including acceptable body-weight, and diet. As Crawford and Jeffery argue, there is "good evidence of ethnic and cultural differences in attitudes about ideal body weight." They also argue that these differences extend to "definitions of what constitutes healthy eating; levels of weight dissatisfaction and dieting behaviour; and eating beliefs, customs and practices."⁵⁶

An important implication of this analysis is that as the relative proportion of overweight and obese people increases, it becomes increasingly 'normal' for the average person to exhibit an unhealthy bodyweight. This creates a problem for the

⁵⁰ Lutfiyya, M.N., et al., "Is rural residency a risk factor for overweight and obesity for US children," in *Obesity*, Vol. 15, No. 9, (9 Sept 2007), 2353

⁵¹ *ibid.*, 2354

⁵² *Inquiry into Retaining Young People in Rural Towns and Communities*, Rural and Regional Services and Development Committee, Parliament of Victoria, September, 2006

⁵³ Interview with Cindy Francis, Virginia Butcher, Judy Harrington, Maternal and Child Health Centre, Horsham; 28/4/2008

⁵⁴ *ibid.*

⁵⁵ *Promoting Better Health Through Healthy Eating and Physical Activity*, Victorian Auditor-General, PP No. 24, Session 2006-07, 66

⁵⁶ Crawford, D., Jeffery, R.W., *Obesity Prevention and Public Health*, 43

management of the issue, because the new 'norm' does not align with the intended health outcome.⁵⁷

Secondly, in the rural context, people living in these areas may have different norms regarding diet. Thus any measures to encourage people to eat different foods, or prepare meals in a different way, must identify existing norms, and help people to adapt rather than imposing new methods.

Finally, care needs to be taken to ensure that individuals and groups targeted for obesity programs are not stigmatized. While, the stigma of being overweight or obese can drive people to action, it can also greatly lessen a person's motivation to get help, as well as blunting the effect of health promotion and prevention policies targeting obesity.

Chapter 3: Existing efforts to tackle obesity

Much work has already been done to address the rise in obesity. This report will now examine some of the community and government initiatives underway, as well as the organizations which facilitate these initiatives.

3.1 Organisations

The facilitation of the programs and interventions relies on a number of key providers. This report will only profile four relevant organizations, as a more comprehensive review is beyond its scope.

3.1.1 Primary Care Partnerships

Primary Care Partnerships (PCPs) are 'virtual organisations', facilitating all the different health care providers in a given community.⁵⁸ They are a relatively recent venture, with 31 across Victoria. The Department of Human Services provides funding. Reducing overlap is an important function of PCPs, especially in rural areas, where relatively lower levels of health funding needs to be maximized. The aim is for all the organisations to work collaboratively to ensure all gaps in service provision are filled.

3.1.2 Divisions of General Practice

Divisions are Commonwealth funded to support general practice within their own communities. Their aim is twofold. Firstly, it is to integrate general practice with other health care providers, and they work closely with the PCPs to achieve this. Secondly, and especially so in rural areas, they aim to recruit GPs and give them the support they need to stay. The fundamental issue with general practice in rural areas is the lack of GPs.⁵⁹ Vacancies remain open for years, and even though the number of GPs increases, the growth simply isn't enough, because the number of people with chronic disease and obesity problems is increasing even faster.⁶⁰ Thus any obesity

⁵⁷ Interview with Kelly-Ann Jolly, Director, Active Communities & Healthy Eating Unit, VicHealth; 2/6/2008

⁵⁸ Interview with Julie Watson and Anita Gibbons, Executive officers, Banyule Nillumbik Primary Care Alliance, 24/4/2008

⁵⁹ Interview with Sally Philip, Executive Officer, West Vic Division of General Practice, 28/4/2008

⁶⁰ *ibid.*

management proposals involving GPs must ensure that their net workload is not increased from its current level.

3.1.2.1 *The role of GPs*

While GPs would like to be the “gatekeeper” to all health service delivery,⁶¹ they can only be this gatekeeper to those who come into their general practice. Not everyone who needs help, or who would be classified as obese, contacts their GP for a variety of reasons. These include a lack of access to the GP themselves, as well as a lack of awareness of obesity. While the former is not easy to resolve, the latter can be via education programs, some of which have already been detailed in this report.

