

# More deaths in England and Scotland may be due to obesity and excess body fat than smoking

10 February 2021



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Obesity and excess body fat may have contributed to more deaths in England and Scotland than smoking since 2014, according to research published in the open access journal *BMC Public Health*.

Between 2003 and 2017 the percentage of deaths attributable to smoking are calculated to have decreased from 23.1% to 19.4% while deaths attributable to obesity and excess body fat are calculated to have increased from 17.9% to 23.1%. The authors estimate that deaths attributable to obesity and excess body fat overtook those attributable to smoking in 2014.

Jill Pell, at the University of Glasgow, United Kingdom, the corresponding author said: "For several decades smoking has been a major target of public health interventions as it is a leading cause of avoidable deaths. As a result, the prevalence of smoking has fallen in the United Kingdom. At the same time the [prevalence of](#)

[obesity](#) has increased. Our research indicates that, since 2014, obesity and excess body fat may have contributed to more deaths in England and Scotland than smoking."

To examine changes in the prevalence of smoking, obesity and excess body fat in adults, the authors analysed data collected between 2003 and 2017 as part of the Health Surveys for England, and Scottish Health Surveys, on 192,239 adults across England and Scotland, who were 50 years old on average. Participants reported whether they had ever regularly smoked and their height and weight were measured by trained interviewers or nurses. The researchers combined their data with estimates of the risk of dying from smoking (17 studies) or obesity and excess body fat (198 studies), to calculate the number of deaths that could be attributed to smoking and obesity and excess body fat.

The authors found that while obesity and excess body fat likely accounted for more deaths than smoking since 2006 among [older adults](#), smoking is still likely to contribute to more deaths than obesity and excess body fat among younger adults. The authors suggest that among those aged 65 and over and 45-64, respectively, obesity and excess body fat contributed to 3.5% and 3.4% more estimated deaths than smoking in 2017, while smoking accounted for 2.4% more estimated deaths than obesity and excess body fat among those aged 16-44.

The analysis also suggests that gender influenced the contributions of smoking, obesity and excess body fat to estimated deaths. Obesity and excess body fat may have accounted for 5.2% more deaths in 2017 than smoking in men, compared to 2.2% more deaths in women. Estimated deaths due to obesity and excess body fat are thought to have

increased by 25.9% for women and 31% for men between 2003 and 2017, while deaths due to smoking are thought to have decreased by 18.1% for women and 14.9% for men.

Jill Pell said: "The increase in estimated deaths due to obesity and excess body fat is likely to be due to their contributions to cancer and cardiovascular disease. Our findings suggest that the public health and policy interventions aimed at reducing the prevalence of smoking have been successful and that national strategies to address obesity and excess body fat, particularly focusing on middle-aged and older age groups and men, should be a [public health](#) priority."

The authors caution that the number of deaths attributed to smoking, obesity and excess body fat in this study are estimates only and that factors influencing these deaths require further investigation. Future research could investigate the possible contributions of vaping, e-cigarette use and passive [smoking](#) and whether the proportion of deaths due to [obesity](#) and excess [body](#) fat differs by ethnicity.

**More information:** "Changes over 15 years in the contribution of adiposity and smoking to deaths in England and Scotland" *BMC Public Health* (2021). [DOI: 10.1186/s12889-021-10167-3](https://doi.org/10.1186/s12889-021-10167-3)

Provided by BioMed Central

APA citation: More deaths in England and Scotland may be due to obesity and excess body fat than smoking (2021, February 10) retrieved 19 April 2021 from <https://medicalxpress.com/news/2021-02-deaths-england-scotland-due-obesity.html>

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