



**Obesity Action
Scotland**

Healthy weight for all

OBESITY IN SCOTLAND

Prevalence, Causes and Impact

Obesity is now a serious public health threat to Scotland, with adult obesity prevalence at 28%, 65% of the adult population with overweight or obesity, and 16% of children aged 2-15 at risk of obesity.

The current obesity crisis results from living in obesogenic environments: where relative inactivity and overconsumption of energy dense foods is too available, affordable and accepted.

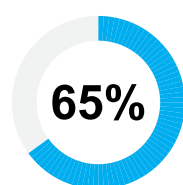
Obesity is associated with many conditions and diseases, including type 2 diabetes, cardiovascular disease and complications during pregnancy; it is imperative that we take action through policy and regulatory measures to reduce obesity and its associated health harms.

DEFINITION OF OBESITY

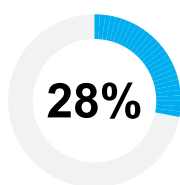
Obesity describes the accumulation of excess body fat. Body Mass Index (BMI) is used to define overweight and obesity at population level. BMI is a measure of whether a person is a healthy weight for their height. For adults, overweight is defined as having a BMI of 25 – 29.9 kg/m² and obesity is defined as having a BMI of 30kg/m² and higher.¹

BMI is an effective population measure as it is relatively accurate, simple and cheap; however, there will always be a few exceptions to the rule for individuals. For example, people who are very muscular or pregnant women may have a high BMI but not extra fat mass. In such individual circumstances other measures can be used to provide a more accurate assessment of healthy weight.

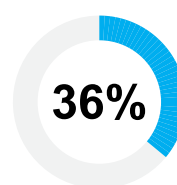
OBESITY PREVALENCE IN SCOTLAND



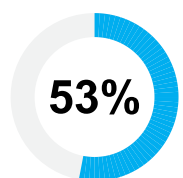
2 in 3 adults aged 16-75+ have overweight or obesity (65%)²



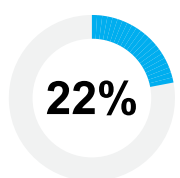
More than 1 in 4 adults have clinical obesity (28%)²



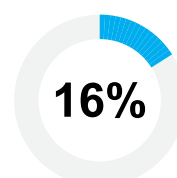
Obesity increases with age from 14% in the 16-24 age group to 36% in those aged 65-74²



53% of pregnant women had overweight or obesity in 2018³

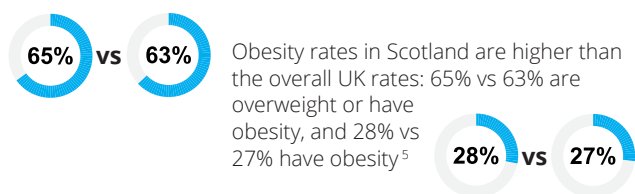


In 2017, 22% of Primary 1 children were at risk of overweight or obesity⁴



In 2018, 30% of children aged 2-15 were at risk of overweight or obesity; 16% of children aged 2-15 were at risk of obesity²

Scotland vs the World



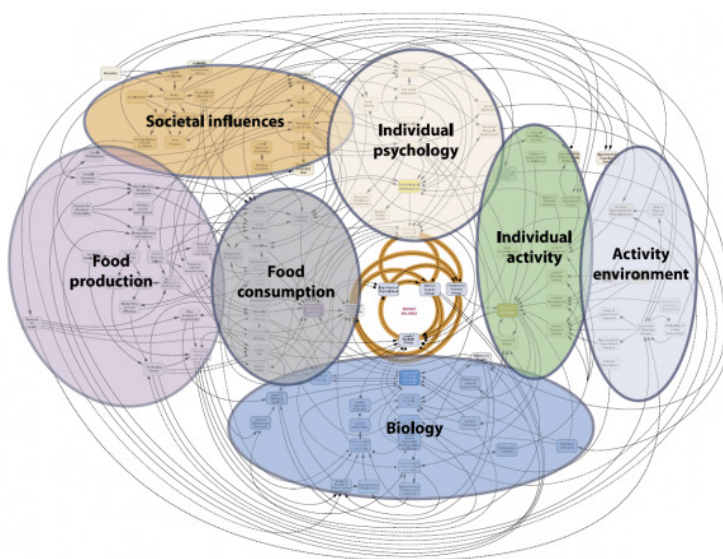
DEPRIVATION

- » Obesity rates are higher in areas of greater deprivation, particularly among women, children⁶, older age groups, black and minority ethnic groups, and people with disabilities⁷
- » The disparity in obesity rates is particularly evident for women at 35% in the most deprived areas of Scotland compared to 20% in the least deprived areas⁸
- » In the last 10 years, the percentage of children at risk of overweight and obesity has increased in the most deprived areas and decreased in the least deprived; in 2017/18 26% of Primary 1 children were at risk of overweight and obesity in the most deprived areas, compared to 17% in the least deprived areas⁴



CAUSES OF OBESITY

Obesity occurs when energy intake from food and drink is greater than the body's energy requirements over a prolonged period. An obesogenic environment is one that promotes weight gain by acting on individual physiology and psychology, influencing individual lifestyles. Although personal choice plays a role in weight gain, in obesogenic environments inactivity and overconsumption of energy dense foods is easy, affordable and widely accepted, making an unhealthy lifestyle the default option.



