20th July 2018

Committee Secretary  
Department of the Senate  
PO Box 6100  
Parliament House  
Canberra ACT 2600  
obesitycommittee.sen@aph.gov.au

Letter of Transmittal

Dear Committee Secretary and Committee Members,

Please accept this submission in response to the inquiry into the Obesity epidemic in Australia from the National Rural Health Alliance.

The submission features in depth analysis and an overview of the inequalities and challenges that children living in rural and remote Australia have in trying to prevent or reduce obesity.

All terms of reference are addressed. The Alliance has also provided seven Alliance specific recommendations and also endorsed the eight policy actions proposed by the ‘Tipping the Scales’ campaign.

We will gladly answer any questions you have regarding this submission.

My regards

Mark Diamond  
Chief Executive Officer  
National Rural Health Alliance
Obesity Epidemic

Select Committee on Obesity Epidemic in Australia

July 2018

National Rural Health Alliance
10 Campion St, Deakin, ACT, 2600
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Introduction

The National Rural Health Alliance (the Alliance) welcomes the opportunity to provide this submission to the Senate Select Committee into the Obesity Epidemic in Australia. Ensuring that children in rural and remote Australia get the best start in life is a priority for the National Rural Health Alliance.

The Alliance is Australia's peak body for rural and remote health. It represents 35 national organisations working to improve the health and wellbeing of 7 million people living in rural, regional and remote Australia. Our members include consumer groups, the Aboriginal and Torres Strait Islander health sector, health professional organisations, educators, and service providers. This large and diverse membership gives the Alliance a comprehensive and authentic view of the health interests across country Australia. For a full list of our members see Attachment 1.

Obesity is a growing global public health issue. Children in rural and remote areas of Australia are more likely to be obese than those living in major cities, particularly for children who are Aboriginal or Torres Strait Islanders or are socio-economically disadvantaged.

Programs aimed at preventing obesity are currently in place in many rural and remote areas. For example in preschools, schools and communities. These programs focus on individual and family and service level change to increase physical activity and promote healthy eating. Many of these programs have good participation and community support and have been in place for some time, some a decade or more. Yet, the rate of obesity in remote areas remains higher than those in major cities. This is because the cause of obesity in rural and remote Australia is far more complex than children's physical activity and eating behaviour.

For children living in rural and remote Australia, obesity is a “canary in a mineshaft” (Egger and Dixon 2014). It is a signal to us that there are significant problems in Australia’s social, economic and environment policies, that are broader than any single individual’s control and behaviour (Hruby and Hu 2015). These policy areas include (but are not limited to) agriculture and the food system, including processing, distribution and marketing of food and drinks; transport; urban planning; and education (World Health Organization [WHO] 2018a). The ever emerging digital world and introduction of new technologies has forever changed ways of living, machination of previous manual tasks, motorised vehicles for travelling and screens of all sizes for work and recreation. Despite many internet connection and mobile phone blackspots country people's lifestyles have also changed because of the digital transition. Technological change has led to sedentary lifestyles and this has not been to our benefit.

The cause of obesity is also a direct reflection of other social, economic and environmental inequalities children in rural and remote areas face on a daily basis. These inequalities include living in communities that in comparison to those in major cities have lower incomes; lower education attainment; less access to healthy, affordable, nutritious quality food (especially in the remote areas); and a reduced physical activity levels due to sedentary lifestyles and geographical, climate and other environmental barriers.

1 Throughout this submission references to remoteness areas are based on ASGC-RA, in which category 1 is Major cities, 2 is Inner regional areas, 3 Outer regional, 4 Remote and 5 Very remote. Because of small numbers, Remote and Very remote are often reported jointly. In the submission, references to 'regional areas' mean Inner plus Outer regional; and references to 'remote areas' mean Remote plus Very remote.
In this submission, the Alliance has provided responses to the Terms of Reference relating them to the rural and remote Australian context, with a view to convincing the Select Committee that addressing the causes of higher rates of obesity epidemic in rural and remote Australia should be a national health priority.

The Alliance would like the Select Committee to consider the following recommendations:

1. Australia needs a National Obesity Prevention Strategy as a matter of urgency. The strategy needs to focus on eradicating obesogenic environments in rural and remote Australia. It needs to target inequalities and inequities in education, income and access to affordable quality fresh fruit and vegetables and physical activity. Priority should be given to ending obesity inequalities for children in lower socioeconomic groups, particularly Aboriginal and Torres Strait Islander children and children in remote Australia.

2. Government research programs need to prioritise research that will improve understanding of food environments (particularly consumer nutrition environments) in rural and remote Australia.

3. Increased funding for additional resources, infrastructure and workforce should be made available to improve the access of rural and remote communities to appropriately trained early childhood educators, teachers and multi-disciplinary health professional teams.

4. State-wide programs such as the Healthy Together, Tackling Childhood Obesity and OPAL should continue to be funded and even enhanced to enable them to have a broader reach and achieve what they have set out to do. However, given there is a greater need in rural and remote places, particularly where there are higher proportion of Aboriginal or Torres Strait Islander children, these programs should be prioritised for additional resources.

5. Planning systems across critical areas such as the location and density of convenience restaurants and the design of areas for physical activity for recreation, leisure and exercise should explicitly incorporate health as a core component to protect and promote the population’s health and wellbeing.

6. Agricultural policies need to incorporate health outcomes. At a time of increasing change to meet the multifaceted challenges of climate change, the modernisation of production methods and the market concentration of supply chains, sustainable nutritious food is the foundation of health and wellbeing.

The Alliance also supports the eight policy actions recommended by Obesity Prevention Coalition ‘Tipping the Scales’ campaign. However, the Alliance also recommends that the ‘Tipping the Scales’ policy actions are adapted to the rural and remote context, particularly policy action number 4. (See the list in the Recommendations section).
NRHA Response to the Inquiry Terms of Reference

a. Prevalence of overweight and obesity among children

Results from the 2014-15 Australian National Health Survey shows that 65% of the population are either overweight or obese (ABS 2015a). This is an increase from 56% in 1995, 60% in 2007-08, and 63% in 2011-12. The National Health Survey also shows that 74% of males and 62% of females in rural/regional areas were overweight or obese compared with 70% of males and 54% of females in major cities (PHIDU n.d.) (See Figure 1).

