

The wider economic and social costs of obesity:

A discussion of the non-health impacts of obesity in New Zealand

RESEARCH SUMMARY

JANUARY 2015

Introduction

There has been a great deal of attention focused on the health costs and impacts of obesity both in New Zealand and internationally. However, there has been relatively little attention paid to the social and economic costs of obesity both to the individual and to the wider community.

To increase our knowledge in this area, Superu commissioned the New Zealand Institute of Economic Research (NZIER) to review the international literature on the non-health impacts of obesity and consider how the findings might apply to New Zealand. This summary has been prepared by Superu and is based on the report prepared by NZIER.

KEY FINDINGS

The impacts of obesity are multifaceted and affect people, communities and New Zealand's social, economic and environmental well-being. Obese people experience a range of non-health impacts and some evidence suggests that these impacts are much greater than the health costs most commonly associated with obesity. The social and economic impacts of obesity include:

- > **Socio-economic** - Obese people are more likely to be of low socio-economic status and, because of their obesity, face challenges lifting their socio-economic status.
- > **Education** - Obese children don't tend to do as well academically as their peers.
- > **Employment** - Obesity is a barrier to employment and obese people tend to earn less.
- > **Productivity** - Obesity is a well-known risk factor for sick leave, disability pension and premature death, and is therefore related to lower lifetime productivity.
- > **Intergenerational impacts** - Obesity tends to span generations. The children of obese parents are more likely to be obese themselves.
- > **Discrimination** - Obese people are targets for bullying, stigma and workplace discrimination.
- > **Transport** - Obesity increases family fuel costs. Increased consumption of petrol and diesel potentially means greater environmental costs.

Obesity is on the rise in New Zealand

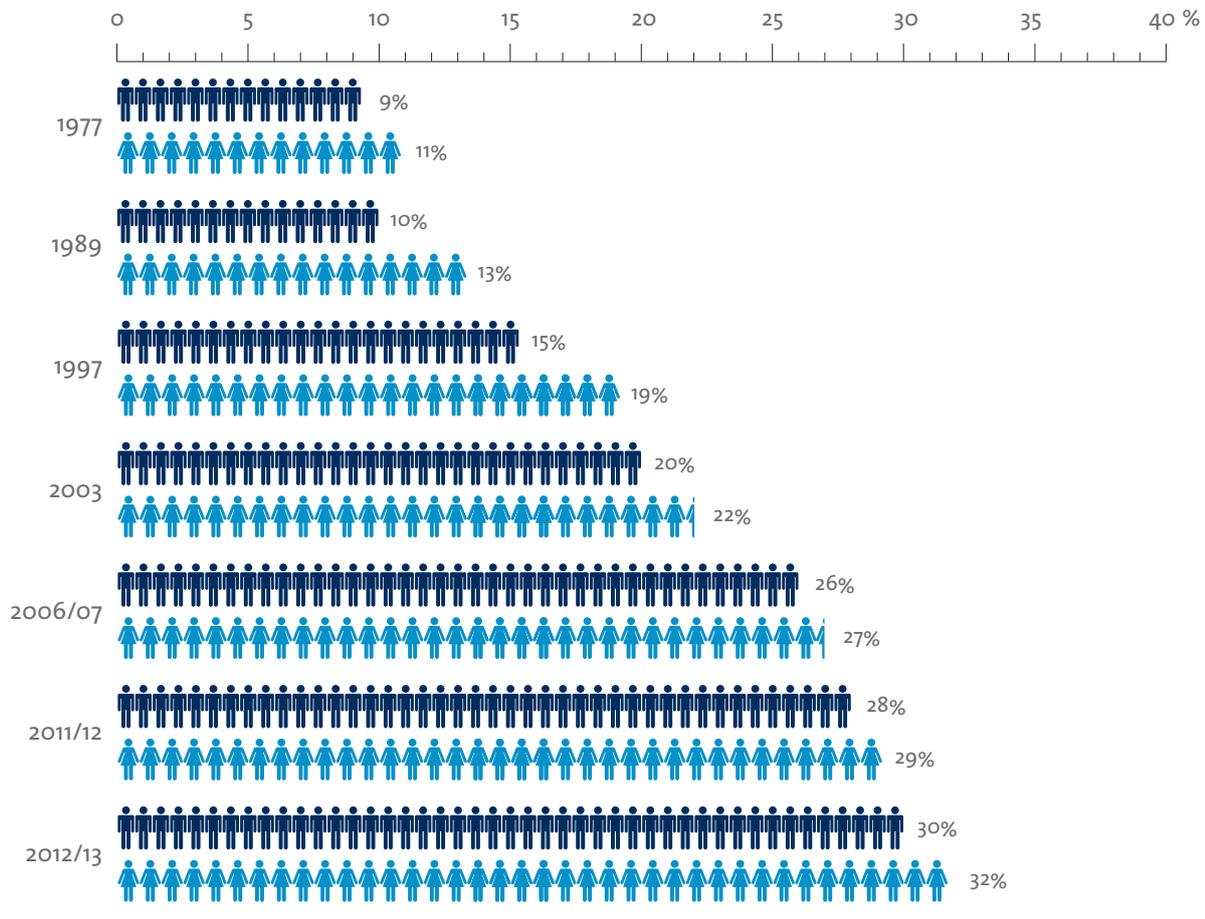
Obesity is a major health issue today in New Zealand. Currently a third of the population is obese - over a million people. The problem has grown over time and there are now three times more obese people in New Zealand than there were in 1977. A 2014

