The mission of Obesity Australia is to drive change in the public perceptions of obesity, its prevalence and its treatment.

Action Agenda
Today in Australia over a quarter of the adult population is obese, and another 40% overweight, a more than fourfold increase over the past thirty years. Obesity and its associated disorders – type2 diabetes, cardiovascular and kidney disease, depression, sleep apnoea, osteoarthritis, reproductive difficulties and an increased prevalence of cancer – pose a major risk to Australian society, in terms of increased costs for health care and ancillary services, and in terms of lost productivity, for 2008 estimated to be $58bn.¹

Obesity is a complex issue, and the current epidemic reflects the interplay between genetic and environmental factors. The genes have not changed, but the external environment has – changing lifestyles and the omnipresence of energy-dense processed/‘fast’ food and drinks.

Thirty years ago obesity may have been considered primarily a personal matter; today it is overwhelmingly a societal issue, given its prevalence and costs. As such, it requires concerted and effective action by governments in the interests of the whole population of Australia, not merely the obese. The complexity of obesity is mirrored by the number and variety of interventions advocated to address the issue.

The costs of failing to staunch the flow into obesity are not trivial. The additional costs of a single lifetime of obesity have recently been estimated at almost a million dollars, without including productivity losses². With over a quarter of the adult population obese, this one off figure is three times Australia’s current annual health budget, and clearly insupportable.

Obesity Australia is providing a plan for prompt action, not a comprehensive program including every measure that has been advocated, but five specific areas for immediate intervention. Four address the prevention of obesity (which is relatively cheap), and one the treatment of severe obesity (expensive). In all cases the costs of intervention are clearly less than those of not intervening.

² Cited by Louise Sylvan, Sax Institute Workshop on Obesity, March 7, 2013
The relatively cheap interventions are preventative reaching across the whole community:

- guidelines for prospective parents for the four years before their child’s third birthday,
- Stephanie Alexander Kitchen Garden Programs in primary schools, and
- adopting/adapting the Waikato ‘Energize Program’, a primary school education program.

The fourth intervention is recommended for consideration.

- restrictions on television advertising of fast foods/high sugar drinks

**The relatively expensive fifth program addresses those who are severely obese:**

- governmental support for treatment of established obesity, for which there is abundant evidence for cost-effectiveness.³

None of the first four measures has been the subject of a formal trial to establish (or otherwise) evidence for sustained and long term impacts on obesity rates or health outcomes. Based on what we know – of the developmental importance of behavioural patterning in early childhood, and of short term outcomes – the interventions are both logical and provide strong possibility of sustained and long-term success.

What should be noted, however, is that a recent systematic review of obesity prevention programs found that over the long-term most were either highly cost-effective or even generated larger returns than they cost to implement.⁴

As these measures are implemented, Obesity Australia will canvass, develop and propose additional investments to address the epidemic of obesity in our population. Currently the rates of juvenile obesity are unacceptably high, but still lower than in adults: one focus of Obesity Australia is to staunch the flow into obesity, by focusing attention on early life events. The other major focus – on grounds of mitigating cost blowouts/productivity losses – is effective treatment for the very obese. Our particular recommendations will thus focus on these two issues.


Guidelines for Parents.

There is currently excellent animal experimental evidence for environmental effects on sperm and ova predisposing the offspring to obesity. There is a wealth of evidence for a variety of causative factors during pregnancy (mother's obesity or diabetes/not enough calories or protein/stress). Finally, over the first two to three years after birth a child’s taste and food preferences are set, and can contribute to susceptibility in our current obesogenic environment.

These effects are epigenetic – not changing the DNA itself, but setting the stop/go signals in the brain to activate the hunger and satiety (fullness) control systems. It is very difficult to reset these default settings – witness the relative ease of weight loss, and much more difficulty in maintaining it. Obesity Australia is developing specific guidelines – science based, and evidence-based where evidence is available – to minimise the possibility of epigenetic changes over the four years before a child's third birthday leading to obesity later in life.

The costs involved are minimal. Obesity Australia will promulgate the guidelines via websites (our own and linked) and social media. Hard copies with brief explanatory notes will be available to prospective/current parents in doctor’s surgeries, health care centres etc; we will seek funding from the Department of Health for this. Secondly, there needs to be evaluation in terms of impact every second year, to establish the efficacy (or otherwise) of the intervention. Evaluation is of high research interest and inexpensively contracted out to think tanks/academia, and needs to include a component of economic evaluation to help demonstrate impacts at low cost.
Schools
Although it is often said that childhood obesity may be plateauing, the evidence for this is unconvincing. In primary schools two measures would change the culture – Stephanie Alexander Kitchen Garden Programs and adopting/adapting the ‘Project Energize’ Nutritional and Physical Activity Program in primary schools in Waikato (NZ).
Australia has a proud record of leadership in niche areas of preventative medicine - seat belts, slip/slop/slap, bilateral cochlear implants before the age of one for profoundly deaf infants. The Stephanie Alexander Kitchen Garden Program, already operating in a minority of Australian primary schools, is another Australian first, is recognized as such around the world, and serves as a model for other countries.

