



Overweight and obesity prevalence projections for the UK, England, Scotland, Wales, and Northern Ireland, based on data to 2019/20

May 2022

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Reference

This report should be referred to as follows:

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Executive summary

Purpose

UK overweight and obesity prevalence is among the highest in Europe. Overweight and obesity prevalence has increased markedly in recent decades in the UK. Whilst prevalence appears to have plateaued in recent years, it shows no signs of declining.

Projections for overweight and obesity prevalence are necessary to indicate the scale of the demands that our health system could face in the future, due to diseases linked with excess weight, such as cancer, diabetes and heart disease. These projections should encourage relevant bodies to implement population-level interventions to make the healthy choice, the easy choice.

Key findings

- If current overweight and obesity prevalence trends continue, average adult overweight and obesity prevalence in the UK is projected to increase from 64% in 2019 to 71% by 2040, that equates to around 42.2 million people (20.6 million overweight; 21.6 million obese)
- If current adult BMI trends continue, it is projected that there will be more people who are obese compared to people who are healthy weight in the UK by 2040 – making obesity the most common BMI status
- If current severe obesity prevalence trends continue, average adult severe obesity prevalence in the UK is projected to almost double from 3% in 2019 to 6% (91% relative increase) by 2040
- If current obesity prevalence trends continue, the deprivation gap for obesity between the least and most deprived groups is projected to increase by more than half in England and Scotland by 2040

Conclusions

Prevalence of overweight and obesity is expected to increase in the next 20 years across the UK, with obesity (including severe obesity) contributing most of this increase. Projected growth towards the highest end of the BMI scale is concerning because poorer health outcomes are generally linearly associated with higher BMI.

Acronyms and Definitions

BMI	Body Mass Index – a measure of whether a person is a healthy weight for their height
Healthy weight	BMI 18.5-24.9
Overweight and obesity	BMI 25+
Overweight	BMI 25-29.9
Obesity or obese	BMI 30+
Severe obesity or severely obese	BMI 40+

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Introduction

Background

Overweight and obesity poses a grave threat to health, because it is a major risk factor for the leading causes of death in the world,¹ and it is associated with numerous chronic health conditions, including cancer. Overweight and obesity is causally associated with at least 13 different types of cancer,² and is the second biggest cause of cancer after smoking in the UK, responsible for around 22,800 cases every year.³ Cancer incidence is expected to rise further if recent trends in overweight and obesity prevalence persist.⁴ The most recent Government estimates for 2014/15, suggest overweight and obesity-related ill-health costs the NHS £5-6 billion per year, which is projected to rise to £9.7 billion per year by 2050.⁵

UK overweight and obesity prevalence is among the highest in Europe,⁶ with around 6 in 10 adults (61-66%) overweight or obese in the UK.^{7,8,9,10} Overweight and obesity prevalence has increased markedly in the UK in recent decades. Rates appear to have plateaued for overweight prevalence, but obesity continues to climb.^{7,8,10,11} Severe obesity in particular can lead to serious health complications that contribute to a dramatic reduction in life expectancy.¹² Whilst severe obesity rates are still low, there has been a 59-300% increase in the last 10-20 years across UK nations.^{7,8,10,11}

Obesity is associated with deprivation in the UK. Rates of obesity are 7-14 percentage points higher in the most deprived fifth of the population compared to the least deprived.^{7,8,9,10} The gap between the richest and poorest for obesity prevalence has widened in recent years.^{13,14} Overweight and obesity prevalence also varies by sex, with a higher proportion of women than men obese, and a higher proportion of men than women overweight.^{7,8,9,10}

Study aims

We aim to provide overweight and obesity prevalence projections by sex and deprivation quintile in the UK (where possible) and its constituent nations.

Methods

Data collection

We ran projections using published health survey data. The criteria for selecting the appropriate health surveys were as follows:

- Availability of nationally representative adult (16+) overweight and obesity prevalence trends data, with a minimum of 10 years of data
- Availability of adult (16+) overweight and obesity prevalence trends data by deprivation quintile

Table 1. Data sources and data availability as of January 2022

Country	Health Survey	Years available	BMI categories for projections ^a	Deprivation ^b
UK^c	N/A	2010-2019	BMI 18.5-24.9; BMI 25-29.9; BMI 30+; BMI 40+	N/A
England^d	Health Survey for England (HSE)	1993-2019	BMI 18.5-24.9; BMI 25-29.9; BMI 30+; BMI 40+	Quintiles of English IMD
Scotland^e	Scottish Health Survey (SHeS)	2003-2019	BMI 18.5-24.9; BMI 25-29.9; BMI 30+; BMI 40+	Quintiles of Scottish IMD
Wales^f	Welsh Health Survey (WHS)	2003/04-2015	BMI 18.5-24.9; BMI 25-29.9; BMI 30+; BMI 40+	Quintiles of Welsh IMD
Northern Ireland	Health Survey Northern Ireland (HSNI)	2010/11-2019/20	BMI 18.5-24.9; BMI 25-29.9; BMI 30+; BMI 40+	Quintiles of Northern Ireland MDM