Organisation for Economic Co-operation and Development (OECD) report placed New Zealand as the third most obese country in the developed world, behind the United States and Mexico.



Figure 1 _ Prevalance of adult obesity in New Zealand

Prevalence of obesity in the adult population aged 15 years and over; total by sex



Source: Ministry of Health (2004, 2014)

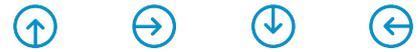
Obesity rates in New Zealand vary for different ethnic and socio-economic groups (Ministry of Health, 2013). Rates for adults are highest amongst Pacific peoples (68%), followed by Māori (48%), and European/other (29%). Asian adults have the lowest obesity rate at 13%. Adults living in New Zealand’s most deprived areas are 1.6 times more likely to be obese than those living in the least deprived areas.¹

Obesity is associated with serious health problems and shorter life expectancy. In addition to health impacts, obesity has wider economic and social impacts that are important to understand. To date, international studies attempting to quantify the economic costs of

obesity have largely focused on the direct costs of diagnosis and treatment of obesity, including medical services, hospital-related costs and personal health care costs (such as medication).

There has been far less research on the non-health costs, particularly in New Zealand. The NZIER report is a first step toward increasing our understanding of the flow-on impacts of obesity on people and communities. The report does not include a definitive estimate of the non-direct costs for New Zealand but rather infers from available evidence how large the different impacts might be in the New Zealand context.

¹ The level of deprivation in an area is based on the income of people in that area, but also includes other factors such as family support, qualifications and access to transport (Salmond, Crampton & Atkinson, 2007).



The non-health impacts of obesity

The NZIER report identified only one New Zealand empirical study that considered the wider costs of obesity to society (Lal et al., 2012). All the other evidence in the literature search was from international studies. Relying on overseas research raises questions about the applicability of the results to New Zealand

and further research may be required to replicate findings in the local context.

Obesity impacts people and society in many diverse ways. Table 1 summarises the non-health impacts of obesity found in the literature review.

Table 1 _ Non-health impacts of obesity

Obesity impacts	Evidence highlights
Wages	People who are obese or overweight earn less.
Productivity and absenteeism	Obesity is a well-known risk factor for sick leave, disability pension and premature death, and is therefore presumably related to lower productivity.
Education	Lower child and adolescent educational achievement.
Employment	Obesity can be a barrier to employment.
Occupational attainment	Obesity can limit promotional opportunities in the workplace.
Discrimination	Obese people may be stereotyped and discriminated against in the workplace because of higher absenteeism rates and lower productivity. Obese children and adults are also vulnerable targets of stigma and bullying from society and from within the family.
Infrastructure	Organisational adjustment to obesity.
Disability, fewer productive years and premature mortality	Severe or morbidly obese people tend to retire earlier than those of healthier weight, reducing their lifetime earnings and contribution to national productivity. Additionally, there is a pure welfare loss to the person and their family. Early death causes pain, grief and suffering to family and friends, and lost income and security for family left behind.
Government subsidy	Increased burden on society of additional taxation to pay for obesity-related public services.
Self-esteem and mental health	Obese people are at a greater risk of depression, anxiety, low self-esteem and low body satisfaction.
Intergenerational impact	The likelihood of youth obesity is influenced by: parents' obesity, status, education, mental health, ethnicity, sex and family size.
Socio-economic status	Obesity is higher in families of lower socio-economic status.
Transport	Larger vehicles are needed to transport the same number of commuters and travellers each year. This produces an economic cost (in the form of greater spending on fuel), as well as potential environmental costs in the form of greater greenhouse gas and particulate emissions.
Crime	Obese people are less likely to commit crimes and be arrested.