The Stephanie Alexander Kitchen Garden Program is currently planned to operate in 10% of Australian primary schools by June 2015, providing a rich cultural and hedonic experience for the children involved in growing, cooking and eating fresh food, an experience foreign to nearly all other children and most adults. Progressive extension across all primary schools in Australia over six years would revolutionize the next generation’s food attitudes, and instil a knowledge of and preference for a diet high in fresh vegetables.

Currently the Stephanie Alexander Kitchen Garden National Program provides training (two teachers for two weeks) for schools that apply. The costs to the school are $600 (contribution to training) plus ~$6000 (temporary replacement teachers). There are 7,600 primary schools in Australia, of which ~750 will have kitchen gardens in place within two years: it is important to recognize that demand far outstrips current capacity. A target of adding a kitchen garden to 1000 schools per year would require an annual additional spend of $14M, to cover expenses of the schools and a considerably expanded training program.

Such an initiative has benefits that are local, national and international. The local benefits relate to the outcomes in terms of approaches to food and health literacy for the children, and the (perhaps unanticipated) improvement in students’ attitudes and behaviour, reported by 80% of the teachers and 50% of the parents. These outcomes - food literacy, healthy eating, cooking at home, parental involvement, behavioural change - have been documented in the recent evaluation by the Centre for Health Service Development at the University of Wollongong.

At the national level – in terms of staunching the flow into obesity – the benefits of the Stephanie Alexander Kitchen Garden Program are in the future. European and Asian cultures that similarly emphasize fresh, healthy foods and the joy of cooking have both a much lower obesity rate than Australia, and a much flatter trajectory of an increase in obesity.

For a modest investment over six years from FY2015-6 onwards to extend this program to all primary schools in the country will confirm and cement our leadership role in this area of education and health.
**The Energize Program** began in 2005, funded by the Waikato District Health Board. It is an educational program focusing equally on health literacy and physical activity: it is delivered by teachers and physical activity providers, both of which groups have professional development programs on healthy eating and physical activity, and involves the parents and wider school community. It has been shown to be effective – in 2011 waist circumferences in 6-8 year olds were 2.3 cm less than in Waikato 6-8 year olds in 2006; for 9-11 year olds the improvement was 4.3 cm compared with 2004. At all ages 2011 Energize children ran 550m 20 seconds (13%) faster than a comparison group elsewhere in New Zealand.

The annual cost of the Energize Program is NZD$40 (AUD$32) per child, and the program now operates in ~20% of all primary schools in New Zealand. Evaluation of the children includes measurement of height, weight, waist, and body fat, by bioimpedance, blood pressure and time to run 550m. Household questionnaires focus on child health, eating habits, physical activity and household food, and were completed by parents and caregivers. The buy-in from teachers and the wider community is an impressive feature of the program.

The Energize Program June 2008-June 2011 was evaluated by the Auckland University of Technology for the Waikato District Health Board/Ministry of Health. In an analysis of 1294 girls an investment of NZD$207,040 over 4 years returned in excess of investment over NZD$100,000 and a cost per QALY (Quality Adjusted Life Year) of $5,700: for Maori girls the cost per QALY was less than NZD$3,800. Physical activity providers are responsible for 10-15 primary schools, and their commitment to healthy diets is key to the changes in waist measurement: physical activity alone at this age group has minimal effects on waist circumference.

Australia needs to study, adapt as necessary, and adopt a (perhaps) modified Energize Program. The choice of physical activity providers trained in food literacy and healthy eating is probably key to the program’s success. If the program were to be trialled over a 3 year period in 300 primary schools, from 2014-5 onwards, and the outcomes compared with 300 schools in New Zealand, and 300 Australian schools matched for the common confounders, the costs would be of the order of $3M per annum for the physical activity providers, on the basis of 300 children per school; added to this would be administrative costs, and those for ongoing evaluation. If successful as in NZ, it could be in every primary school for an annual cost of $75M, plus on costs. Such a program will bring real changes in childhood overweight and obesity, and over a life course in the population as a whole.

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5 Rush, E et al. *Obesity Research and Clinical Practice* In Press accepted for publication March 26 2013
**Television Advertising**

The genetics we can't change (between 40-70% of us are predisposed to overweight obesity, not surprisingly given routine scarcity of food until recently), and epigenetic settings are long term. What has changed most over the past three decades is food and drink culture (portion size, prepared rather than fresh foods, etc.) in general, and fast energy dense food in particular: forty years ago almost all Australians were well-nourished, but the overweight/obesity levels a fraction of those at present.