^a BMI 18.5-24.9: Healthy weight; BMI 25-29.9: Overweight; BMI 30+: Obese; BMI 40+: Severely obese

^b IMD = Index of Multiple Deprivation; MDM = Multiple Deprivation Measure

^c There is no UK wide data available for overweight and obesity prevalence, therefore we calculated a population-weighted average using overweight and obesity prevalence data from UK constituent nations' health surveys and population estimates

^d Overweight and obesity prevalence was not provided by IMD quintile for 2017, therefore data was interpolated for 2017 using data from 2016 and 2018

^e Overweight and obesity prevalence was not provided for 2004-2007, therefore data was interpolated for these years using data from 2003 and 2008

^f The Welsh Health Survey ceased in 2015, to become the National Survey for Wales from 2016 onwards. Due to some methodological differences between the two surveys, they cannot be treated as a continuous time series. We used the data from the Welsh Health Survey because this survey provided enough data to calculate our projections. Overweight and obesity prevalence was not provided for 2006, therefore data was interpolated for 2006 using data from 2004/05 and 2007

Statistical Analyses

All statistical analyses were performed in R software version 4.0.2.

Univariate beta regression models were fitted for each UK nation for each sex and persons, with healthy weight, overweight, obesity and severe obesity prevalence (percentage formatted as value between 0 and 1) as outcome variables. The predictor variable ('year') was linear and varied between countries (see Table 1). A population-weighted average for UK overweight and obesity prevalence projections was calculated from each UK constituent nation's projected prevalence and population estimates.¹⁵ We combined the number estimates from each nation as the numerator and divided by the UK population to get the weighted UK average prevalence.

Multivariate beta regression models were fitted for each UK nation for persons, with obesity prevalence as the outcome variable. The predictor variables were year (linear, as above) and deprivation (categorical; 1 (least deprived) to 5 (most deprived)), with an interaction term between year and deprivation (year*deprivation).

Future prevalence data was predicted up to 2040, using the fitted mean of the response from the default R function 'predict'. Projections were obtained by applying a Cancer Research UK novel approach to attenuation¹⁶ which combined predicted values with observed values, in a weighted sum where predictions were given progressively less weight over time, and observed data progressively more:

$$Projected_{year} = a_{year} * Mean + (1 - a_{year}) * Predicted_{year}$$

where *Mean* is the mean average of the last 10 years of observed data, *Predicted* is the unattenuated default predicted data, *a* represents weighting values where *a* = 0.05, ..., 0.95, and *year* represents projected years = 2020, ..., 2040.

For example, for *year* = 2020,

$$Projected_{2020} = 0.05 * Mean + 0.95 * Predicted_{2020}$$

and for *year* = 2040

$$Projected_{2040} = 0.5 * Mean + 0.5 * Predicted_{2040}$$

which means that the last attenuated projected value (in 2040) is the average of the mean of the last 10 observed values and the predicted value in 2040.

Sensitivity analysis and point estimate variability

We ran two sets of sensitivity analyses. Firstly, we fitted a univariate model using England data from 1993 to 2014 and compared prevalence projections using this

data, with observed data for 2015 to 2019. Secondly, we fitted a univariate model for average overweight and obesity prevalence combined in England and compared with our prevalence estimates that projected each BMI category separately and subsequently combined the estimates together to produce overweight and obesity overall.

We calculated the 5th and 95th centiles of the response distribution from the 'predict' function in R, attenuated as above, for each UK nation to give an indication of the variability around our point estimates. We used these nations estimates to calculate a weighted average for 5th and 95th centiles in the UK.

Results

Adult overweight and obesity prevalence by UK constituent nation

In the UK and all its constituent nations, adult overweight prevalence is not projected to change markedly between 2019 and 2040 (see Table 2). Adult obesity prevalence is projected to rise in the UK and its constituent nations between 2019 and 2040 (see Table 3). Adult overweight and obesity prevalence overall is projected to rise in the UK and its constituent nations (see Appendices 1-6). Adult severe obesity prevalence is projected to increase in each UK nation (see Table 4).

The obese population is projected to exceed the healthy weight population in the late 2020s in the UK as a whole. The crossover is projected to happen in the late 2020s in England, the late 2030s in Northern Ireland, and not before 2040 in Scotland and Wales.

The deprivation gap in adult obesity prevalence is projected to increase over the next 20 years in England and Scotland; in Wales, the absolute deprivation gap is projected to increase, but not the relative gap (see Table 5; Appendix 7). Northern Ireland was excluded from the deprivation analysis because there was considerable interaction and variability between deprivation quintiles in the observed data, that consequently led to poorly fitted models.