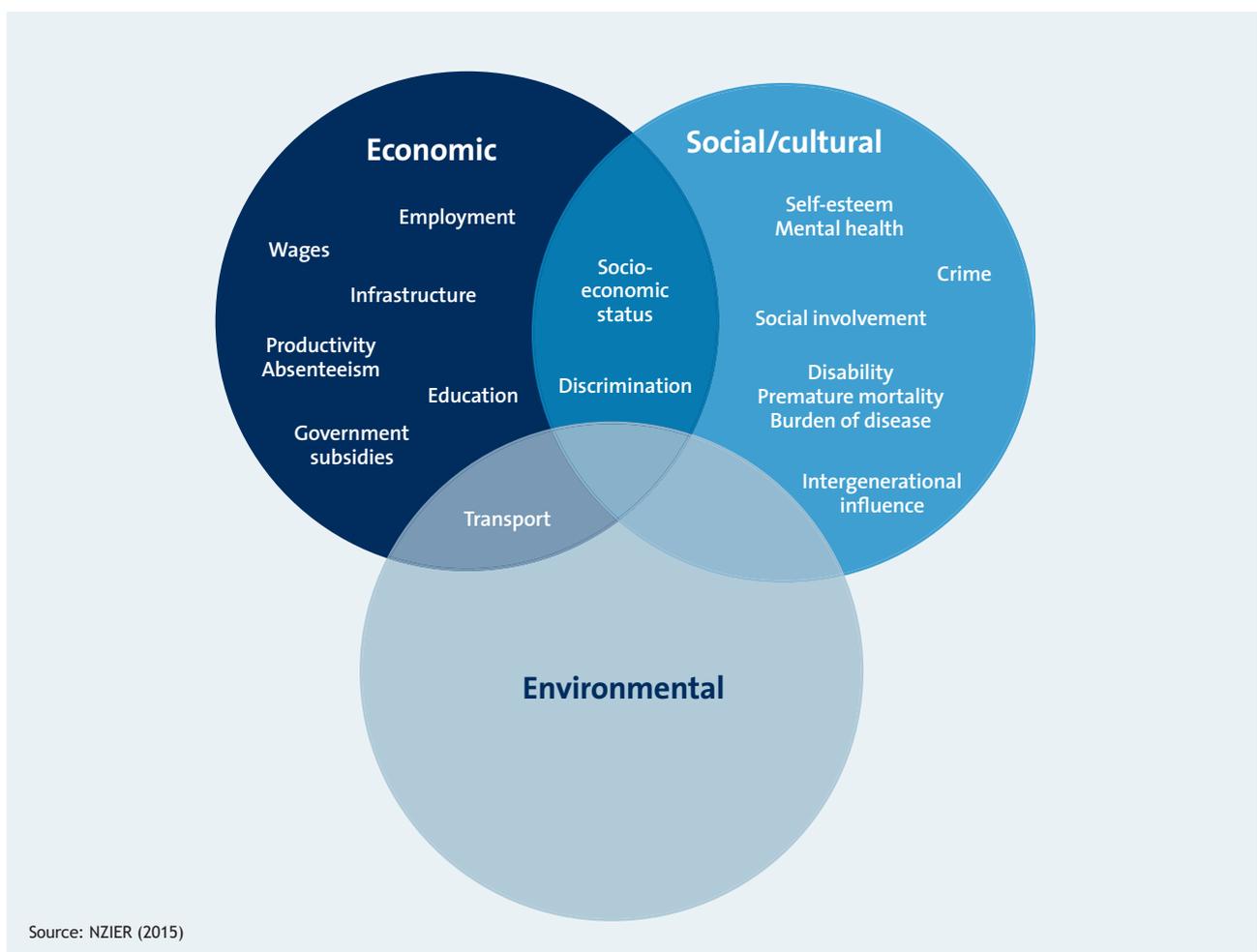
Source: NZIER (2015)



The three well-beings framework and the costs of obesity

NZIER used a well-beings framework to consider the non-health impacts of obesity. The costs of obesity span (and sometimes overlap) the economic, socio-cultural and environmental areas of well-being. Figure 2 shows how the impacts of obesity affect the three areas of well-being.