One of the mysteries of the fast food business is why it is often termed 'cheap' when tasty and nutritious meals for four can be prepared for half the cost. To sustain throughput the firms involved need to advertise constantly – as shown by a 25% drop in local sales during a recent week long hiatus for one firm – in particular targeting school age children.

**There have been repeated cries for banning such advertising, most recently by the Academy of Medical Royal Colleges in the UK, before 9pm at night. “A ban on advertising of foods high in saturated fats, sugar and salt before 9pm, and an agreement from commercial broadcasters that they will not allow these foods to be advertised on internet ‘on-demand’ services”**

Given the length of time most children watch television, weekdays and weekends, and the inconstant success of parents in policing such time, there is a strong case for banning such advertisements if we are to make any inroads into childhood and later adult obesity. Self-regulation of fast food advertising to children in Australia has been found to be largely ineffective.

Obesity Australia recognizes that this is a complex issue, and recommends that as part of a health policy portfolio a high level, truly independent enquiry be set up to consider the rationale for, objectives of, implications from and political resistance to such a measure. It is worth remembering that such a ban represented a turning point in the campaign against attracting young people to smoke.

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Severe Obesity: Background

Whereas the prevention of obesity starts in early life, the treatment of established obesity covers a much wider time-span. The epigenetic determinants of appetite and satiety established in early life can be modified to a certain extent in children, with the cooperation of both child and parents; by adolescence and beyond it is much more difficult. The points of contact for severely obese who wish to lose weight are limited - pharmacist, weight loss maintenance program, family doctor. Of these avenues what should be the most supportive (the family doctor) is often the least. Despite all the associated morbidity - cardiovascular disease, osteoarthritis, cancer, sleep apnoea etc. - for some reason currently most general practitioners, in the face of the evidence, do not see severe obesity as a chronic relapsing and often progressive disease. They thus deny their patients the chance of appropriate treatment under the rubric of Chronic Disease Management.

General practitioners are encouraged and supported by Chronic Disease Management (CDM) item numbers to plan and coordinate care for those with a chronic or terminal illness. A ‘chronic medical condition’ is one that has been or is likely to be present for at least six months, including but not limited to asthma, cancer, cardiovascular disease, diabetes mellitus, musculoskeletal conditions and stroke. As noted above, however, general practitioners consider that obesity is not a chronic disease, in its own right. Obesity Australia considers that by any definition severe obesity (BMI >35) is a chronic disease and thus specifically eligible for CDM plans. This would allow a chronic disease plan to be prepared by the general practitioner, engaging medical specialist and allied health practitioners including dieticians, exercise physiologists and psychologists as appropriate for the long term management of severe obesity. Severe obesity is no different to type2 diabetes; it requires ongoing commitment and care. The constant search for quick fixes distorts and distracts from the chronic disease processes that inexorably characterise progressive severe obesity.

It is against this background that Obesity Australia proposes the following interventions to allow general practitioners to optimally assist their chronically relapsing patients with severe obesity.
Treatment of Established Obesity: Accredited Weight Loss Maintenance Programs

Currently there is no magic bullet for those who for genetic/epigenetic reasons become overweight. Lifestyle campaigns over the past 15 years have proven ineffective; pharmacological treatments are in clinical trials, but for the foreseeable future will be expensive; dieting against ‘set’ points for hunger and satiety is difficult to sustain, even on healthy food.

For the obese and the overweight who tend to progress into obesity, current accredited weight loss programs have been shown to be successful for individuals who are regularly mentored and measured. As such, they are recognized as a good investment and supported by the health funds. In contrast governments do not support comparable individuals without private insurance: to do so would cost only a modest sum, and would send a signal to those contemplating weight reduction. With the basic weekly cost of a program of $15, a means-tested payment of $10 to the provider (plus a co-payment of $5 from the individual) would enable those without health insurance to progressively lose weight in a structured and mentored way, and to maintain that weight loss.

If an additional 60,000 means-tested severely obese patients were to be supported in this way, the annual cost would be of the order of $30M. Even modest loss (5-10%) of starting weight is accompanied by substantial lowering of blood pressure and prevalence of type 2 diabetes, thus representing a very worthwhile investment.

Given the social economic status of obesity, there are probably 300,000 severely obese Australians without private health insurance and who would fit means-tested criteria, so a figure of 60,000 subjects per year represents 20% of that total: if upon evaluation the program is successful, on cost-utility grounds it should be significantly expanded in the subsequent parliamentary term, as an excellent investment in health promotion and disease prevention.
Treatment of Established Obesity: Bariatric Surgery

For bariatric surgery the current rebate is between 5 and 10% of the average total cost, and insurance covers perhaps a quarter of the remainder for those who are insured, leaving a substantial out-of-pocket contribution. Despite this, over 90% of all bariatric surgery is done in private, with waiting lists for public patients either non-existent or up to seven years long. Substantially raising the rebate for bariatric surgery procedures (and accompanying charges) as has been recently mooted, is a very useful first step. Progressively increasing access to bariatric surgery in the public domain is also an excellent investment in terms of otherwise incurred health and ancillary costs and productivity losses.

