

Obesity and Cancer

Key facts and figures

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This document reports on headline statistics on obesity and cancer, including the proportion of a range of cancers that are attributable to obesity (UK-level).

Obesity and cancer – key facts

Cancer

- Obesity is the biggest preventable cause of cancer after smoking.
- 13 different types of cancer are linked to overweight and obesity, including breast and bowel cancer – two of the most common cancers, and also pancreatic and oesophageal – two of the hardest to treat¹.
- There were 35,378 new cases of cancer in Scotland in 2021, an increase of 5.5% compared to 2019. The rate, or risk, of new cancers also increased to 644 per 100,000 (an increase of 3.1% compared to 2019)².
- Cancer incidence and prevalence is clearly patterned by deprivation. The risk of developing cancer is 30% higher in the most deprived compared to the least deprived areas².
 - This pattern is also replicated for obesity, with those in the most deprived quintile significantly more likely to have obesity than those in the least deprived quintile – 38% of adults in the most deprived quintile have obesity, compared to only 22% in the least deprived³.

Obesity

- Obesity is a serious public health challenge in Scotland – more than two-thirds of adults (67%) have overweight and obesity, as do 30% of children³.
- Obesity reduces life expectancy by an average of 3 years and severe obesity (BMI >40) by 8-10 years.
- Recent research conducted by Cancer Research UK found that if current overweight and obesity prevalence trends continue, average adult overweight and obesity prevalence in Scotland is projected to increase to 68% by 2040, which equates to around 3.2 million people⁴.
- Obesity reduces productivity and physical activity; it increases sickness absence and demand for health and social care services.
- The annual cost to the NHS in Scotland of overweight and obesity is estimated to be up to £776 million, with wider societal and economic costs of up to £5.3 billion⁵.
 - Reduced employment and lower productivity from obesity-related sickness absence is estimated to cost Scotland £213 million annually⁵.
 - Data from ONS highlights, there were 237,000 adults in Scotland (April to June 2022) economically inactive due to long-term sickness and ill-health⁶.
 - A greater proportion of economic inactivity in Scotland is attributable to ill-health than compared to the rest of the UK⁷.

Proportion of cancers attributable to obesity, by cancer type

Obesity is linked to 13 different types of cancer – brain and other intracranial, breast, bowel, gallbladder, kidney, liver, myeloma, oesophageal, ovarian, stomach, thyroid, and uterine.

Table 1: Proportion of cancer in the UK attributable to obesity, by cancer type (for the 13 cancers listed above)⁸

Cancer type	Proportion of cases attributable to obesity and overweight
Brain and other intracranial	2%
Breast	8%
Bowel	11%
Gallbladder	20%
Kidney	24%
Liver	23%
Myeloma	14%
Oesophageal	28%
Ovarian	7%
Stomach	6%
Thyroid	8%
Uterine	34%

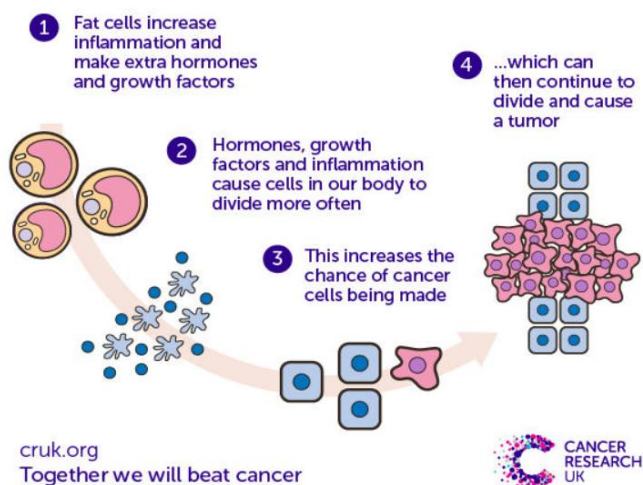
Additionally, diet is also important. For bowel cancer, for example, 13% of cases are attributable to eating too much processed meat and 28% to not eating enough fibre⁸.

How does obesity cause cancer?

The extra fat cells in the body resulting from overweight and obesity send out signals to the rest of the body. These signals can cause cells in the body to divide more rapidly, leading to cancer.

Figure 1: Infographic illustrating how overweight and obesity can cause cancer

How can overweight and obesity cause cancer?



Source: Cancer Research UK [How does obesity cause cancer?](https://www.cancerresearchuk.org/health-professional/cancer-causes/obesity-and-cancer)

“A blueprint to beat cancer” – World Cancer Research Fund report and recommendations⁹

In 2018, the World Cancer Research Fund published a blueprint for cancer prevention, which sets out a number of recommendations for cancer prevention. It recognises being a healthy weight and eating a healthy diet as being critical.

Recommendations include¹⁰:

- Being a healthy weight
- Eating a diet high in wholegrains, fruits and vegetables, beans and pulses
- Limiting consumption of ‘fast food’ and other processed food high in fat, salt and sugar
- Limiting consumption of red and processed meat – eat no more than moderate amounts of red meat such as beef, pork and lamb, and eat little, if any processed meat
- Limit consumption of sugar sweetened drinks and instead drink mainly water and unsweetened drinks

Significantly, the blueprint acknowledges and highlights that cancer prevention not only depends on choices of individuals but also more **crucially on governments creating environments** in their town, cities and countries that promote and facilitate lifelong healthy eating and a physically active lifestyle.

References

¹ Pati S et al (2023) Obesity and Cancer: A Current Overview of Epidemiology, Pathogenesis, Outcomes, and Management. *Cancers* (Basel). 2023 Jan 12;15(2):485. doi: 10.3390/cancers15020485. PMID: 36672434; PMCID: PMC9857053

² Public Health Scotland (2023) Cancer Incidence and Prevalence in Scotland to December 2021

https://publichealthscotland.scot/media/20142/2023-03-28-cancer-incidence-report_revised.pdf

³ <https://scotland.shinyapps.io/sg-scottish-health-survey/> - filtered for obesity, deprivation and year (2021)

⁴ Cancer Research UK (2022) Overweight and obesity prevalence projections for the UK, England, Scotland, Wales and Northern Ireland (based on data from 2019/20) https://www.cancerresearchuk.org/sites/default/files/cancer-stats/adult_overweight_and_obesity_prevalence_projections_18-05/adult_overweight_and_obesity_prevalence_projections_18-05.pdf

⁵ Nesta (2023) Costs of obesity in Scotland <https://www.nesta.org.uk/feature/counting-the-cost-of-obesity-in-scotland/>

⁶ Office for National Statistics (2022) Economic inactivity due to long-term sickness, UK: 2019 to 2022

<https://www.ons.gov.uk/releases/longtermsicknessandeconomicinactivityuk2019to2022>

⁷ <https://fraserofallander.org/economic-inactivity-and-ill-health-in-scotland/>

⁸ <https://www.cancerresearchuk.org/health-professional/cancer-statistics/statistics-by-cancer-type>

⁹ World Cancer Research Fund (2018) A blueprint to beat cancer <https://www.wcrf.org/wp-content/uploads/2021/02/Summary-of-Third-Expert-Report-2018.pdf>

¹⁰ World Cancer Research Fund (2018) Recommendations and public health and policy implications <https://www.wcrf.org/wp-content/uploads/2021/01/Recommendations.pdf>