The prevalence of overweight is lower for males outside major cities, and similar for females inside and outside major cities. But the prevalence of obesity increases with remoteness for both males and females, with those in regional/rural areas being 30% more likely to be obese than those in major cities (with males in outer regional areas being 50% more likely to be obese) (PHIDU n.d.).

Over one-quarter (27%) of children aged 2-17 years are overweight or obese (ABS 2015a). Of note, children aged between 2 and 4 and 5 and 7 years have higher rates of obesity compared to older children, 8.7% and 10% respectively.

Figure 1 Age standardised proportion of overweight or obese adults by remoteness 2014-15

To some extent, the pattern for children 2-17 years is similar to adults, with 25%, 22% and 36% being overweight or obese in Major cities, Inner regional and Outer regional/remote areas respectively in 2014-15 (ABS 2015a) (see Table 1).

However, of concern to the Alliance is that the statistics show that children in Outer regional areas are more likely to be overweight or obese than those in major cities, especially children who are Aboriginal or Torres Strait Islander descent.
Table 1 Proportion of overweight and obese children and adolescents aged 2–17, by remoteness area 2014–15

<table>
<thead>
<tr>
<th>Remoteness area</th>
<th>Boys</th>
<th></th>
<th>Girls</th>
<th></th>
<th>All children</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>95% CI</td>
<td>%</td>
<td>95% CI</td>
<td>%</td>
<td>95% CI</td>
</tr>
<tr>
<td>Major cities</td>
<td>27.0</td>
<td>23.9–30.1</td>
<td>23.5</td>
<td>21.2–25.8</td>
<td>25.3</td>
<td>23.4–27.2</td>
</tr>
<tr>
<td>Inner regional</td>
<td>21.3</td>
<td>16.2–26.4</td>
<td>23.1</td>
<td>16.2–30.1</td>
<td>22.2</td>
<td>17.6–26.9</td>
</tr>
<tr>
<td>Outer regional/Remote</td>
<td>35.3</td>
<td>24.8–45.8</td>
<td>36.0</td>
<td>28.3–43.8</td>
<td>35.7</td>
<td>28.3–43.0</td>
</tr>
</tbody>
</table>

Source: adapted from AIHW 2017 A picture of overweight and obesity in Australia, Table S5: Proportion of overweight and obese children and adolescents aged 2–17, by remoteness area and socioeconomic group, 2014–15

Sixty-seven per cent of the Aboriginal and Torres Strait Islander population live outside of major cities, (approximately 436700 people) (AIHW 2018). With regards to obesity, Indigenous girls aged 2–14 were 1.6 times as likely to be obese (9.8% versus 6.1%) as non-Indigenous girls of the same age, with a similar pattern for boys (AIHW 2018). Aboriginal and Torres Strait Islander children are more likely to be obese than non-Indigenous children regardless of where they live, but more so in remote Australia.

b. The causes of the rise in overweight and obesity

“Overweight and obesity are critical indicators of the environment in which children are conceived, born, and raised” (WHO 2016a).

Causes of obesity are complex interaction of genetics, individual behaviour and lifestyle and social-economic or environmental factors (WHO 2016; Hruby and Hu 2015). However, as with any health issue, the determinants of health, often referred to as the ‘causes of the causes’ (CSDH 2008) play a significant role in shaping conditions that promote an obesogenic environment.

Obesity arises as the result of an energy imbalance between calories consumed and the calories expended, but this energy imbalance is a result of social and economic conditions many of which are out of any single individual’s control (Hruby and Hu 2015). These social and economic conditions include “economic growth, growing availability of abundant, inexpensive, and often nutrient-poor food, industrialization (sic), mechanised transportation, urbanisation” create an “obesogenic” environment (Hruby and Hu 2015). Other determinants of health can be added to this list such as parental education level and income as these determinants strongly influence the risk of children becoming obese.

It is an inadequate behavioural and biological response to the obesogenic environment that creates the energy imbalance and surplus body weight (WHO 2016). In Australia, people are more likely to be obese if they are an Indigenous Australian, are socially disadvantaged and live in remote Australia. This is because they live in an environment that is obesogenic, i.e. it is an environment that facilitates unhealthy diets and lifestyles (Swinburn et al 2011).

For children living in these rural and remote obesogenic environments being able to enjoy a healthy diet has a number of challenges such as lower household incomes, lower education attainment, and barriers to accessing food and physical activity.

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2 Overweight and obesity classification is based on measured height and weight
3 95% CI = 95% confidence interval. We can be 95% confident that the true value is within this confidence interval
Incomes in rural and remote Australia

Lower socioeconomic status is a risk factor for obesity. People who live in rural and remote areas tend to have lower incomes and are more likely to have incomes in the lower income quintiles. Household incomes are on average 18% lower outside capital cities (ABS 2017a), and the 100 Local Government Area with the lowest household incomes are almost exclusively rural, regional or remote (ABS 2017b).

In 2015-16, the household income of people outside metropolitan areas was 18 percent lower and household worth was 29 per cent less than their metropolitan counterparts (NRHA 2017).

In rural and remote Australia there are:

- More people living in single parent families.
- More families on welfare support.
- More families that are jobless.
- Higher rates of unemployment, particularly youth unemployment. In some regions the rate of youth unemployment is over double (~20%) that of major cities (12.2%) (Brotherhood of St. Laurence 2018).
- Of those that are employed, there are higher numbers of people who occupy lower income jobs e.g. machinery operators, drivers, and labourers.

Australian with higher levels of education, income and living in areas of greater socioeconomic advantage have higher diet quality (Backholer et al. 2016). Australians living in areas of socioeconomic disadvantage are more likely to consume sugar-sweetened beverages than those living in less disadvantaged areas (ABS 2015b).