However, while GPs are willing to be a part of any education campaign, it is really the role of community health organisations to fill that void. While GPs are very influential in getting people to change their behaviour or to take some action for their health, as stated above they are only able to do so for patients they see, and not on a more wide scale basis.⁶² Furthermore, it is not yet clear if the resourcing issues facing rural areas are going to be resolved in the near term. Thus for these reasons, the trend should be continued getting patients to take on the responsibility of self-managed care.

RECOMMENDATION 2: Continue and expand work centred around educating people, especially parents, about healthy body weight.

3.1.3 Sports Assemblies

Sports Assemblies in rural Victoria, such as the Wimmera Sports Assembly, originally existed to support sports and recreation clubs and the volunteers that run them. However, according to Wimmera Sports Assembly Executive Officer Di Trotter, their focus has broadened to also include promotion of health benefits of sport, engaging a much larger cross section of people in the activities of clubs, and to make the clubs themselves more inclusive of people with a wide range of skills.⁶³ Thus, they are a vital lynchpin behind rural efforts to reduce sedentary activity, and hence reduce the rates of overweight and obesity. From the Wimmera experience, they also have the potential to be involved with PCPs in facilitating programs like Active Script.

3.1.4 VicHealth

VicHealth, also known as the Victorian Health Promotion Foundation, aims to foster change in social, economic, cultural and physical environments, resulting in the promotion of health. It coordinates various policies including the Walking School Bus and PICSAR programs, both of which are discussed above. VicHealth doesn't have a specific focus on obesity, rather its focus is healthy weight.⁶⁴ Nonetheless, this is an important focus to have as part of an overall strategy to combat overweight and obesity.

⁶¹ Interview with Sally Philip, Executive Officer, West Vic Division of General Practice, 28/4/2008

⁶² *ibid.*

⁶³ Interview with Di Trotter, Executive Officer, Wimmera Regional Sports Assembly; 28/4/2008

⁶⁴ Interview with Kelly-Ann Jolly, Director, Active Communities & Healthy Eating Unit, VicHealth; 2/6/2008

3.2 Obesity Interventions in Australia

This report will now examine four examples of community interventions, some of which are in rural and regional areas. These are the 'Be Active, Eat Well' program in Colac, Victoria; the 'Good for Kids Good for Life' (GFKGFL) program in Hunter New England, NSW (formerly known as 'Kids Healthy Eating and Physical Activity'); the LEAP study in Victoria; and the community demonstration initiatives currently being conducted by the DHS.

3.2.1 Be Active, Eat Well (BAEW)

The goal of Be Active, Eat Well was to improve the health and wellbeing of 4 to 12 year old individuals in Colac, Victoria, through a coordinated set of initiatives based on healthy eating and physical activity promotion.

The key messages of BAEW were:⁶⁵

- using active transport to and from school
- more active play and less screen time
- more fruit and less packaged snacks
- more water and less sweet drinks
- healthier hot chips

A mid-intervention survey of participants and stakeholders produced promising results. As a result of the initiative, almost 70 per cent of participating families changed their consumption of sweet drinks, and participated in the after school activity program.⁶⁶ Sporting clubs who offered the after school program experienced increased memberships.⁶⁷ Both parents and stakeholders were aware of the key messages which BAEW was projecting, and could see the benefits of the program for themselves as well as the wider community.⁶⁸

While there were some positive signs from BAEW, it is not clear exactly which aspects were the most effective. Given the broad nature of the program, it proved difficult, if not impossible, to establish which actions were the best. That said, BAEW was useful because it did contain a commitment for funding an evaluation phase. Furthermore, it provided the basis for new demonstration initiatives currently being conducted by the DHS.

3.2.2 Good for Kids Good for Life (GFKGFL)

The Hunter New England Area Health Service's (HNEA HS) 'Good for Kids Good for Life program' (GFKGFL) is the largest child obesity prevention program to be conducted in Australia. The program aims to reduce the prevalence of overweight and obesity in children aged between 0 and 15 years in the Hunter New England region of



Figure 3. BAEW logo

⁶⁵ Bell, C., Harding, A., *Report on the 'Be Active Eat Well' mid-intervention survey of Parents and Stakeholders*, Sentinel Site for Obesity Prevention, (Geelong: Deakin University, February 8, 2005), 2

⁶⁶ *ibid.*, 4

⁶⁷ *ibid.*, 11

⁶⁸ *ibid.*, 15

NSW. The evaluation is managed and operated under a collaborative agreement between NSW Health, HNEA HS and the NSW Centre for Overweight and Obesity.⁶⁹

Specific interventions or actions will include:⁷⁰

- education and training for child care and school staff regarding healthy nutrition and promoting physical activity
- programs for childcare services and schools that engage children in the areas of nutrition and physical activity, as well as parent education
- working with health care providers, including GPs, hospital and community health staff, to help them to identify children at risk of developing a weight problem
- working with sports clubs to offer more opportunities for participation in physical activity

This intervention has yet to be completed, and thus it is too soon to evaluate its effectiveness. However, it does provide a model for a much larger scale version of the preventative health interventions that have been attempted previously.