In all the figures in this report, darker shaded areas or solid lines denote observed values, lighter shaded areas or broken lines denote projections. Data beyond 2036 for Wales should be interpreted with some caution as the observed data is up to 2015, compared with 2019 for the other nations.

Sensitivity analysis and prediction intervals

Our sensitivity analysis comparing projected data for 2015-2019 with observed data for the same time period, showed an average of around one percentage-point difference over the 5-year period (see Appendix 8).

When comparing the two methods for overweight and obesity prevalence projections (projecting the two categories combined or separately), we found an average difference of one to two percentage points over a 20-year period (see Appendix 9).

The 5th and 95th centiles for the UK and constituent nations indicate variability of two to three percentage points around the projection point estimates (see Appendices 10-14).

Table 2. 2019 observed and 2040 projected overweight (BMI 25-29.9) prevalence in adults (aged 16+) by sex and country

Country	Sex	2019 observed ⁹		2040 projected		Change in prevalence between 2019 and 2040	
		Overweight prevalence (%)	Estimated number of overweight people	Overweight prevalence (%)	Estimated number of overweight people	Percentage-point (absolute difference)	Percentage change (relative difference)
UK	Females	31.5%	8,700,000	30.6%	9,300,000	-0.9	-2.8%
	Males	41.1%	10,900,000	37.8%	11,100,000	-3.3	-8.0%
	Persons	36.3%	19,600,000	34.5%	20,600,000	-1.8	-4.9%
England	Females	31.3%	7,300,000	30.5%	7,800,000	-0.8	-2.6%
	Males	41.2%	9,200,000	37.8%	9,500,000	-3.5	-8.4%
	Persons	36.2%	16,500,000	34.4%	17,500,000	-1.8	-4.9%
Scotland	Females	33.0%	780,000	30.6%	780,000	-2.4	-7.3%
	Males	40.0%	880,000	37.8%	870,000	-2.2	-5.6%
	Persons	37.0%	1,700,000	34.5%	1,600,000	-2.5	-6.7%
Wales	Females	31.8%	410,000	30.7%	430,000	-1.1	-3.4%
	Males	40.1%	500,000	37.5%	500,000	-2.6	-6.6%
	Persons	35.9%	910,000	34.4%	940,000	-1.5	-4.3%
Northern Ireland	Females	32.6%	250,000	32.7%	270,000	0.1	0.2%
	Males	43.3%	320,000	39.5%	320,000	-3.8	-8.7%
	Persons	37.8%	570,000	35.8%	590,000	-2.0	-5.3%

⁹ 2015 for Wales

Table 3. 2019 observed and 2040 projected obesity (BMI 30+) prevalence in adults (aged 16+) by sex and country

Country	Sex	2019 observed ⁹		2040 projected		Change between 2019 and 2040	
		Obesity prevalence (%)	Estimated number of obese people	Obesity prevalence (%)	Estimated number of obese people	Percentage-point (absolute difference)	Percentage change (relative difference)
UK	Females	28.9%	8,000,000	36.3%	11,000,000	7.3	25.3%
	Males	27.0%	7,100,000	36.4%	10,700,000	9.4	35.0%
	Persons	28.0%	15,100,000	36.1%	21,600,000	8.1	29.1%
England	Females	29.1%	6,700,000	36.8%	9,400,000	7.7	26.6%
	Males	27.0%	6,000,000	37.1%	9,300,000	10.2	37.8%
	Persons	28.0%	12,700,000	36.7%	18,600,000	8.7	31.0%
Scotland	Females	30.0%	710,000	34.2%	830,000	4.2	13.9%
	Males	28.0%	610,000	32.3%	750,000	4.3	15.5%
	Persons	29.0%	1,300,000	33.2%	1,600,000	4.2	14.5%
Wales	Females	24.1%	310,000	32.8%	460,000	8.7	36.3%
	Males	22.9%	280,000	31.1%	420,000	8.1	35.5%
	Persons	23.5%	600,000	31.9%	870,000	8.4	35.8%
Northern Ireland	Females	27.1%	210,000	31.8%	260,000	4.7	17.2%
	Males	27.8%	200,000	33.7%	270,000	5.9	21.3%
	Persons	27.4%	410,000	32.6%	530,000	5.2	19.0%

Table 4. 2019 observed and 2040 projected severe obesity (BMI 40+) prevalence in adults (aged 16+) by sex and country