Lower incomes is also related to housing stress and poverty. In some Aboriginal households, children do not have access to basic needs, even if their family could afford to buy the healthy food. For example they may not have access to functioning hardware to store, prepare and cook food, such as cupboards, bench space, refrigeration and a functioning stove and sink, live in houses that are overcrowded, and may have difficulty accessing to water for drinking and washing (Lee & Ride 2018).

Lower incomes make it difficult to afford nutritious foods. A number of Healthy Basket Food Surveys all show greater cost of health food in rural and remote areas. A study looking at Healthy Food Baskets in rural South Australia also found that the inability to buy healthy food created ‘food stress’ in low socioeconomic groups in rural settings (Ward et al 2012). For example, for some rural and remote households to afford healthy food requires them to spend half of their income to purchase it. This places a huge food cost burden on these families (Le et al 2013).

In a recent Australian scoping study looking at consumer nutrition environments such as food retail outlets, and the products, price, promotion and placement of food, the authors noted that a consistent theme in the literature is that people in rural and remote Australia are more likely to be obese or have other non-communicable disease. However, authors also noted that despite the health disparities reported in the studies, there were few papers describing consumer nutrition environments in rural and remote Australia highlighting a research gap (Pulker et al 2017).

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**Education attainment and health/food literacy**

Children in rural and remote Australia face challenges in accessing quality education which is strongly associated with healthy behaviours (Friel et al 2015) and good health literacy.

Health literacy is fundamental for understanding the daily requirements for eating healthy food and how to acquire and apply the ‘knowledge, skills and behaviours required to plan, manage, select, prepare and eat food to meet needs and determine intake’ (Vidgen & Gallegos 2014). Compared with those in Major Cities, people in regional and remote areas are slightly more likely to have lower levels of health literacy (ABS 2006).

Education level is attributed to healthier choices and parental perception and lifestyle behaviours have an influence on childhood obesity (Patrick et al 2005). Parental educational levels have also been found to be an important factor in preventing childhood obesity, perhaps more so than income (Ogden et al 2018). There is evidence that more work needs to be done in educating and supporting rural families in recognising and understanding childhood obesity.

One rural community study discovered a major discrepancy between the child’s measured BMI and their parent’s perception of their child’s weight (Spargo & Mellis 2013) and another study (also in rural Australia) showed that 31% of parents and carers in rural communities underestimate the weight of their children (Fisher et al 2006). Authors reported that in cases where the child was overweight, this proportion almost doubled to 56%, particularly for boys, and that a focus on increasing caregiver’s ability to correctly estimate the weight of their (overweight) child is recommended (Fisher et al 2006)

There are lower levels of education attainment in rural and remote areas, a reflection of the lower number of children completing high school and attaining non-school qualifications (ABS 2013). Rural and remote students who are at or near the stage of making the transition from school to employment, training, further study or combinations of them, are also often confronted with issues and costs which their counterparts in urban areas do not encounter (Halsey 2018).

**Access and costs of fresh fruit and vegetables are higher**

In 2014–15, 50% of adults and 68% of children ate sufficient serves of fruit, and 7% of adults and 5% of children ate sufficient serves of vegetables (AIHW 2018). Investigations in regional and remote Australia have found that children are consuming suboptimal amounts of both fresh fruit and vegetables (Godrich et al 2017) and consume less nutrients required for healthy development (Gwynn et al 2012). This is magnified in Aboriginal and Torres Strait Islander children.

There are reports that while there appears to be reasonable access (in terms of cost, variety and quality) to healthy food in the larger regional centres, the availability and quality of grocery items declines very rapidly as town size declines lower than 5,000 people (Young, Dixon & Hogan 2011). Factors contributing to the higher costs of foods in remote areas are related to increased freight costs; higher store overheads; greater wastage of food stock; store management practices; and the reduced economies of scale for purchasing and retailing in small remote communities (Lee & Ride 2018). As a result over-processed cheaply priced energy dense food often becomes the only option.

Unhealthy, energy dense foods tend to be cheaper than healthy foods particularly in the Northern Territory (Brimblecombe & O’Dea 2009) and people with limited finances are more likely to buy cheaper, energy dense food over healthier more nutritious foods (Drewnowski & Specter 2004).
Getting to basic amenities and services (e.g. to access healthy food) for many people in remote Australia is a challenge often requiring driving long distances, with expensive fuel costs and dependent on road and other environmental conditions. The lack of private transport or public transport available in remote areas further restricts access. In one survey in rural Tasmania 15% of respondents reported being unable to afford to buy food, and the need to travel some distance to access food shops (Le et al 2013).

Physical Activity

In 2014/2015, 64% of children aged 5-8 years of age did not meet physical activity recommendations, and 80% of children 5-17 also did not meet the recommendations (AIHW 2016). Modern lifestyles promote sedentary leisure activities, more screen-based time and less time on physical activity for transport, work or play (AIHW 2018).

Active travel such as walking or cycling to school or work increases physical activity. However, for children in rural and remote Australia many places offer less street connectivity or the distances between destinations are too far for active transportation or recreation to be feasible (Eley et al 2014, Thornton et al 2012).

Barriers to physical activity in rural and remote Australia include the climate, heat, natural disaster risk and road conditions. Cost, lack of opportunities for participation and transport problems were also barriers most often reported, particularly by low income parents in rural areas (Smith et al 2010).

Other barriers cited by mothers of children who are overweight or obese in rural areas include the child’s preference for sedentary behaviours, low self-esteem, poor motivation, social phobia because of lack of fitness, difficulties in controlling the children’s eating habits in particular during periods of stress (Druon et al 2008).

Local attitudes towards physical activity and community leadership (or lack thereof) also have a unique role to play in the rural and remote context (Eley et al 2014). The local context (distance to facilities or activities, the climate, cost and community attitudes and leadership) need to be taken into consideration when designing systems and services aimed at addressing physical activity barriers in rural and remote Australian communities.