The Foresight report⁹ for the UK government identified 7 clusters of factors/behaviours that are contributing to obesity (presented above and termed a 'system's map'): food consumption, food production, individual psychology, social psychology, physiology, individual activity and physical activity environment. These clusters are interconnected, e.g. some individuals may exhibit compensatory behaviour such as allowing themselves an energy-dense snack as a 'reward' after exercising. This connectivity is important when designing/delivering interventions; it may help to explain unexpected impacts or losses of impact due to mitigating effects of different factors/behaviours.

IMPACT OF OBESITY

Obesity increases the risk of



Type 2 diabetes



Infertility in women, impotency in men



Kidney disease



13 common cancers



Complications during pregnancy and birth



Premature death



Cardiovascular disease



Musculoskeletal problems



Unemployment



Alzheimer's disease and dementia



Mental health problems



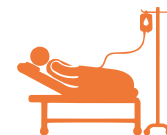
Discrimination and stigmatisation



Gastrointestinal disorders



Respiratory disorders



Increased risk of hospitalisation

Type 2 diabetes¹⁰, 13 common cancers¹¹, Cardiovascular disease¹², Alzheimer's disease¹³ and dementia¹³, Gastrointestinal disorders¹⁴, Infertility in women, impotency in men¹⁵, Complications during pregnancy and birth¹⁶, Musculoskeletal problems¹⁷, Mental health problems¹⁸, Respiratory disorders¹⁷, Kidney disease¹⁹, Premature death²⁰, Unemployment⁷, Discrimination and stigmatisation⁷, Increased risk of hospitalisation⁷

ADDITIONAL RISKS FOR CHILDREN WITH OBESITY



» Emotional and behavioural impacts: stigmatisation, bullying, low self-esteem, and school absence⁷

» Breathing difficulties, increased risk of fractures, hypertension, early markers of cardiovascular disease, insulin resistance and psychological effects¹

» Risk of having obesity in adulthood⁷

» Higher risk of morbidity, disability and premature mortality in adulthood²⁴

COST OF OBESITY IN SCOTLAND

The annual cost to the NHS in Scotland of obesity is estimated to be £600 million.³⁰ Average NHS costs for people with a body mass index of 40 (severe obesity) are estimated to be twice those for people with a BMI of 20 (within normal weight range). Wider economic costs are even bigger, between £0.9 billion and £4.6 billion annually.³¹

Healthcare expenditure is only part of the issue; there are also indirect economic costs of overweight and obesity. The McKinsey Institute estimates that the cost to the UK is equivalent to 3% of gross domestic product (\$70billion).³² This analysis takes into account: loss of productivity attributable to loss of life or impaired life quality, direct health care costs, and investment to mitigate the impact of obesity.



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REFERENCES

- World Health Organization (2018) Obesity and overweight. <https://www.who.int/dietphysicalactivity/childhood/en/>
- Cheong C, Dean L, Dougall I, et al (2019) The Scottish Health Survey. 2018 Edition. Volume 1. Main Report. Edinburgh
- National Health Service (2019) Births in Scottish Hospitals - Year ending 31 March 2019
- Information Services Division (2018) Body Mass Index of Primary 1 Children in Scotland. Technical Report. School Year 2016/17
- OECD (2017) Health at a Glance in 2017: OECD Indicators. How does the United Kingdom compare?
- Bradshaw P, Hinchliffe S (2018) Growing up In Scotland: Overweight and obesity at age 10
- Public Health England (2015) Making the case for tackling obesity. Why invest? 2016
- McLean J, Christie S, Gray L, et al (2017) The Scottish Health Survey. 2016 edition. Volume 1. Main report. A National Statistics Publication for Scotland
- Butland B, Jebb S, Kopelman P, et al (2007) Foresight. Tackling Obesity: Future Choices - Project Report. 2nd Edition
- Gatineau M, Hancock C, Holman N, et al (2014) Adult obesity and type 2 diabetes. London
- Cancer Research UK (2018) Does obesity cause cancer? <https://www.cancerresearchuk.org/about-cancer/causes-of-cancer/obesity-weight-and-cancer/does-obesity-cause-cancer>. Accessed 11 Mar 2019
- McGuire A, Morris S, Raikou M (2001) Appendix 6 Estimating the cost of obesity in England in The National Audit Office Tackling obesity in England
- Christensen A, Pike CJ (2015) Menopause, obesity and inflammation: interactive risk factors for Alzheimer's disease. *Front Aging Neurosci* 7:130. <https://doi.org/10.3389/fnagi.2015.00130>
- American College of Gastroenterology (2016) Obesity. 2016
- Pasquali R, Patton L, Gambineri A (2007) Obesity and infertility. *Curr Opin Endocrinol Diabetes Obes* 14:482-487
- NHS Choices (2015) Risk of being overweight in pregnancy. 2016
- Public Health England (2016) Health risks of adult obesity
- Harvard TH Chan School of Public Health (2018) Weight problems take a hefty toll on body and mind. <https://www.hsph.harvard.edu/obesity-prevention-source/obesity-consequences/health-effects/>. Accessed 27 Sep 2019
- JD (2010) Obesity and chronic kidney disease. *J Ren Nutr* 20:S2930
- Bhaskaran K, Dos-Santos-Silva I, Leon D, et al (2018) Association of BMI with overall and cause-specific mortality: a population-based cohort study of 3.6million adults in the UK. *Lancet* 6:944-953
- Grant K (2017) SPICE briefing: How can we reduce obesity in Scotland? Edinburgh
- Dobbs R, Sawers C, Thompson F et al (2014) Overcoming obesity. An initial economic analysis. Discussion paper. McKinsey Global Institute