Figure 4. Good for Kids Good for Life logo

3.2.3 The LEAP (Live, Eat and Play) Study

LEAP was a 2006 family based intervention run by the Royal Children's Hospital. It was the first reported trial of a secondary prevention approach to childhood overweight in the primary care setting.⁷¹ General Practitioners were trained to assess and address overweight and obesity in children.

While the program did not report a sustained improvement in BMI,⁷² parents reported a sustained improvement in their child's nutrition, and the DHS ACE-Obesity report determined that an intervention based on LEAP would be cost effective.⁷³

3.2.4 Community Demonstration Initiatives

The DHS, via Go For Your Life!, is currently conducting six community demonstrations, which are based upon the experience in Colac. Five of these are

⁶⁹ Hunter New England Area Health Service Kids healthy eating and physical activity program: EVALUATION AT A GLANCE, <

http://www.coo.health.usyd.edu.au/pdf/2006_evaluation_at_a_glance.pdf>, NSW COO, NSW Health, accessed on 23/5/2008

⁷⁰ What is Good for Kids?,

<<http://www1.hnehealth.nsw.gov.au/hnep/h/GoodForKids/documents/GoodForKidsProgramOverview.pdf>>, accessed on 23/5/2008

⁷¹ McCallum, A., et al., "Outcome data from the LEAP (Live, Eat and Play) trial: a randomized controlled trial of a primary care intervention for childhood overweight/mild obesity," in *International Journal of Obesity*, Vol. 31, (2007), 635

⁷² *ibid.*, 635

⁷³ *Assessing Cost-Effectiveness of Obesity interventions in Children*, (Melbourne: Department of Human Services, 2006), 21

being conducted in Victorian PCPs, and each has a different key target population group:

- West Bay, focusing on young people
- Southern Grampians Glenelg, focusing on working adults
- Kingston Bayside, focusing on children aged 0 to 12 years, with low SES
- Campaspie, focusing on adolescents aged 12 to 18 years
- Southeast, targeting children aged 5 to 12 years

Each are four year projects, and are about halfway completed. The implementation phase has just begun, as the first two years were taken up by a significant planning stage and baseline data collection. The planning stage involved community input, like BAEW. These projects were set up as research initiatives, and one of their goals is to collect more evidence. Follow up data is expected to be collected in 2010.⁷⁴

According to Dr Michelle Haby, Director of the programs, while a possible outcome would be to expand statewide, it is too early to say how this would proceed, and what will be gained from the present initiatives.⁷⁵

3.3 Other initiatives with indirect effects on obesity

There are a large number of programs aimed at promoting healthier living by increasing physical activity. While they don't target obesity directly, given that physical activity is a key driver, the outcomes from these programs do have an indirect effect on the prevalence of obesity. While it is outside the scope of this report to thoroughly examine all of these programs, they do constitute an important part of health promotion strategy, and so a representative selection will be analyzed below.

3.3.1 Walking School Bus

The Walking School Bus (WSB) program, run by VicHealth, commenced in response to a range of problems, including the dramatic reduction in walking and cycling to school in recent decades and the related issue of childhood obesity. Each 'bus' is actually a group of schoolchildren, led by two adult volunteers, who walk along a set route to school, picking up and dropping off children along the way at designated 'bus stops'. As of May 2007, nearly 5000 primary school students from almost 200 primary schools now use the Walking School Bus to get to school, with the help of 800 volunteers.⁷⁶ Fifty two councils across the state have been involved in the program, of which 21 are situated in rural areas.⁷⁷

Some of the key weaknesses of the WSB program are its volunteer nature, which means long term retention is a problem, and expansion is slow. Furthermore, participation by schools is also voluntary, which means not all children are able to

⁷⁴ Interview with Dr Michelle Haby, MAppSc PhD, Manager, Evidence and Policy, Chronic Disease Prevention, Public Health Branch, Department of Human Services, 4/6/2008