Access to appropriately multidisciplinary health professional team that can undertake assessment, treatment, and prevention for of childhood obesity is limited in rural and remote areas. Access to appropriately qualified staff early childhood educators and teachers to support preschools, child care and school settings is also a challenge. In addition to this, rural and remote doctors and their practices bear the brunt of prevention and management of overweight and obesity health harms in rural and remote communities. Additional support and resources should be allocated to support the work of rural and remote primary health care practitioners. Additional support and resources is needed in the form of training and additional allied health professionals who can provide case management and behaviour counselling, group visits, and telehealth services to prevent and manage childhood obesity (Findholt et al 2013).

Ideally, treatment of the diseases linked to childhood and adult obesity would be undertaken by a multidisciplinary team that may include a general practitioner, nurse, diabetes educator, podiatrist, optometrist, dietitian/nutritionist, oral health worker, exercise physiologist, pharmacist and psychologist, depending on the needs of the individual. While data is not available for all allied health professions, the data included in Attachment 2 indicates that access to this range of allied
health professionals is limited in rural communities, and in remote and very remote communities may be difficult to simply unavailable.

In summary, healthy food is more expensive outside of major cities, particularly in remote Australia, and people have less money to pay for it. To prevent food deserts and facilitate food security in remote Australia a monitoring food system that measures the equitable distribution, affordability and quality of food including price variability and identification of areas where the cost of food is disproportionately high (Chapman et al 2014) and incentives to provide variety of fresh fruit, vegetable and other perishable foods should be implemented to support grocers and transport operators serving these areas (RIRDC 2016).

There needs to be a greater investment to address and end remote Australians’ inequalities particularly for inequalities in education, income and access to affordable quality fresh fruit and vegetables and physical activity. There also needs to be greater investment in appropriately trained health professionals, early childhood educators and teachers to work with rural and remote communities to prevent and reduce childhood obesity.

c. The short and long-term harm to health associated with obesity, particularly in children

Overweight and obesity among adults increases the likelihood of developing many chronic conditions, including some cancers, cardiovascular disease, asthma, back pain and problems, chronic kidney disease, dementia, diabetes, gallbladder disease, gout, and osteoarthritis (AIHW 2017a). Seven percent of the total health burden is attributable to overweight and obesity, similar to the burden due to smoking (AIHW 2017b).

Childhood obesity increases the chance of developing the same conditions at a younger age or, with premature onset, or greater likelihood in adulthood of premature death and disability (Reilly & Kelly 2011, WHO 2018).

Other childhood obesity health issues have also been identified such as severe obstructive sleep apnoea, social and emotional problems and chronic school absenteeism (Cheng 2012), greater risk of asthma, cognitive impairment and reproductive disorders later in life (WHO 2016a).

Young children in remote areas are already more likely to be developmentally vulnerable particularly in language and cognitive domain, and 42% of young children in very remote areas are vulnerable on one or more domains (see Table 2). In an Australian study Pearce et al (2016) report that obese children were more likely to be vulnerable on the physical health and wellbeing and social competence domains, and to be vulnerable on one or more domains. The authors also reported that children who are obese in the first year of school may already be exhibiting developmental vulnerabilities (Pearce et al 2016).

Another Australian study examined childhood obesity and its physical and psychological co-morbidities in rural children (Sanders et al 2015). The authors reported that overweight/obese Australian children and adolescents, compared to normal-weight peers, had more cardio-metabolic risk factors and higher risk factors of non-alcohol fatty liver disease and were experiencing more

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5 Food desert- healthy nutritious food is rare or even absent in a region or community
6 Food security- refers to the availability of healthy, affordable foods and the capacity of individuals and communities to access them (AIHW 2006)
negative psychological outcomes (depression, low self-esteem and lower scores of health-related quality of life) (Sanders et al 2015).

Table 2 Vulnerability and risk during early childhood development*, 2015

<table>
<thead>
<tr>
<th>Percentage of children developmentally:</th>
<th>MC</th>
<th>IR</th>
<th>OR</th>
<th>R</th>
<th>VR</th>
</tr>
</thead>
<tbody>
<tr>
<td>vulnerable on one or more domains</td>
<td>21</td>
<td>22</td>
<td>25</td>
<td>28</td>
<td>42</td>
</tr>
<tr>
<td>vulnerable on two or more domains</td>
<td>10</td>
<td>12</td>
<td>13</td>
<td>16</td>
<td>28</td>
</tr>
<tr>
<td>vulnerable in physical domain</td>
<td>9</td>
<td>11</td>
<td>12</td>
<td>14</td>
<td>22</td>
</tr>
<tr>
<td>at risk in physical domain</td>
<td>13</td>
<td>13</td>
<td>14</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td>on track in physical domain</td>
<td>78</td>
<td>76</td>
<td>74</td>
<td>74</td>
<td>59</td>
</tr>
<tr>
<td>vulnerable in social domain</td>
<td>9</td>
<td>10</td>
<td>12</td>
<td>12</td>
<td>22</td>
</tr>
<tr>
<td>at risk in social domain</td>
<td>15</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>19</td>
</tr>
<tr>
<td>on track in social domain</td>
<td>76</td>
<td>74</td>
<td>72</td>
<td>70</td>
<td>54</td>
</tr>
<tr>
<td>vulnerable in emotional domain</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>19</td>
</tr>
<tr>
<td>at risk in emotional domain</td>
<td>15</td>
<td>15</td>
<td>17</td>
<td>18</td>
<td>20</td>
</tr>
<tr>
<td>on track in emotional domain</td>
<td>77</td>
<td>75</td>
<td>74</td>
<td>71</td>
<td>55</td>
</tr>
<tr>
<td>vulnerable in language and cognitive domain</td>
<td>6</td>
<td>7</td>
<td>9</td>
<td>12</td>
<td>23</td>
</tr>
<tr>
<td>at risk in language and cognitive domain</td>
<td>8</td>
<td>10</td>
<td>10</td>
<td>13</td>
<td>16</td>
</tr>
<tr>
<td>on track in language and cognitive domain</td>
<td>86</td>
<td>83</td>
<td>81</td>
<td>75</td>
<td>55</td>
</tr>
<tr>
<td>vulnerable in communication domain</td>
<td>8</td>
<td>8</td>
<td>9</td>
<td>11</td>
<td>19</td>
</tr>
<tr>
<td>at risk in communication domain</td>
<td>15</td>
<td>15</td>
<td>16</td>
<td>15</td>
<td>19</td>
</tr>
<tr>
<td>on track in communication domain</td>
<td>77</td>
<td>77</td>
<td>75</td>
<td>74</td>
<td>56</td>
</tr>
</tbody>
</table>