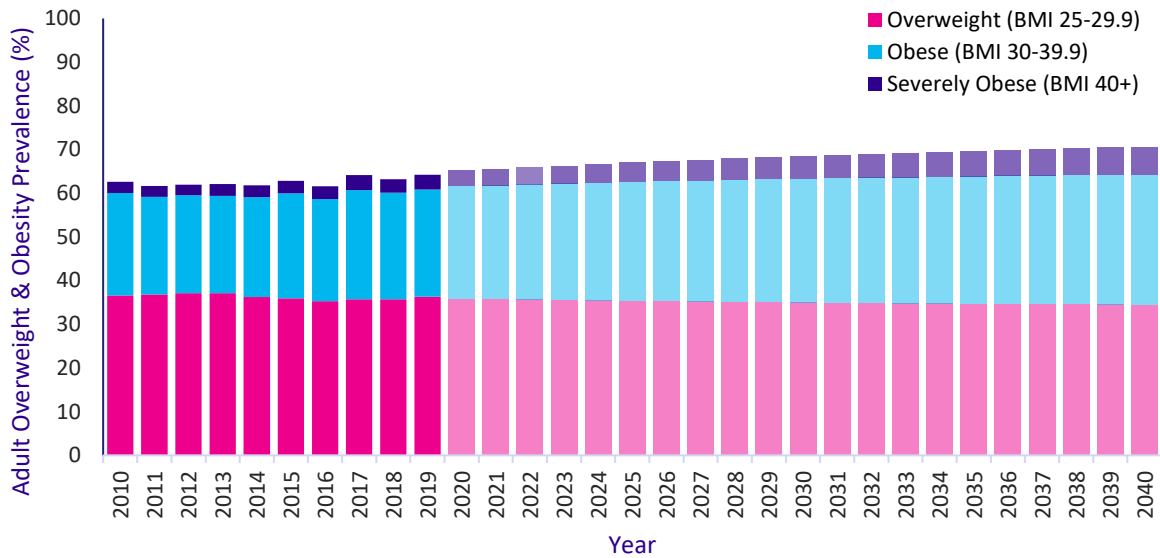
Country	Sex	2019 ⁹ observed		2040 projected		Change between 2019 and 2040	
		Severe obesity prevalence	Estimated number of severely obese people	Severe obesity prevalence	Estimated number of severely obese people	Percentage-point (absolute difference)	Percentage change (relative difference)
UK	Females	4.5%	1,200,000	7.6%	2,300,000	3.1	68.8%
	Males	2.3%	600,000	6.1%	1,800,000	3.9	169.6%
	Persons	3.3%	1,800,000	6.4%	3,800,000	3.0	91.0%
England	Females	4.4%	1,000,000	7.9%	2,000,000	3.5	78.7%
	Males	2.2%	490,000	6.4%	1,600,000	4.2	191.7%
	Persons	3.3%	1,500,000	6.7%	3,400,000	3.4	102.1%
Scotland	Females	6.0%	140,000	6.8%	170,000	0.8	12.9%
	Males	3.0%	66,000	4.1%	95,000	1.1	37.6%
	Persons	4.0%	180,000	4.7%	220,000	0.7	17.5%
Wales	Females	3.1%	40,000	5.3%	70,000	2.2	72.2%
	Males	1.9%	24,000	4.0%	70,000	3.1	161.0%
	Persons	2.5%	63,000	4.7%	130,000	2.3	91.1%
Northern Ireland	Females	3.8%	29,000	4.5%	37,000	0.7	19.7%
	Males	2.2%	16,000	5.6%	45,000	3.4	159.2%
	Persons	3.0%	45,000	4.8%	79,000	1.8	60.5%

Table 5. 2019 observed and 2040 projected obesity (BMI 30+) prevalence in adults (aged 16+) by deprivation quintile and country