Figure 2 _ The three well-beings framework and the costs of obesity



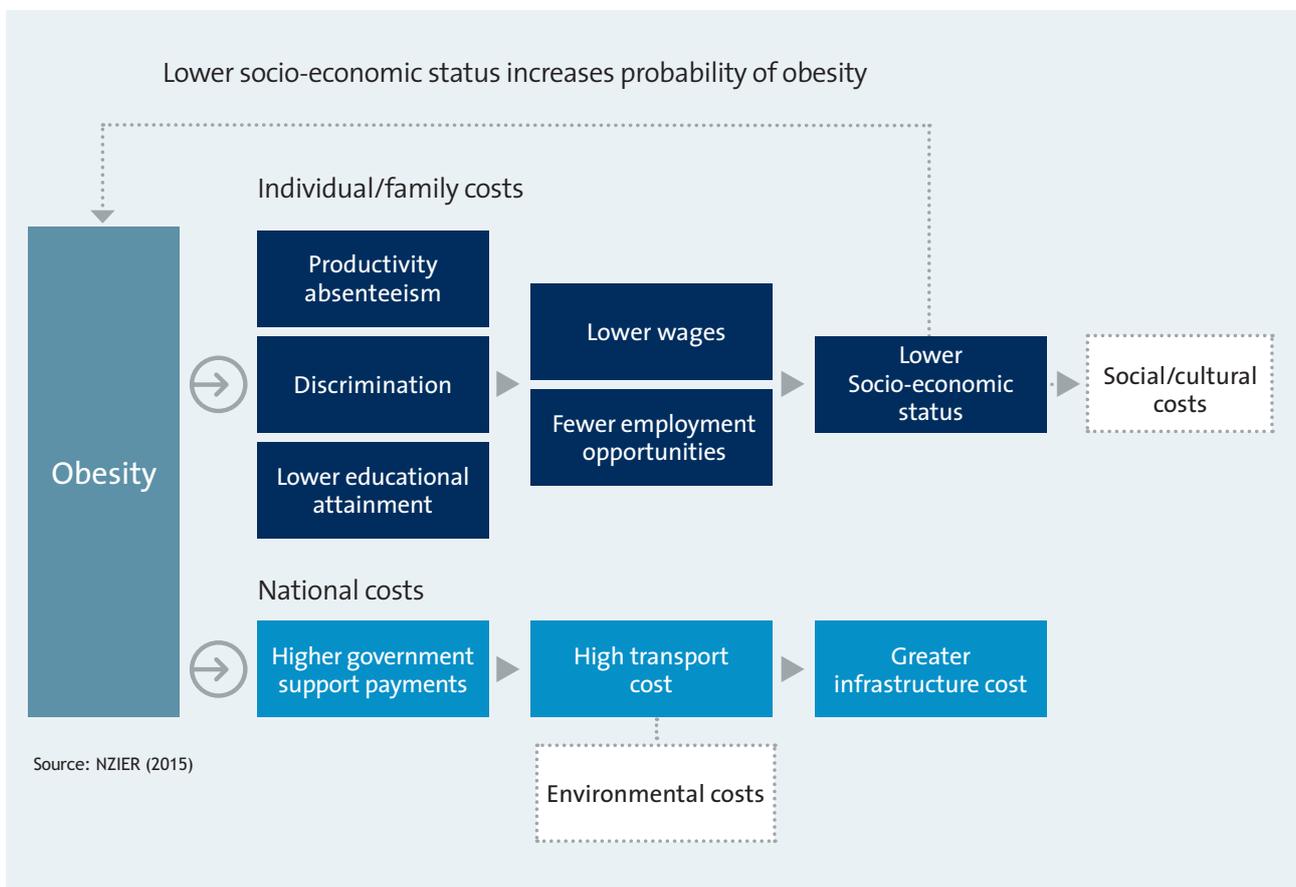
The remainder of this summary focuses on the costs of obesity for each dimension of well-being: economic, socio-cultural and environmental.