For children aged 5–14, the top three causes of total disease burden were asthma, anxiety disorders and depressive disorders (AIHW 2018). Children with higher BMI (over the 85th percentile) are at higher risk of developing asthma (Mohanan et al 2014). Children in rural and remote Australia have higher hospitalisation rates for both asthma in inland Australia and rural areas (AIHW 2013). There is also a higher prevalence of mental health disorders for 4-17-year-old compared to those in major cities, see Table 3 (Lawrence et al 2015).

For rural and remote children who live in environments where the prevalence of non-communicable disease is already higher compared to those in major cities, obesity adds additional burdens to an already disadvantaged population.

Table 3 12-month prevalence of mental disorder among 4-17-year-olds by remoteness area 2015

<table>
<thead>
<tr>
<th>Remoteness area</th>
<th>Prevalence (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Cities of Australia</td>
<td>12.9</td>
</tr>
<tr>
<td>Inner Regional Australia</td>
<td>14.8</td>
</tr>
<tr>
<td>Outer Regional Australia</td>
<td>19.0</td>
</tr>
<tr>
<td>Remote Australia or Very Remote Australia</td>
<td>14.0</td>
</tr>
</tbody>
</table>


8 Measured across 5 domains - physical, social, emotional, language and cognitive, and communication. “Vulnerable” and “at risk” refer to different levels of hazard, with “at risk” indicating a higher perceived level of risk for the child than “vulnerable”.
d. The short and long-term economic burden of obesity, particularly related to obesity in children

Obesity cost the Australian economy $8.6 billion in 2011-12 and is predicted to cost the Australian economy almost $90 billion in the decade to 2025 (Van Smeerdijk et al 2015).

The indirect costs are even greater. An earlier study estimated annual direct costs of obesity at $8 billion annually, with lost wellbeing estimated at $50 billion annually (Access Economics 2008).

In 2008/09 the estimated direct and indirect costs of obesity and obesity-related illnesses in Australia was $37.7 billion, whereas the costs related to productivity loss due to absenteeism and premature death was estimated to be $6.4 billion per year (Medicare Australia 2010). More recently the Australian Institute of Health and Welfare reported that in 2011-12 overweight and obesity contributed 7% of the total health burden and was estimated to have cost the Australian economy $8.6 billion (AIHW 2017a).

There are few studies examining the cost of childhood obesity in Australia. One economic study however looking at obese children in Sydney found that after adjusting for maternal and sociodemographic characteristics, healthcare costs of children with obesity were 1.62 times those of children with healthy weight (Hayes et al 2016). The authors concluded that prevention of obesity in early childhood may have concurrent benefits in reducing healthcare expenditure. Economic benefit of early obesity prevention programs has previously only acknowledged later savings in healthcare costs resulting from reduced chronic disease in later life (Hayes et al 2016).

The Alliance was not able to locate research that focused on economic burdens for children in rural and remote Australia. This remains a gap in the research that should be addressed as part of a National Obesity Prevention Strategy.

e. The effectiveness of existing policies and programs introduced by Australian governments to improve diets and prevent childhood obesity

Preventing and reducing obesity will take a long-term investment and commitment with a whole of government holistic system-wide approach, and funding that goes beyond a short political cycle. There are a number of Australian government policies and programs that have been in place for some time and they have continued to evolve. Some programs have resulted in positive change in rural and remote Australian settings to improve diets, however to what extent they prevent childhood obesity has not been verified.

Examples of policies and programs that are getting traction in rural and remote areas include Healthy Together Victoria (in Victoria), Obesity Prevention and Lifestyle program or OPAL (South Australia) and Tackling Childhood Obesity (New South Wales).

Healthy Together Victoria

Healthy Together Victoria is Victorian Government initiative that commenced in 2011/12, whose aim is by taking a complex systems approach to prevention ‘To create a healthier Victoria by tackling the rising rates of obesity and preventing obesity-related chronic disease’. The program is operating across Victoria and has community-level trials in progress in twelve Healthy Together Communities (Victorian Government 2018).

Healthy Together Communities are operating across the municipalities of Hume, Wyndham, Whittlesea, Knox, Greater Dandenong, Cardinia Shire, Mildura, Greater Bendigo, Wodonga, Latrobe,
Greater Geelong, Ararat, Pyrenees and Central Goldfields and will reach approximately 1.3 million Victorians, 520 schools, 938 early childhood services and 4,409 medium to large workplaces (Victorian Government 2013).

The evaluation framework includes (but not limited to) evaluating changes to accessibility to opportunities for physical exercise, temperature, costs, dominance of motorised transport, opportunity for unmotorised transport, perceived danger in environment and safety (Strugnell et al 2016). All components that have been identified as barriers to rural and remote children’s participation in physical activity.

The Alliance was unable to find evaluation reports that demonstrate health impact or outcomes for these programs. However, the Alliance did source one evaluation report from Healthy Together Mildura program (Mildura Rural City Council and Sunraysia Community Health Services 2016). This evaluation paper reported on the implementation of a complex system approach and the experience of the program staff in working in partnership with local government, non-government and health agencies. The report demonstrates that this level of complex change takes considerable time to set up, provide education on a new way thinking and working (e.g. on the complex systems methodology) and build trust and a shared vision. However, the report provides optimistic insights that a complex systems approach will bring about positive health outcomes in this rural place.