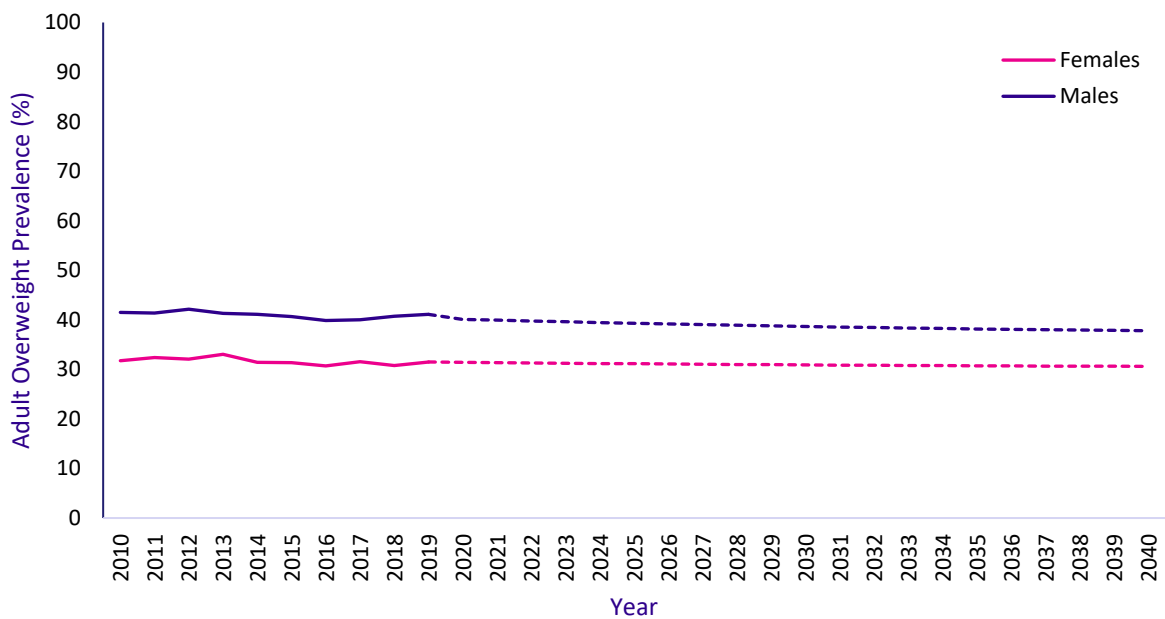
Country ^h	Year	Deprivation quintile prevalence (%)		Deprivation gap (difference between the least and most deprived)	
		1 (least)	5 (most)	Percentage-point (absolute difference)	Percentage difference (relative difference)
England	2019	22.1%	34.9%	12.8	44.9%
	2040	25.4%	46.3%	20.9	58.2%
Scotland	2019	22.0%	36.0%	14.0	48.3%
	2040	18.8%	40.8%	22.0	74.0%
Wales	2015	17.4%	29.1%	11.6	50.0%
	2040	22.8%	37.3%	14.5	48.3%

^h No Northern Ireland modelling due to interaction and variability between deprivation quintiles that produced poorly fitted models

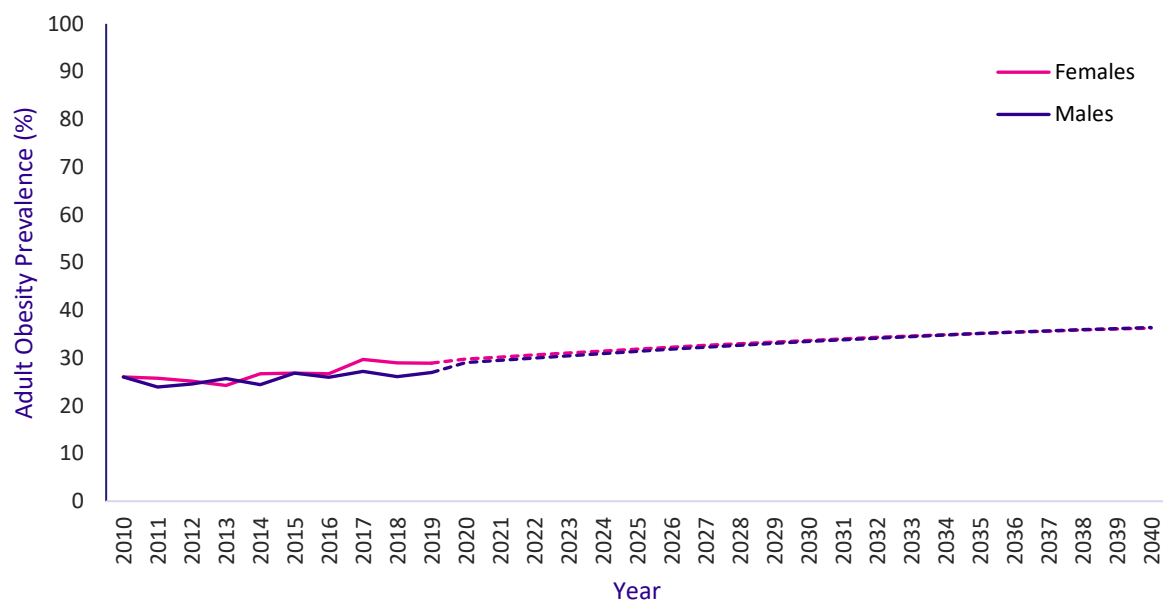
Overweight and obesity prevalence projections for adults (aged 16+) in the UK