The economic costs of obesity

There are a number of economic costs associated with obesity. Figure 3 sets out these costs, shows how they interrelate and identifies the community 'level' at which each cost is borne.

Figure 3 _ The economic costs of obesity





Lost productivity

The most commonly measured costs of obesity (outside of medical costs) arise from lost productivity due to obesity-related time off work (absenteeism) and reduced effectiveness in the workforce (presenteeism). If the rate of absenteeism among the obese can be identified, there are methods available to provide an aggregate estimate of its total cost to the economy.

A New Zealand study estimated that in 2006, the lost productivity costs associated with being overweight or obese were between \$98m and \$225m and the health costs were \$623.9m (Lal et al., 2012). This was the only study found in the literature search that estimated the non-health cost of obesity in New Zealand. The findings are inconsistent with two Australian studies below which put the non-health

A New Zealand study estimated that in 2006, the lost productivity costs associated with being overweight or obese were between \$98m and \$225m.

impacts much higher than the health impacts.

Medibank Health Solutions (2010) estimated that in Australia the loss in productivity in 2008/09 due to obesity through absenteeism, presenteeism and premature death was \$6.4 billion a year. In

comparison, their total direct medical cost estimate of obesity was \$1.3 billion. Another study by Access Economics (2008) for Australia estimated the loss in productivity at \$3.6 billion and the direct medical cost at \$2 billion in 2008.

Costs related to absenteeism, disability and other productivity losses resulting from obesity are at least as high as costs related to health care according to another study that reported on American and Canadian estimates of both health and non-health impacts of obesity (INSPQ, 2014).

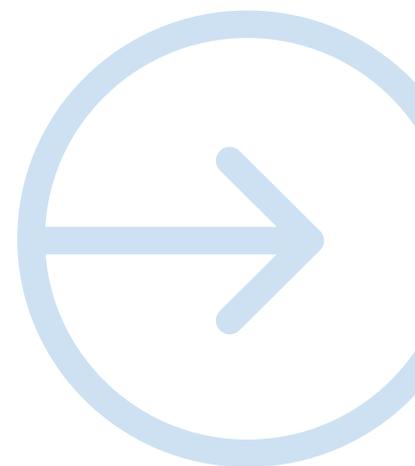
Government subsidies

Researchers estimated that in 2005 the Australian government spent \$21 billion on direct health care costs and an additional \$35.6 billion in government subsidies for obese and overweight people (Colagiuri, et al. 2010). The study does not define what subsidies are received solely due to obesity. For example, the authors include old age pensions and unemployment benefits which may or may not be related to obesity. It's also worth noting that since obesity is associated with premature mortality, there may be some reduction in social welfare spending from obesity.

Infrastructure and transport costs

There is some anecdotal evidence that obesity can result in the need to change what might be called social infrastructure, including transportation systems and public buildings. Changes are being made to public facilities to take account of an increasingly obese population. For example, hospitals are increasing the size and strength of their equipment, and public venues are increasing the width of their seats. We do not know the extent of these costs as the literature search did not find any studies quantifying the infrastructure costs of obesity.

Some research in the United States has attempted to calculate the impact of obesity on transport costs, looking at additional fuel costs from cars and jets carrying heavier people. One study calculated that weight gain in the United States required approximately 350 million extra gallons of jet fuel costing about \$275 million in the year 2000 alone (Dannenberg et al., 2004).