**Obesity Prevention and Lifestyle program (OPAL)**

The OPAL program was established in South Australia in 2009. The program is coordinated through local government to work with communities to create opportunities to eat well and be active. OPAL is an adaption of France’s ‘Ensemble Prévenons l’Obésité Des Enfants’ (EPODE, Together Let’s Prevent Childhood Obesity).

The aim of OPAL is to improve the eating and activity patterns of children, through families and communities in OPAL regions, thereby increasing the proportion of 0 to 18 year olds in the healthy weight range. OPAL draws on three complementary social and behavioural theoretical perspectives: the social marketing theory of behaviour change; community development theory of action and change; and ecological systems theory (Jones et al 2016).

There are six goals to bring about behavioural change across the community:

**Eating well, which means:**

- healthy food choices available at food outlets
- healthy meals produced in and from homes
- local healthy food production, access and distribution.

**Being active, which includes**

- active travel journeys
- active leisure participation choices
- use of parks, spaces and places.

The OPAL website provides a list of case studies that demonstrate successful outcomes of locally based programs in rural South Australia. For example, in the rural town of Wallaroo, some outcomes of the program included changes in the environment including the installation of water fountains in playgrounds and 13 bike racks, redevelopment of other playgrounds to provide outdoor fitness.
equipment (see Opal case studies, SA Health, for more examples\(^9\)). However, the rate of childhood obesity is over 7% (PHIDU 2018) in the Council of the Copper Coast, indicating, there is still much work to be done.

**Tackling Childhood Obesity**

The Tackling Childhood obesity program is an NSW Government initiative that aims to reduce overweight and obesity rates of children by five percentage points by 2025. The NSW Government report that the tackling childhood obesity program has helped stabilise overweight and obesity rates in children in NSW to 21.4 per cent (247,000 children) in 2016\(^10\).

This program is an interdepartmental project that falls primarily under the responsibility of the Ministry of Health but working in close partnership with the education sector. Strategies are being implemented in schools (Live Life Well @School), early childhood and child care centres (Munch & Move) and community-based programs (Go 4 Fun). The program is supported by state-wide social marketing strategies (Make Healthy Normal), health coaching (Get Healthy Coach line, Get Healthy Pregnancy), and a strategy to have routine height and weight measurements in clinical settings (NSW Government 2016).

The Live Life Well @School evaluation reports that in 2015 73.7% of schools in remote communities have now adopted the Live Life Well @School program principles, an increase from 9.5% in 2012. In 2015, the majority of Live Life Well @School program practices were achieved by over 70% of schools, and in many instances by over 75% of schools (Bravo et al 2016).

The Munch & Move program commenced in 2008. The evaluation report showed that there has been a significant increase in the proportion of early childhood services that have implemented 70% or more of the Munch & Move practices. In 2012 the total for NSW was 36% and in 2015 this had increased to 78%. The increase has been observed in early childhood services with a high proportion of Aboriginal children attending, services in disadvantaged communities and services in remote communities. However, in relation to practice achievements associated with healthy eating and physical activity and the provision of health information to families, services in remote communities achieved less of the practices when compared to all other services (Lockeridge et al 2015).

**Key points about these projects:**

1. The programs were initially part of a National Prevention Health Partnership Agreement and built on previous work that was already underway within each state (e.g. the Eat Well Be Active Strategy in South Australia or the Be Active Eat well in Victoria). As such the programs were national and state health priorities at the time they began and had a lot of political will/ drive from the outset.

2. Although the programs were state-wide initiatives, operationally they were designed to fit the local context. This required in-depth planning at the local level. The OPAL program for example undertook a six month needs assessment to consult with a range of stakeholder and undertake community audits of infrastructure and services available.

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3. Each program has employed a dedicated project team.

4. Evaluation processes and research are ongoing components of the program.

5. Intersectoral partnerships and strategies are core components of the program strategies.

6. These programs are not a quick fix. They have taken time to establish and it may take a decade or more to begin to see results.

The Alliance would like to see that these state-wide programs continue to be funded and even enhanced to enable them to achieve what they have set out to do. However, given there is a greater need in rural and remote places, particularly where there are higher proportion of Aboriginal or Torres Strait Islander children, these programs should be targeted for additional resources and support to reduce and prevent childhood obesity.

f. Evidence-based measures and interventions to prevent and reverse childhood obesity including experiences from overseas jurisdictions

“Unlike other major causes of preventable death and disability, such as tobacco use, injuries, and infectious diseases, there are no exemplar populations in which the obesity epidemic has been reversed by public health measures. This absence increases the urgency for evidence-creating policy action, with a priority on reduction of the supply-side drivers”. (Swinburn et al 2011)

To date, no country has reversed its obesity epidemic (Roberto et al 2015) however there are some interventions that have been described as “promising” policies and programs (Waters et al 2011). In the review of Interventions for preventing obesity in children, the authors found strong evidence to support interventions that improved BMI, particularly for programs targeting children aged six to 12 years. Authors found that there was such a broad range of program components in the studies that it was not possible for the authors to distinguish which components provided the most benefits.

However, the authors surmised that promising policies and strategies are those that:

- are included in the school curriculum and includes healthy eating, physical activity and body image
- increased sessions for physical activity and the development of fundamental movement skills throughout the school week
- improved nutritional quality of the food supply in schools
- had environments and cultural practices that support children eating healthier foods and being active throughout each day
- support for teachers and other staff to implement health promotion strategies and activities (e.g. professional development, capacity building activities)
- provide parent support and home activities that encourage children to be more active, eat more nutritious foods and spend less time in screen-based activities.

More recently an Australian rapid review of evidence for chronic disease prevention interventions in children and young adults (Pikora et al 2016) found that there is a lack of intervention research targeting poor nutrition, physical inactivity in children and young adults.

However, authors reported there is “strong evidence that the greatest impact on reducing risk factors for chronic disease is likely to come from a multi-level, multi-strategy, multi-sector approach across the life course”. For example:
- School-based interventions that address physical inactivity.
- Classroom-based physical activity interventions positively influence blood cholesterol, cardiorespiratory fitness and skinfold thickness among children and adolescents
- Interventions conducted in multiple settings (e.g. schools, family and community) that target multiple health risk factors (e.g. nutrition education, physical activity promotion and discourage sedentary behaviours)
- Nutrition interventions delivered across multiple settings (i.e. home and school)
- Home- and family-based interventions for alcohol
- Higher prices and alcohol taxes to reduce excessive alcohol consumption.