⁷⁵ *ibid.*

⁷⁶ *What is the walking school bus?* <

<http://www.vichealth.vic.gov.au/Content.aspx?topicID=208>>, VicHealth, accessed on 19/5/2008

⁷⁷ Interview with Kelly-Ann Jolly, Director, Active Communities & Healthy Eating Unit, VicHealth; 2/6/2008

take part.⁷⁸ The benefits of the WSB program are an improved personal fitness of participants, and an instilment of sustainable travel options in children.⁷⁹

Perhaps the most tangible impact of the WSB has been the improvement of the built environment of participating communities. In fact, according to a VicHealth report, 18 councils have spent approximately \$1.5 million over the past three to four years on infrastructure works and maintenance identified in the WSB route audit process.⁸⁰ For example, safe walking paths were created for children.⁸¹

3.3.2 Go For Your Life!

Go For Your Life! (GFYL) is a Victorian state government initiative which aims to increase physical activity and healthy eating, in order to address the rising prevalence of obesity and diabetes. While GFYL is state funded, and has a secretariat, it aims to have a community focus, with the main message of instilling a culture which supports a healthy lifestyle. While essentially an education campaign, it also invests in community based programs, building on existing activities and targeting socio-economically disadvantaged and isolated areas.⁸² The current DHS initiatives described above are being funded by GFYL.

3.3.3 Active After-school Communities

Active After-school Communities (AASC) is a Federally-funded program, implemented by the Australian Sports Commission, which aims to get children from lower SES households involved in structured sport, and to hopefully provide a pathway to a local club. In 2008, and through to 2010, the program will reach over 3,200 primary schools, providing the opportunity for around 150,000 children to become more physically active.⁸³

The program is run straight after school, and children are provided with a healthy afternoon tea and fruit drink. The program suits parents because many are working around the time the program is run. Ideally, each school has a welfare officer who knows which children would most benefit from the program, and these children are targeted. AACS also provides training for coaches, which then allows local sporting clubs to make connections with primary schools.⁸⁴

According to the DHS ACE-Obesity report, AACS is not a cost effective strategy for obesity prevention or reduction. This is due to the fact there is a lack of evidence regarding its effectiveness; the program is reliant on the "intense involvement" of regional coordinators, who account for 25per cent of the program costs; and

⁷⁸ Grant, J., *It's more than just walking! The value-adding impact of the Walking School Bus program on local environments and communities*, (Victorian Health Promotion Foundation, May 2007), 4

⁷⁹ *ibid.*, 4

⁸⁰ *ibid.*, 4

⁸¹ *ibid.*

⁸² *Go For Your Life! Explained* <

http://www.goforyourlife.vic.gov.au/hav/articles.nsf/pages/Go_for_your_life_explained?opendocument> *Go For Your Life!*, accessed 15/5/2008

⁸³ *Participating in Sport: About*,

<http://www.ausport.gov.au/participating/schools_and_juniors/aasc/about>, accessed 16/5/2008

⁸⁴ Interview with Di Trotter, Executive Officer, Wimmera Regional Sports Assembly; 28/4/2008

some children in rural and remote areas may not be able to access the program at all.⁸⁵

3.3.4 Medical Strategies

Two medical-based programs have had a positive impact on increasing physical activity levels and reducing BMI. Despite not targeting obesity or overweight directly, they offer some useful insights which this report will now examine.

3.3.4.1 Greater Health: Greater Green Triangle

Greater Health (The Greater Green Triangle University Department of Rural Health), brings together universities, health services and industry groups in order to promote improved health in the region. The GGT region extends west to the Coorong in South Australia; east to Apollo Bay in Victoria, and south along the coast in between. The region extends north of Horsham in Victoria. It includes the towns of Ararat, Camperdown, Casterton, Colac, Hamilton, Horsham, Millicent, Mt Gambier, Naracoorte, Portland, Stawell and Warrnambool.⁸⁶



Figure 5. Greater Health logo

An intervention in this region conducted between 2004 and 2006 (the 'Diabetes Prevention Project') concluded that a type 2 diabetes prevention programme using lifestyle intervention can be feasible in a primary health care setting. While the main focus was on type 2 diabetes, effects on weight loss were significant. The mean weight of participants was reduced by 2.52 kg,⁸⁷ seventy-five percent of participants experienced some waist reduction, and overall, there was a 2.8 per cent improvement in BMI levels.⁸⁸

Thus, while this study did not target obesity specifically, it showed that improvements in rural obesity levels can be successfully achieved using the existing primary health care infrastructure.