The socio-cultural costs of obesity

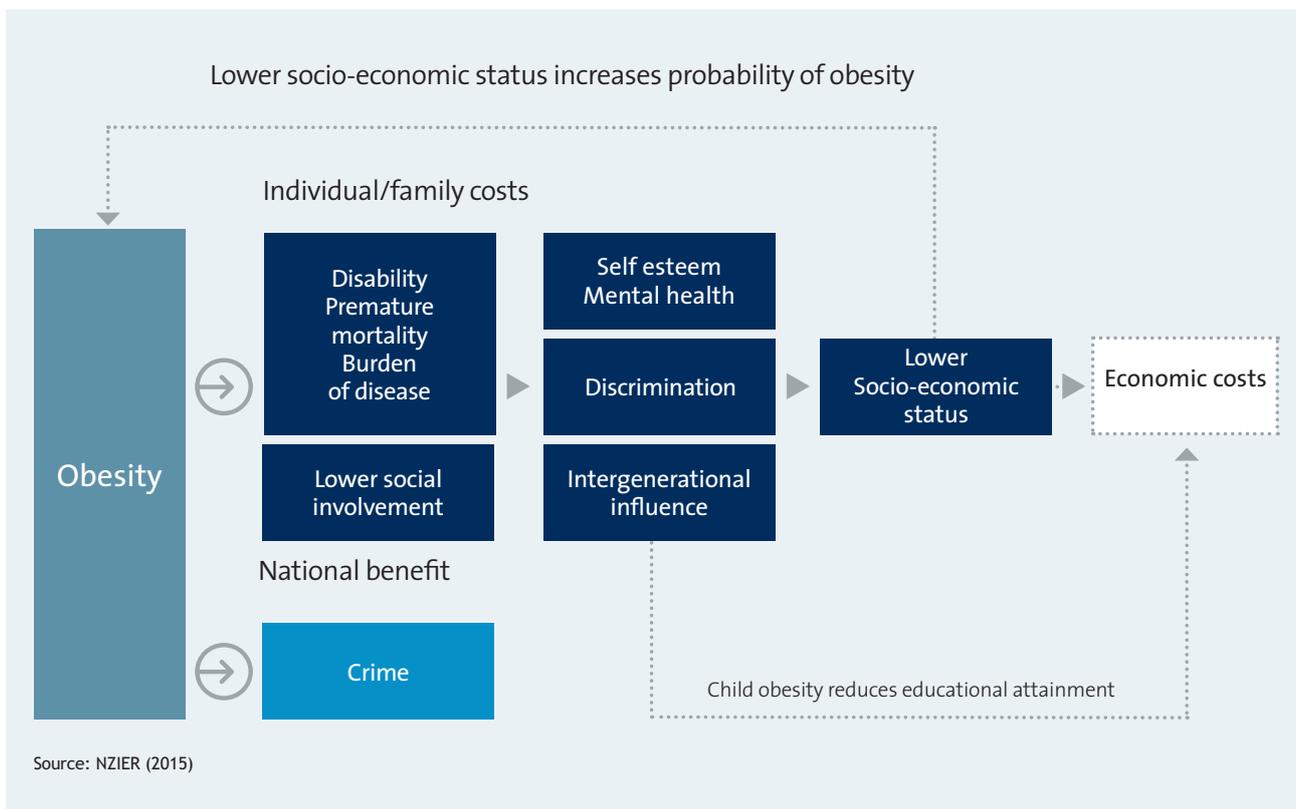
The NZIER report identified a range of socio-cultural costs arising from obesity. Figure 4 summarises these, again highlighting the main interactions taking place. All the socio-cultural costs of obesity are borne by the individual or the family. The only impact at the national level is the smaller likelihood of involvement in crime for people suffering from obesity.

The international research shows that obesity is associated with lower income, social status, and quality of life. Obese people often earn less than other

people for a variety of reasons, including lower education achievement, discrimination, lower productivity and shorter working lives.

According to some overseas research, one of the greatest costs to obese people is the emotional suffering caused by discrimination and marginalisation. The social and economic costs of obesity are interrelated. Lower self-esteem, mental health issues and reduced social involvement can arise from the economic factors.

Figure 4 _ The socio-cultural costs and benefits of obesity





Cyclical impacts of obesity

The effects and influences of obesity are cyclical. Obesity is more common among people with low socio-economic status and, in turn, the effects of obesity on education and income can lead to low socio-economic status. This makes it particularly difficult for people to break free from obesity.

Intergenerational impacts

Research shows that the children of an obese parent are more likely to be obese than children whose parents are not obese. Obese children are more likely than other children to grow into obese adults. Consequently, the effects of obesity – lower income and lower quality of life – can be passed on from one generation to the next.