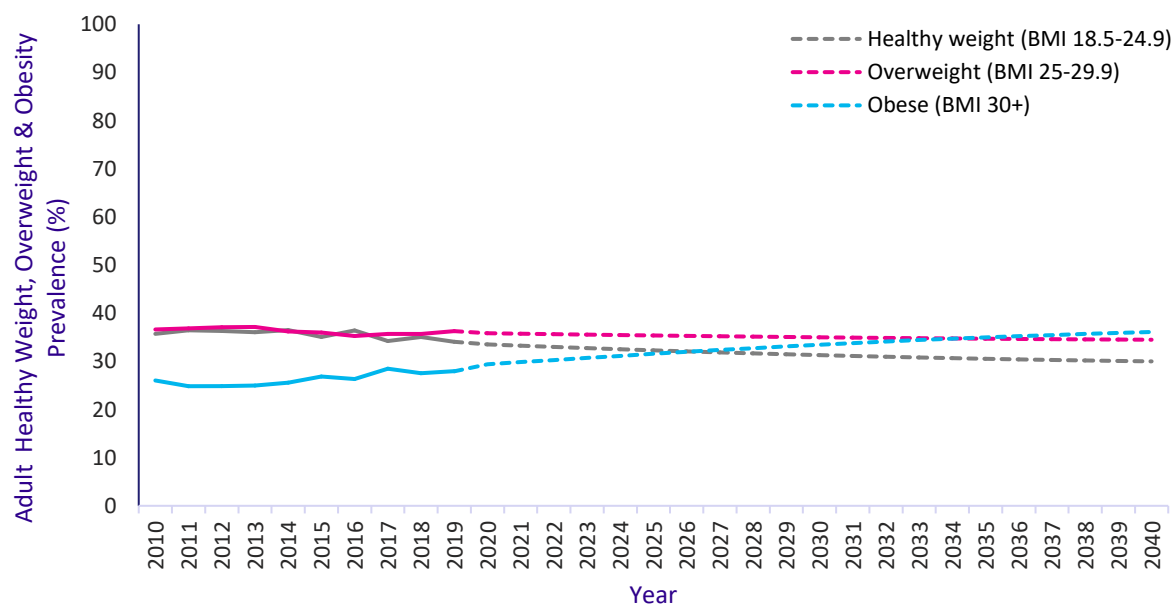
Overweight (BMI 25-29.9) prevalence projections for adults (aged 16+), by sex in the UK