3.3.4.2 Active Script

In the Wimmera region, the Active Script program has been in place for about six years, and has been quite successful, with over 900 referrals from local GPs.⁸⁹ Essentially, GPs who tell their patients to undertake some exercise as part of their treatment, will write an 'Active Script'. This script is then passed on to a community 'enabler' who is networked with sporting organisations such as Regional Sports Assemblies, and other community groups. This enabler, who may be a local physiotherapist, nurse or some other community worker, will then mentor the patient

⁸⁵ *Assessing Cost-Effectiveness of Obesity interventions in Children*, 18

⁸⁶ *Networking for Greater Health*,

<<http://www.greaterhealth.org/media/resources/018ddccda56f52d1916a466c0ea7ff1.pdf>>, Greater Health, accessed 30/4/2008

⁸⁷ "Prevention of Type 2 Diabetes by lifestyle intervention in an Australian primary health care setting: Greater Green Triangle (GGT) Diabetes Prevention Project," <<http://www.biomedcentral.com/1471-2458/7/249>>, BMC Public Health, accessed 28/5/2008

⁸⁸ *Project Evaluation report*, Greater Green Triangle Diabetes Prevention Project, (Canberra: Australian Department of Health and Ageing, 2006), 23

⁸⁹ Interview with Sally Philip, Executive Officer, West Vic Division of General Practice, 28/4/2008

into some appropriate local activities. Once the patient is established in their activity, the enabler checks up on them at two, four and six months.

Thus, the Active Script program is a way for GPs to 'prescribe' increased physical activity. Given that 62 percent of all patients who come into the West Vic Division's catchment have what they define as 'weight issues'⁹⁰, Active Script is a useful tool to manage not only chronic disease, but also overweight and obesity. The success rate of the Active Script program is over 90 percent: for most patients, after 6 months, their exercise habit has stuck, and weight levels are reduced.⁹¹

Currently, Active Script is only utilized in the West Vic Division of General Practice.⁹² Sally Philip, Executive Officer of the Division, believes that this program could be used in other communities, as long as there is a willingness from the local health services.⁹³ However, the program fundamentally depends on the enabler. They are crucial in getting the patient to undertake physical activity, because most people do not know what to do, and more importantly what is appropriate. Therefore, Active Script is far more likely to be successful in rural areas because they are ideally suited to having people who are well connected in their respective community. On the other hand, populations in major cities are far more transient, and aren't as involved with their local neighbourhood,⁹⁴ limiting the effectiveness of the enabler, and hence the program itself.

RECOMMENDATION 3: Expand the Active Script program to more Divisions of General Practice.

3.4 International health promotion and obesity prevention

A plethora of work has been conducted overseas regarding obesity prevention. While it is outside of the scope of this report to properly examine the international experience, a few examples are worth looking at.

3.4.1 Act 1220

A program in the USA has shown that given the political will, widespread policy targeting obesity and overweight can be effective, even if there is initial opposition. In 2003, the US state of Arkansas, led by then Governor Mike Huckabee, passed so-called Act 1220. One of the key measures mandated by this Act was to require schools to annually measure the BMI percentile of each child and then, among other things, include it in a health report given to parents.

While there was widespread opposition to this measure, the Year Three Evaluation of the program by the University of Arkansas for Medical sciences found that "none of the feared negative consequences of BMI measurements...were reported by Arkansas

⁹⁰ Interview with Sally Philip, Executive Officer, West Vic Division of General Practice, 28/4/2008

⁹¹ *ibid.*

⁹² *ibid.*

⁹³ *ibid.*

⁹⁴ Interview with Kelly-Ann Jolly, Director, Active Communities & Healthy Eating Unit, VicHealth; 2/6/2008

parents or students.”⁹⁵ In fact, as a result of the mandatory BMI measurement and other strategies contained in the Act, parental awareness of the health risks associated with obesity as well as parents’ ability to accurately identify the weight status of their children both increased.⁹⁶

More importantly, over the three year period from 2003-04 to 2005-06, the percentage of students classified as ‘overweight’ decreased slightly from 20.9 percent to 20.4 percent.⁹⁷ Furthermore, the percentage of students ‘at risk of being overweight’ also declined slightly over this same period, from 17.2 percent to 17.1 percent.”⁹⁸

Current statistics on overweight and obesity, and especially its prevalence amongst children are inadequate. This report recommends that a program modelled on the Arkansas experience be undertaken, that is, schools must measure the BMI of every child annually. This data would then be given to parents as part of an overall health report of their children, and it would be used for research purposes to evaluate current programs and benchmark against other jurisdictions.