Currently the estimate of the rate of bariatric surgery procedures in public hospitals is “around 1000/year”, well under 10% of the total. The current cost in private varies from $15,000-$20,000; in the public system, for a variety of reasons, the costs should be considerably less. Some allowance needs to be made for revisional surgery, but with dedicated staff specialist surgeons and economies of scale a figure of $12,000 all up in the public sector is reasonable, excluding the costs of bariatric medicine both before and after surgical intervention.

If markedly obese Australians with the highest risk profile number 800,000, up to half a million are candidates for bariatric medicine/surgery in the public system. A 50% increase in procedures per year for three years from the FY14/15 budget would cost in the order of an additional (over the current 1000 procedures) $6M in the first year, $15M in the second year and $27.5M in the third. Note that this would take the public to private ratio to still less than 20%; funding at the same rate of increase for six years would still leave a markedly obese public patient less than half as likely to receive curative bariatric surgery as an insured patient, the latter at current annual rates.

The program needs to be introduced gradually, to allow time for capacity building and efficiencies of scale. As previously noted, it is expensive, but less expensive than doing nothing. There is widespread evidence for both the efficacy of bariatric surgery as part of weight loss medicine, and for very favourable cost-utility outcomes. The program should be evaluated in the third year; if the data show success in terms of outcomes it should continue, at a progressive increase of 50% pa over the following three years.
Appendix 1

The following is a partial list of possible interventions that have been variously proposed. It is listed on a life course basis, rather than on the basis of those requiring legislation, regulation or voluntary change of practice. Some are contentious; some have clear financial implications in terms of costs if they are not implemented, costs to implement, and benefits accruing from intervention; others are essentially minimal-cost or cost-free, but may represent useful measures in this area. They are thus not in order of importance or feasibility, but only in order of time - from the early beginnings of a child to adults with established obesity. **Highlighted are the previously discussed key actions outlined in the Action Agenda.**

1. Minimizing their child’s chances of becoming obese by guidelines for prospective parents (both mothers and fathers) over the four years before their child’s third birthday.

2. Inculcating principles regarding food, its origins and its values by progressively extending the Stephanie Alexander Kitchen Garden Scheme to primary schools in across the country.

3. Adapting the health literacy/physical activity program for primary school students from Waikato (NZ), proven effective in reducing waist circumference and now in place in 20% of all schools in New Zealand.

4. Responding to industry targeting of children by banning:
   - Television advertising of fast food between 6AM and 9PM;
   - Sponsorship of children’s sport by fast food companies;
   - Celebrity endorsement of fast foods;
   - Selective placement of confectionery at supermarket check outs;
   - Opening of fast food outlets within 400 metres of schools or leisure centres.

5. Making labelling of food and beverage packaging more explicit and readily understood, including
   - Traffic lights for sugar/salt/fat content
   - Front of package information
   - Information on trans-fat/saturated fat, as well as calories
6 Introducing a tax on high-fat fast food and high-fat processed food, and/or sugar in beverages and processed food

7 Subsidies on healthy foods, on the lines of the European school fruit subsidy scheme.

8 Mandating information on trans-fat, saturated fat and calories in meals prepared in restaurants, cafes, food halls and takeaways, and/or stricter regulations on trans-fats as in Denmark and NYC.

9 Holding hospitals (patients and staff food provision) to the same nutritional standards as set for schools in the UK, and limiting vending machines in hospitals to healthy prepared food/fruit/no added sugar beverages;

10 Requiring government bodies to adopt healthy food procurement procedures;

11 Incentivising supermarket associated service stations to provide healthy alternatives to the current high fat/high sugar food for travellers;

12 Refining social marketing to modify attitudes and support behavioural change;

13 Continued monitoring of trends in overweight and obesity by maintenance of Australian health surveys every three years.

14 Working with State and Local Governments to plan new urban developments, and to reconfigure existing urban environments, to encourage greater levels of physical activity;

15 Providing partial financial support for the obese and overweight who are successful in maintaining weight loss via accredited weight loss programs;

16 Increasing the Medicare rebate for bariatric medicine/surgery for the very obese/ the obese with complications.

17 Rapidly expanding the provision of public hospital bariatric medicine/surgery services for uninsured patients with severe obesity/obesity with complications.
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For further information visit the Obesity Australia website, www.obesityaustralia.org.