Impacts on Māori and Pacific communities

The Ministry of Health estimates that Pacific children are more than three times as likely to be obese as non-Pacific children and Māori children are more than twice as likely to be obese as non-Māori children. It is apparent that Pacific and Māori families bear a large part of the individual costs of obesity, social as well as economic. In addition, a large percentage of Pacific and Māori families live in deprived areas which can further exacerbate the impacts of obesity.

Impacts on women and girls

The international literature reveals that the impacts from obesity are greater for women and girls in the

The social pressures and stereotypes experienced by obese women are much greater than those experienced by obese men.

workplace, on self-esteem and for educational attainment. The social pressures and stereotypes experienced by obese women are much greater than those experienced by obese men.

The environmental costs of obesity

Higher transport costs from obesity have both economic and environmental ramifications. Transporting heavier people increases the amount a family must spend on fuel and reduces their other spending choices. It also increases emissions of particulates that impact local air quality and greenhouse gases that impact the global atmosphere.





Research opportunities

There may be opportunity to explore whether there are factors at play in New Zealand that create a more conducive environment for obesity, particularly in the Māori and Pacific communities who bear a large portion of the consequences of obesity. It is also important that we better understand the social and economic consequences of obesity in New Zealand.

Interventions

Two programmes with demonstrated efficacy in New Zealand are Project Energize and the APPLE Project (New Zealand Medical Association, 2014). Project Energize is a nutrition and exercise initiative for primary school students. The APPLE Project created a fun exercise and activity environment for children, and discouraged excessive television watching and unhealthy eating habits. Although these interventions focus on health benefits to participants and their communities, effective programmes such as these are likely to have flow-on positive economic and social benefits.

NEXT STEPS

The New Zealand Medical Association (2014) makes several policy recommendations for tackling obesity that emphasise the need for multifaceted initiatives which include communities, health professionals and government agencies. Approaches to address obesity should emphasise the wider positive economic and social impacts to individuals, their whānau and society in addition to the well-documented health benefits of maintaining a healthy weight.

References

Access Economics (2008). *The growing cost of obesity in 2008: Three years on*. Diabetes Australia, Canberra.

Colagiuri, S., Lee, C.M.J., Colagiuri, R., Magliano, D., Shaw, J.E., Zimmet, P.Z., & Caterson, I.D. (2010). The cost of overweight and obesity in Australia. *Medical Journal of Australia*, 192 (5): 260-264.

Dannenberg, A., Burton, D., & Jackson, R. (2004). Economic and environmental costs of obesity: The impact on airlines. *American Journal of Preventive Medicine*, 27 (3): 264.

INSPQ (2014). *The economic impact of obesity and overweight*. From: http://www.inspq.qc.ca/pdf/publications/1799_topo_9_va.pdf.

Lal, A., Moodie, M., Ashton, T., Siahpush, M. & Swinburn, B. (2012). Health care and lost productivity costs of overweight and obesity in New Zealand. *Australian and New Zealand Journal of Public Health*, 36, 550-556.

Medibank Health Solutions (2010). *Obesity in Australia: Financial impacts and cost benefits of intervention*. From: http://www.medibank.com.au/Client/Documents/Pdfs/Obesity_Report_2010.pdf.

Ministry of Health (2004). *Tracking the Obesity Epidemic: New Zealand 1977 to 2003*. Public Health Intelligence Occasional Bulletin, No.24. Ministry of Health, Wellington.

Ministry of Health (2013). *New Zealand Health Survey: Annual update of key findings 2012/13*. Ministry of Health, Wellington.

New Zealand Medical Association (2014). *Tackling Obesity*. New Zealand Medical Association, Wellington.

OECD. (2014). *Obesity Update*. From: <http://www.oecd.org/els/health-systems/Obesity-Update-2014.pdf>.

Salmond, C., Crampton, P. & Atkinson, J. (2007). *NZDep2006 Index of Deprivation*. University of Otago, Wellington.



Download the full report: superu.govt.nz/costsofobesity

For more information contact enquiries@superu.govt.nz

Follow us:  

Superu Level 7, 110 Featherston Street P: 04 917 7040
PO Box 2839, Wellington 6140 W: superu.govt.nz

The Families Commission operates under the name Social Policy Evaluation and Research Unit (Superu)