Having all schools measure BMI would be beneficial in three ways. Firstly, it would provide much more accurate data than other sets which are self-reported. Secondly, it would provide a much more comprehensive benchmark with which to devise and evaluate policy options. Finally, it complement new surveys currently underway, including the NCNPAS and the NHS 2007-08.

RECOMMENDATION 4: Have all schools measure BMI annually, with the results given to parents in the form of a health report, as well as being used to supplement other data sets.

3.4.2 International School Interventions

According to the Royal Children’s Hospital (RCH), there are three important elements of healthy weight promotion in children. These are increasing physical activity, maintaining a healthy level of consumption of nutritious foods and drinks, and educating parents and children on what constitutes nutritious foods and a healthy lifestyle.⁹⁹

The RCH studied a number of school-based interventions in a 2006 study. The most successful ones were Robinson’s Reduction of Sedentary Behaviour (RRSB), Kiel Obesity Prevention Study (KOPS), and Planet Health. Each program focussed on a different age group, with KOPS aimed at five to seven year old children, RRSB at nine year old children, and Planet Health at children aged 11-12 years of age. The specifics of each program are summarized in Table 2 below.¹⁰⁰

⁹⁵ *Year Three Evaluation: Arkansas Act 1220 of 2003 to Combat Childhood Obesity*, (Little Rock: University of Arkansas for Medical Sciences, 2006), 21

⁹⁶ *ibid.*, 27

⁹⁷ *ibid.*, 28

⁹⁸ *ibid.*, 28

⁹⁹ *Preventing Overweight and Obesity*, Centre for Community Child Health, Royal Children’s Hospital, Melbourne, (2006), 20

¹⁰⁰ *ibid.*, 27

Kiel Obesity Prevention Study (KOPS) (School based) (England)	<ul style="list-style-type: none"> • For children five to seven years old • Eight-hour course of nutrition education • Breaks for activity • Children taught to 'eat fruit and vegetables every day' • Children taught to 'reduce intake of high fat foods' • Children taught to 'keep active at least one hour each day' • Children taught to 'decrease television viewing to less than one hour each day' • Overweight and obese children offered family-based sports intervention • Obese parents with non-obese children offered family-based sports intervention
Robinson's Reduction of Sedentary Behaviour (School based) (USA)	<ul style="list-style-type: none"> • For children averaging nine years of age • Run by teachers • 18 lessons of 30-50 minutes duration • Initially two-day self-monitoring of television watching and video game playing • Later encouragement to turn television off • Encouragement of limit of seven hours per week watching television
The Planet Health Intervention (School based) (USA)	<ul style="list-style-type: none"> • For children 11-12 years of age • Teachers trained by program staff • Taught in 32 classes, different subjects • Targets: Reduce television viewing to less than two hours a day. Increase moderate and vigorous physical activity Decrease consumption of high-fat foods Increase consumption of fruits and vegetables to more than five servings a day

Table 2

These programs led to changes in television viewing time, decreases in body fat and importantly, "a reduction in the prevalence of obesity."¹⁰¹ However, further research is required to determine firstly, the relative effectiveness of the individual features of each program, compared with their peers, as well as exactly what the most effective instructions are for children regarding diet and exercise.¹⁰²

Being school based, the effectiveness of these sorts of interventions is influenced by the SES of the school and school community. It is likely that lower SES participants would achieve inferior results compared with higher SES peers due to resourcing issues. Thus, given the lack of resources in rural areas, it is doubtful whether these programs could be successful in their current format. However, if undertaken as part of a more comprehensive strategy, like BAEW, GFKGFL, and the DHS initiatives described above, more success may be achieved.

Chapter 4: Key issues in obesity prevention and promotion

The interventions and programs examined in Chapter 3 have provided some useful insights, and in some cases positive outcomes. They all share some key issues however, which can be summarized into three categories: evaluation problems, transferability problems, and nature of the program.