Obesity (BMI 30+) prevalence projections for adults (aged 16+), by sex in the UK

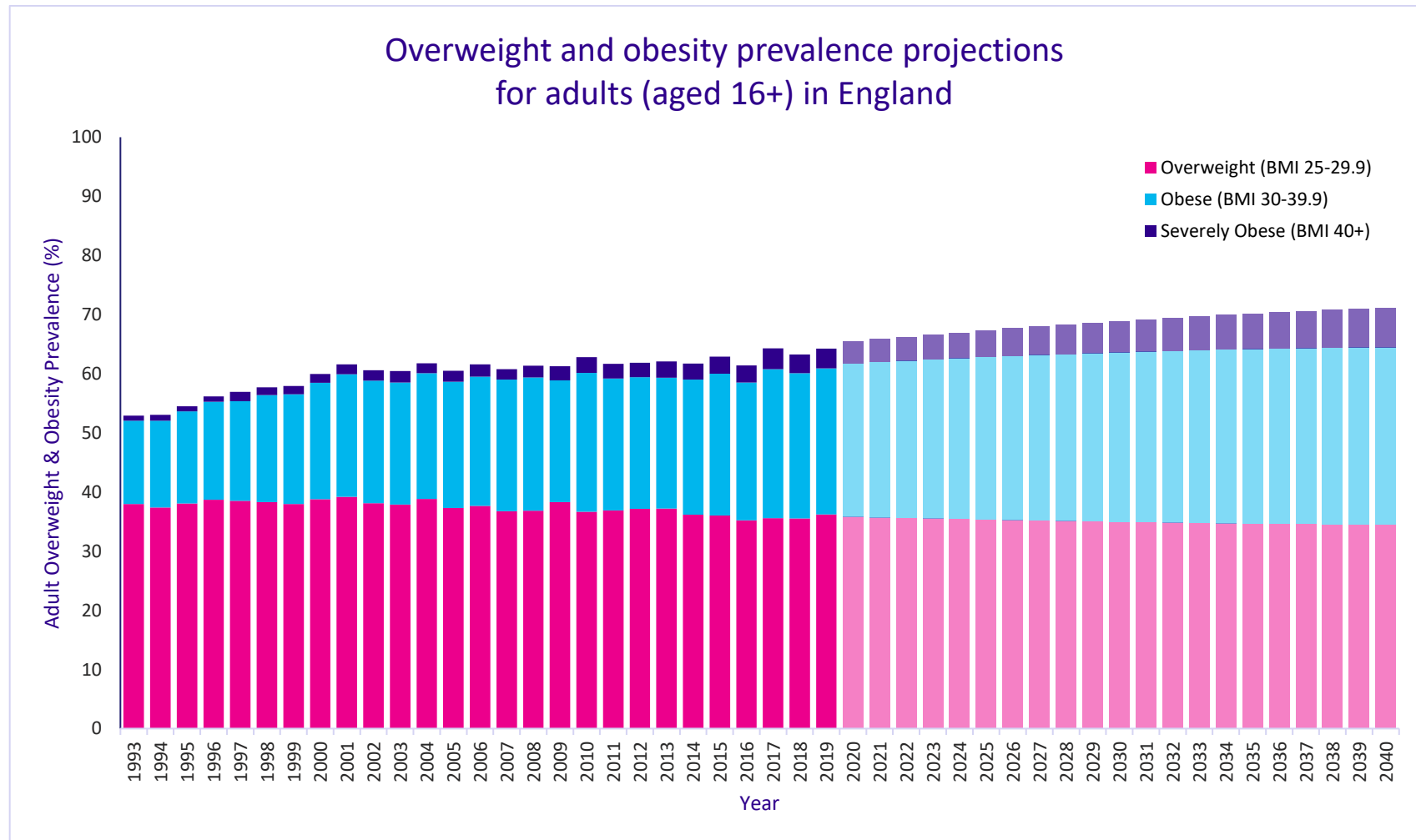


Healthy weight, overweight and obesity prevalence projections for adults (aged 16+) in the UK