As noted, there is a critical need for research to underpin evidence based policy to address service access needs to appropriately trained early childhood educators, teachers and multi-disciplinary health professional teams who can implement these promising strategies.

g. The role of the food industry in contributing to poor diets and childhood obesity in Australia

The food industry (greatly influenced by globalization and multination corporations) has a significant role to play in reducing obesity and contributing to healthy diets overall.

One of the explanations as to why there has been “patchy progress’ on reducing obesity is the strong lobbying from the food industry and poor policy implementation and accountability from governments (Roberto et al 2015).

However, as is advocated in the literature, a multisectoral response and greater accountability is needed, as for example it is not the food industries’ role to design urban environments that promote active travel or to change societies’ addiction to screen time activities. Never the less, there is a lot more that the food industry can do to promote healthy food environments and systems particularly for rural and remote Australia.

To help guide food policy, the World Cancer Research Fund International has developed the NOURISHING framework that provides an evidence informed guide to food policy interventions within three domains, the food environment, food system and behaviour change and communication (World Cancer Research Find International 2014), see Figure 2.

The majority of strategies employed by the food industry to date have been focused on voluntary marketing codes, product reformulation, and sponsorship for physical activity or community activities (Alexander et al 2011).

However, ‘Big Food’ have been criticised for using corporate social responsibility activities to promote their brands, target parents and children through community activities and align themselves with respected philanthropic organisations (Richards et al 2015). The food industry has also been criticised for its shameless exploitation of children through advertising, exacerbating food deserts and increasing food insecurity (Loo & Skipper 2017).
The World Health Organization (2010) provided a set of recommendations on the marketing of foods and non-alcoholic beverages to children. WHO recommend that policies should aim to reduce the impact on children of marketing of foods high in saturated fats, trans-fatty acids, free sugars, or salt and the exposure of children to, and power of, marketing of foods high in saturated fats, trans-fatty acids, free sugars, or salt.

A number of countries have introduced statutory regulations on advertising to children. Australia has opted for a self-regulated approach. A systematic review examining levels of exposure of children to food advertising since the introduction of the statutory and voluntary codes in the UK found that voluntary codes may not sufficiently reduce the advertising of foods and undermine healthy diets, or reduce children’s exposure to this advertising (Galbraith et al 2013).

A more recent Australian study found that there has been no change in the rate of unhealthy food advertising since the Australian food industry introduced initiatives to reduce the marketing of unhealthy food to in 2009. The authors conclude that the current food industry initiatives on reducing children’s exposure to unhealthy food advertising is having minimal impact (Watson et al 2017). The food industry, by advertising to children influences taste preferences and brand loyalty in childhood years and this continues into adulthood (Lobstein et al 2015). Food companies pay to advertise their products so as to sell more and make greater profits and targeting children is no exception. The effect of ‘pester power’ advertising on children and parents shopping preferences are strong and effective, which is why companies pay to advertise (Baker 2014). Advertising for unhealthy foods substantially exceeds advertising for healthy foods.
Another Australian study looking at health and nutrition content claims on Australian fast-food websites found that half of the products that had health claims on them did not meet the requirements of the Food Standards Australia and New Zealand Nutrient Profiling Scoring Criteria (Wellard et al 2017).

These examples alone demonstrate there is much room for improvement in strengthening current food regulation and monitoring systems in Australia and promoting in demanding ethical behaviour from multinational food companies.

Recently in Australia the question has been raised around a sugar tax and front of packaging nutrition labelling. Sugar sweetened beverages are linked to diabetes, heart disease and oral health problems (Brownell et al 2009) and poor cognition (Cohen et al 2018). Therefore by decreasing children’s sugar consumption should reduce the risks of heart disease, diabetes, lessens tooth decay and improves cognition. Some countries have already implemented some form of taxation on sweetened beverages (France, Belgium, Barbados, Mexico, UK). A systematic literature review of healthy food subsidies and unhealthy food taxation showed that there is consistent evidence that taxation and subsidy interventions influence dietary behaviours (Niebylski et al 2015). The authors recommended that to maximise success and effect, food taxes and subsidies should be a minimum of 10 to 15% and used in tandem (Niebylski et al 2015).

Front of package labelling is also a recommended strategy aimed at reducing sugar sweetened beverage consumption. An Australian study found that front of package labels, especially those with graphic warnings, have the potential to reduce sweetened beverage purchases (Billich et al 2018).

The Alliance concurs that effective food-policy actions targeted at the food industry can lead to positive changes to food environments particularly if strategies are tailored to the targeted community (e.g. rural and remote communities) and are implemented as part of a combination of ‘mutually reinforcing actions’ (Hawkes et al 2015) such as those outlined in the NOURISHING framework.

h. Any other related matters

There are three final matters that Alliance would like to highlight that urban design and the planning system and agricultural policy have role to play in improving obesity rates in rural and remote Australia.

Urban design, development and creation of healthy communities often falls within the purview of local governments. However, current planning systems in Australia often limit the extent to which local governments can control the location and density of convenience restaurants (Taylor 2015, Thornton et al 2016). Local governments also have significant role to play in enhancing and designing infrastructure that will promote physical activity for recreation, leisure and exercise (Obesity Prevention Coalition 2017.) Planning systems should explicitly incorporate health as a core component to protect and promote the population’s health and wellbeing.