¹⁰¹ *Preventing Overweight and Obesity*, Centre for Community Child Health, Royal Children's Hospital, Melbourne, (2006), 25

¹⁰² *ibid.*, 25

4.1 Evaluation problems

Because health promotion interventions are made up of a range of initiatives, it is difficult to isolate which of the initiatives is the most effective. Unlike the clinical trial of a new drug for example, an obesity intervention has relatively vacuous indicators, and sometimes, support for the evaluation phase of the project is not there. Indeed, as VicHealth's Kelly-Ann Jolly points out, "governments are happy to fund the projects themselves, but they tend not to provide funding for the evaluation of the project."

However, for newer projects, evaluation is playing a far more useful role. For example, the DHS community demonstrations have been set up to include control communities, which final results will be compared to. Data being collected is not just limited to BMI, but also includes behavioural characteristics. Baseline as well as follow up data will also be collected.¹⁰³

Thus, the key challenge for future health promotion interventions, and indeed all policy involving obesity, is to a comprehensive attitude towards evaluation of projects, as well as ensuring findings are relevant and useful. Finally, evaluation needs to be adequately resourced. This report has found that this is happening in new projects.

RECOMMENDATION 5: Ensure that evaluation phases of interventions are adequately resourced.

RECOMMENDATION 6: Conduct more research into the design of interventions, so that it is easier to isolate which individual measures have the greatest impact.

4.2 Transferability problems

The ability to apply these same interventions and programs in multiple areas, both rural and metropolitan, presents two challenges.

Firstly, populations living in large metropolitan areas like Melbourne are much more transient than those who live in country areas.¹⁰⁴ They tend not to stay within their local community, but conduct their activities throughout the city. Thus, a program like BAEW in Colac would be very difficult to replicate in Melbourne because of this transience.

Secondly, the success of the above programs is highly dependent on community involvement and ownership. As mentioned already, the enabler is the lynchpin of the Active Script program, and a successful enabler requires extensive community involvement. It is very important that local 'champions' can be found to support a community program.

The same applies to the BAEW program. It is difficult to say whether or not BAEW could be exactly transferred to another rural community, such as Horsham. This is because the nature of the intervention was fundamentally community driven, and

¹⁰³ Interview with Dr Michelle Haby, MAppSc PhD, Manager, Evidence and Policy, Chronic Disease Prevention, Public Health Branch, Department of Human Services, 4/6/2008

¹⁰⁴ Interview with Kelly-Ann Jolly, Director, Active Communities & Healthy Eating Unit, VicHealth; 2/6/2008

many of the strategies which were undertaken were conceived by the community themselves. Thus any new application of BAEW could not use the same strategies as in Colac. However, it could use the same framework and process of community consultation to generate new strategies appropriate to that community. This is the approach which has been taken by new DHS initiatives around the state.

These challenges have two implications. Firstly, the re-utilization of health promotion programs is best suited to rural and regional communities, mainly due to their more integrated nature. Secondly, while country communities might be the best candidates for health interventions, the strategies cannot be homogenous due to the inherent community-nature of the interventions themselves.

Essentially, new programs have built on principles developed from past work. One of these principles has been community involvement. Another is an evidence based approach to designing strategies.

RECOMMENDATION 7: Ensure health promotion interventions targeting obesity have community ownership and input.

4.3 Targeted interventions versus education based approaches

A key issue with health promotion that this report has found is that there is debate regarding the relative merits of education based approaches versus targeted interventions.

Education is important for generating awareness about the risks of being overweight and obesity, as well as being able to identify the key risk factors such as physical activity and nutrition. In one study, 46 per cent of caregivers were unable to correctly estimate the weight category of their children.¹⁰⁵ Bodies such as GFYL and VicHealth thus play an important role. Yet, less than 0.5 per cent of the health budget goes towards the promotion of healthy eating and physical activity to prevent chronic disease.¹⁰⁶ Clearly this commitment must be expanded.

RECOMMENDATION 8: Allocate more money in the Federal Health Budget towards promotion of healthy eating and physical activity to prevent overweight and obesity.

Education programs are necessary, but cannot be the only approach, because they have the risk of increasing inequality.¹⁰⁷ People who are most receptive to these measures tend to have a higher SES, however as this report has indicated, the people most at risk are those with low SES.

Thus, the risk is that the message ends up being unintentionally targeted towards groups which have the least need. Any education initiative in addition to the ones already in place must therefore be aimed at those groups who are most at risk. Rural and regional residents would thus be a part of this strategy.

¹⁰⁵ Fisher, L., Fraser, J., and Alexander, C., "Caregivers' inability to identify childhood adiposity: A cross-sectional survey of rural children and their caregivers' attitudes" in *Aust. J. Rural Health*, Vol. 14, (2006), 59

¹⁰⁶ Interview with Professor Boyd Swinburn, Chair in Population Health, School of Exercise and Nutrition Sciences, Deakin University; 26/5/2008

¹⁰⁷ *ibid.*

Furthermore, education strategies alone are ineffective. Changing the environmental factors which also contribute to obesity is crucially important, because as examined above, being overweight or obese is both a societal and individual issue. Thus while an individual can take steps to manage their weight, external factors must also be adjusted to influence these individual actions.

Environmental changes have proven to be more effective than stand alone education campaigns, because they force people to change their habits, rather than simply assuming they will make the 'right choice'. Environmental change is brought about through community interventions, like the ones this report has examined.

The question then becomes, how should interventions be targeted, if at all. The problem with geographically targeted interventions is two-fold. Firstly, higher SES areas will tend to get the most benefit, as they are most able to afford the measures. For example, mandating certain food restrictions in a school canteen is likely to only have a positive effect in schools which have the funds to support the canteen. Other schools may end up having to shut down the canteen, or may not even take part at all due not having a canteen in the first place. Secondly, higher SES areas are able to implement the strategies of the intervention more effectively, meaning that even if lower SES areas are also included, the health divide actually grows larger.

Ensuring that health promotion messages reach those most at risk, as well as ensuring that the promotion of the message doesn't in itself increase inequality is a key challenge. Having interventions target areas of lower SES first is therefore a superior outcome, because inequality is not increased, and the messages reach those who will receive the most benefit.

Ultimately, the best approach is multi-faceted in nature, a mixture of education, social marketing, and practical measures. As noted already, this approach must be augmented with significant community input, in order to maximize effectiveness.

RECOMMENDATION 9: Target health promotion initiatives for communities most in need, rather than a blanket approach.

4.4 Conclusion

This report has identified that it is not conclusive whether we have enough expertise yet to implement a large scale system of the type described above, that is, a multi-faceted health promotion strategy, combining targeted environmental interventions with education and social marketing.

Current policy suggests that we still need more evidence – of what works, and the best ways of implementing what works – before embarking on population wide measures. This report agrees with that view. That said, this does not mean that action has to wait until then.

RECOMMENDATION 10: Wait for results from existing community demonstrations before embarking on a larger strategy.

As already noted, there is need for new and better data to be collected with respect to obesity prevalence, physical activity levels and nutrition standards. Similarly, there is a need to ensure that health promotion initiatives continue to be evaluated effectively. Finally, there is a need to more conclusively identify those areas which are most at

risk from overweight and obesity. While some of these things are being addressed, it is the view of this report that they all need improvement.

RECOMMENDATION 11: Better identify the groups most affected by overweight and obesity, so that future programs can be targeted more effectively.

On the other hand, it is quite clear that the issue of cost is not a barrier to any future strategy. According to Professor Boyd Swinburn, if the Colac program was implemented nationwide and assuming zero economies of scale, the total cost would be less than what is currently spent on *one* anti-cholesterol drug.¹⁰⁸ Furthermore, from a cost point of view, pre-emptive action is much more desirable than waiting, due to the multiplier effect of tacking the issue *ex post facto*. Preventing children and young adults from becoming obese is far cheaper than treating those people as obese adults.

This report has highlighted that rural and regional areas are at higher risk from overweight and obesity, for a variety of possible environmental and behavioural factors, however because current research in this area is lacking, there is an urgent need for more conclusive information. It has also identified that the nature of rural communities makes them ideally suited to the types of interventions examined earlier in the report.

Thus, the main recommendation of this report is to put into practice a multi-faceted health promotion strategy in rural areas as soon as the remaining issues are resolved. Crucially however, given the complex nature of rural health, other deficiencies in health system will need to be addressed in concert if overweight and obesity is realistically going to be reduced.

RECOMMENDATION 12: When ready, put into place a multi-faceted health promotion strategy in rural areas, targeting overweight and obesity.

¹⁰⁸ Interview with Professor Boyd Swinburn, Chair in Population Health, School of Exercise and Nutrition Sciences, Deakin University; 26/5/2008

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