Agricultural policies need to incorporate health outcomes. Farmers have a role to play in providing ecologically sustainably grown nutritious food. Farmers markets as one example, deliver community health and wellbeing benefits, provide access to locally grown food and provide a social hub (RIRDC 2014). However, the dominance of large food chains and supermarkets puts pressure on farmers for pricing of produce, size of their production, the type of farming method used to meet production demand (e.g. industrialised mono-crop farming) and experience significant economic pressures. All
this at a time of changes to the climate, increasing natural disasters, prolonged drought, and changes to water, soil and biodiversity generally, land use policy and increased population consumption demand. These pressures are having fatal consequences, for example farmers are three times more likely to suicide than any other Australian profession (Australian Environmental Grantmakers Network 2015).

**Recommendations**

The Alliance recommends that:

1. **Australia needs a national obesity prevention strategy as a matter of urgency.** The strategy needs to focus on eradicating obesogenic environments in rural and remote Australia. It needs to target inequalities and inequities in education, income and access to affordable quality fresh fruit and vegetables and physical activity. Priority should be given to ending obesity inequalities for children in lower socioeconomic groups, particularly Aboriginal and Torres Strait islander children and children in remote Australia.

2. **Government research programs need to prioritise research that will improve understanding of food environments (particularly consumer nutrition environments) in rural and remote Australia.**

3. **Increased funding for additional resources, infrastructure and workforce should be made available to improve the access of rural and remote communities to appropriately trained early childhood educators, teachers and multi-disciplinary health professional teams.**

4. **State-wide programs such as the Healthy Together, Tackling Childhood Obesity and OPAL should continue to be funded and even enhanced to enable them to have a broader reach and achieve what they have set out to do. However, given there is a greater need in rural and remote places, particularly where there are higher proportion of Aboriginal or Torres Strait Islander children, these programs should be prioritised for additional resources.**

5. **Planning systems across critical areas such as the location and density of convenience restaurants and the design of areas for physical activity for recreation, leisure and exercise should explicitly incorporate health as a core component to protect and promote the population’s health and wellbeing.**

6. **Agricultural policies need to incorporate health outcomes.** At a time of increasing change to meet the multifaceted challenges of climate change, the modernisation of production methods and the market concentration of supply chains, sustainable nutritious food is the foundation of health and wellbeing.

The Alliance also supports the eight policy actions recommended by Obesity Prevention Coalition ‘Tipping the Scales’ campaign.

1. **Legislate to implement time-based restrictions on exposure of children (under 16 years of age) to unhealthy food and drink marketing on free-to-air television until 9:30pm.**

2. **Set clear reformulation targets for food manufacturers, retailers and caterers with established time periods and regulation to assist compliance if not met.**

3. **Make the Health Star Rating System mandatory by July 2019.**

4. **Develop and fund a comprehensive national active travel strategy to promote walking, cycling and use of public transport.**
5. Fund high-impact sustained public education campaigns to improve attitudes and behaviours around diet, physical activity and sedentary behaviour.

6. Federal government to place a health levy on sugary drinks to increase the price by 20%.

7. Establish obesity prevention as a national priority, with a national taskforce, sustained funding, regular and ongoing monitoring and evaluation of key measures and regular reporting around targets.


However, the Alliance also recommends that these policy actions are adapted to the rural and remote context, particularly policy action number 4 for active travel and public transport solutions.
References


Loo, C Skipper, R (2017) Food Insecurity, the Obesity Crisis, and Exploitation in the US Food System. Palgrave Macmillan, New York.


Mohanan, S Tapp, H McWilliams, A and Dulin, M (2014) Obesity and asthma: Pathophysiology and implications for diagnosis and management in primary care, Experimental Biology and Medicine, 239: 1531–1540


OPAL Case studies see:
http://www.sahealth.sa.gov.au/wps/wcm/connect/4ea30f00446c4dfeed87af76d172935c/G337+OPAL+Case+Studies_Copper+Coast_Wallaroo_INTERNAL.pdf?MOD=AUPERES&CACHEID=ROOTWORKSPACE-4ea30f00446c4dfeed87af76d172935c-IG58e2K.


Pearce, A Scalzia, D Lynch, J Smithers, L (2016) Do thin, overweight and obese children have poorer development than their healthy-weight peers at the start of school? Findings from a South Australian data linkage study, Early Childhood Research Quarterly 35 (2016) 85–94


## Attachment 1: Membership of the National Rural Health Alliance

<table>
<thead>
<tr>
<th>Organisation</th>
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</thead>
<tbody>
<tr>
<td><strong>National Rural Health Alliance - Member Body Organisations</strong></td>
</tr>
<tr>
<td>Australasian College for Emergency Medicine (Rural, Regional and Remote Committee)</td>
</tr>
<tr>
<td>Australasian College of Health Service Management (rural members)</td>
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<tr>
<td>Australian College of Midwives (Rural and Remote Advisory Committee)</td>
</tr>
<tr>
<td>Australian College of Nursing - Rural Nursing and Midwifery Community of Interest</td>
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<tr>
<td>Australian College of Rural and Remote Medicine</td>
</tr>
<tr>
<td>Australian Healthcare and Hospitals Association</td>
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<tr>
<td>Allied Health Professions Australia Rural and Remote</td>
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<tr>
<td>Australian Indigenous Doctors’ Association</td>
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<tr>
<td>Australian Nursing and Midwifery Federation (rural nursing and midwifery members)</td>
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<td>Australian Physiotherapy Association (Rural Members Network)</td>
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<tr>
<td>Australian Paediatric Society</td>
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<tr>
<td>Australian Psychological Society (Rural and Remote Psychology Interest Group)</td>
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<tr>
<td>Australian Rural Health Education Network</td>
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<tr>
<td>Council of Ambulance Authorities (Rural and Remote Group)</td>
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<tr>
<td>CRANAplus</td>
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<tr>
<td>Country Women’s Association of Australia</td>
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<td>Exercise and Sports Science Australia (Rural and Remote Interest Group)</td>
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<td>National Rural Health Student Network</td>
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### Attachment 2: Allied Health workforce by remoteness

#### Medical and Allied Health Workforce by remoteness 2016

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<thead>
<tr>
<th>Allied Health Professions</th>
<th>Major cities</th>
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<th>Outer regional</th>
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<th>Very remote</th>
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ABS population data 3218.0 - remoteness area download