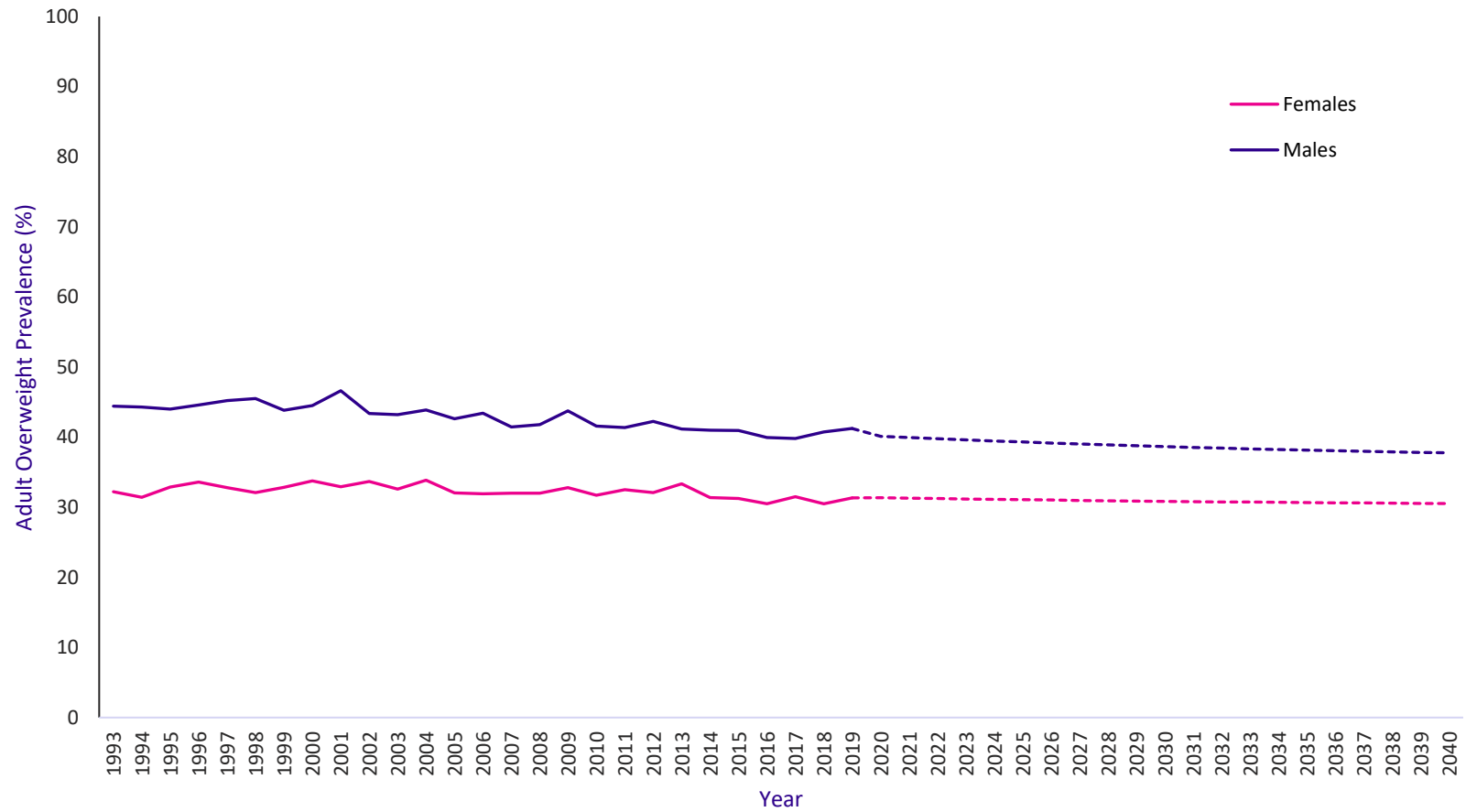


- If current overweight and obesity prevalence trends continue, average adult overweight and obesity prevalence in the UK is projected to increase from 64% in 2019 to 71% (9% relative increase) by 2040, that equates to around 42.2 million people (20.6 million overweight; 21.6 million obese)
- If current overweight and obesity prevalence trends continue, female adult overweight and obesity prevalence in the UK is projected to increase from 60% in 2019 to 67% (11% relative increase) by 2040, that equates to around 20.3 million women (9.3 million overweight; 11 million obese)
- If current overweight and obesity prevalence trends continue, male adult overweight and obesity prevalence in the UK is projected to increase from 68% in 2019 to 74% (9% relative increase) in males by 2040, that equates to around 21.9 million men (11.1 million overweight; 10.7 million obese)
- If current BMI trends continue, it is projected that there will be more people who are obese (36%, 21.6 million people) compared to people who are healthy weight (30%, 17.9 million people) in the UK by 2040, with the crossover occurring in the late 2020s
- If current severe obesity prevalence trends continue, average adult severe obesity prevalence in the UK is projected to increase from 3% in 2019 to 6% (91% relative increase) by 2040 (from 5% to 8% in females (69% relative increase); from 2% to 6% in males (170% relative increase))

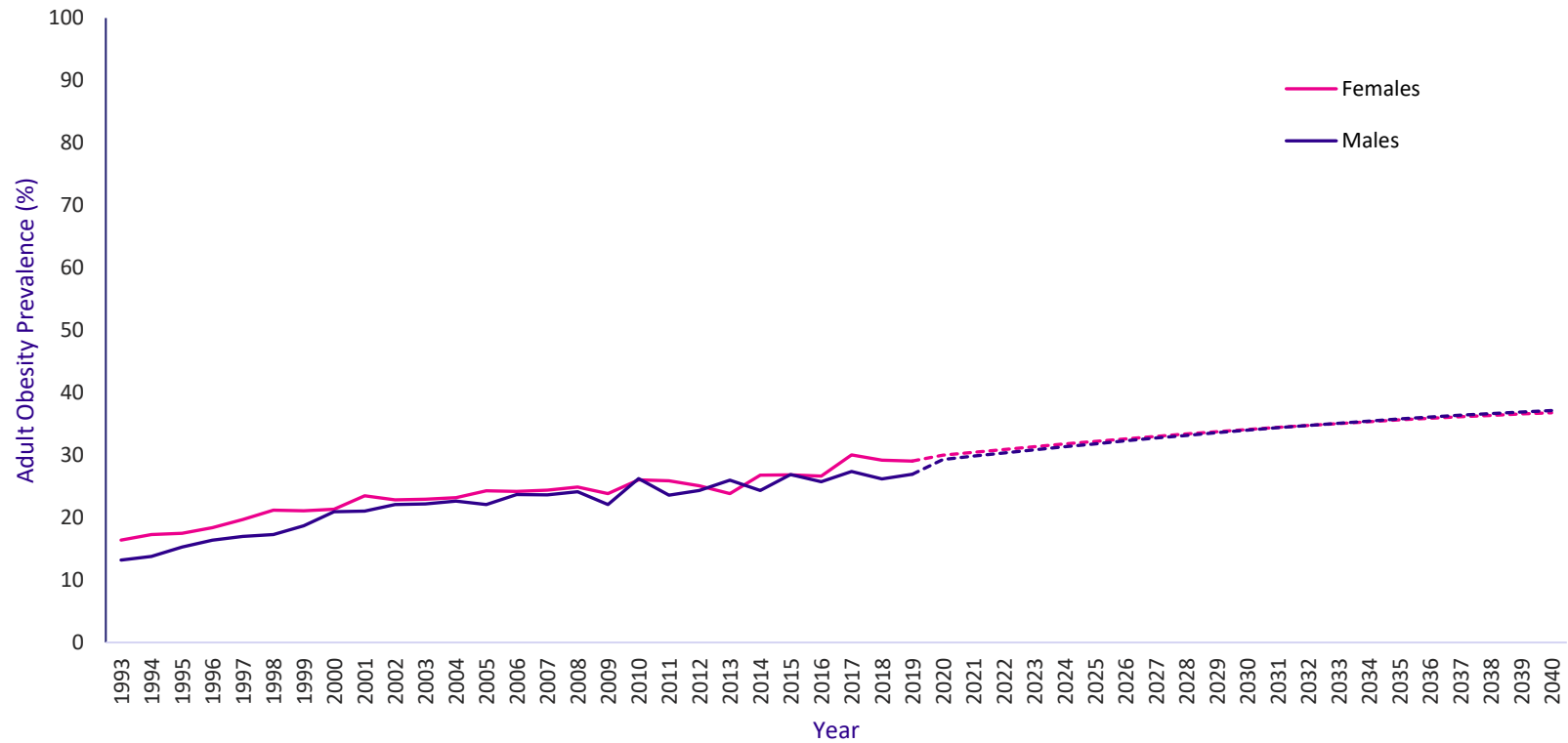
England



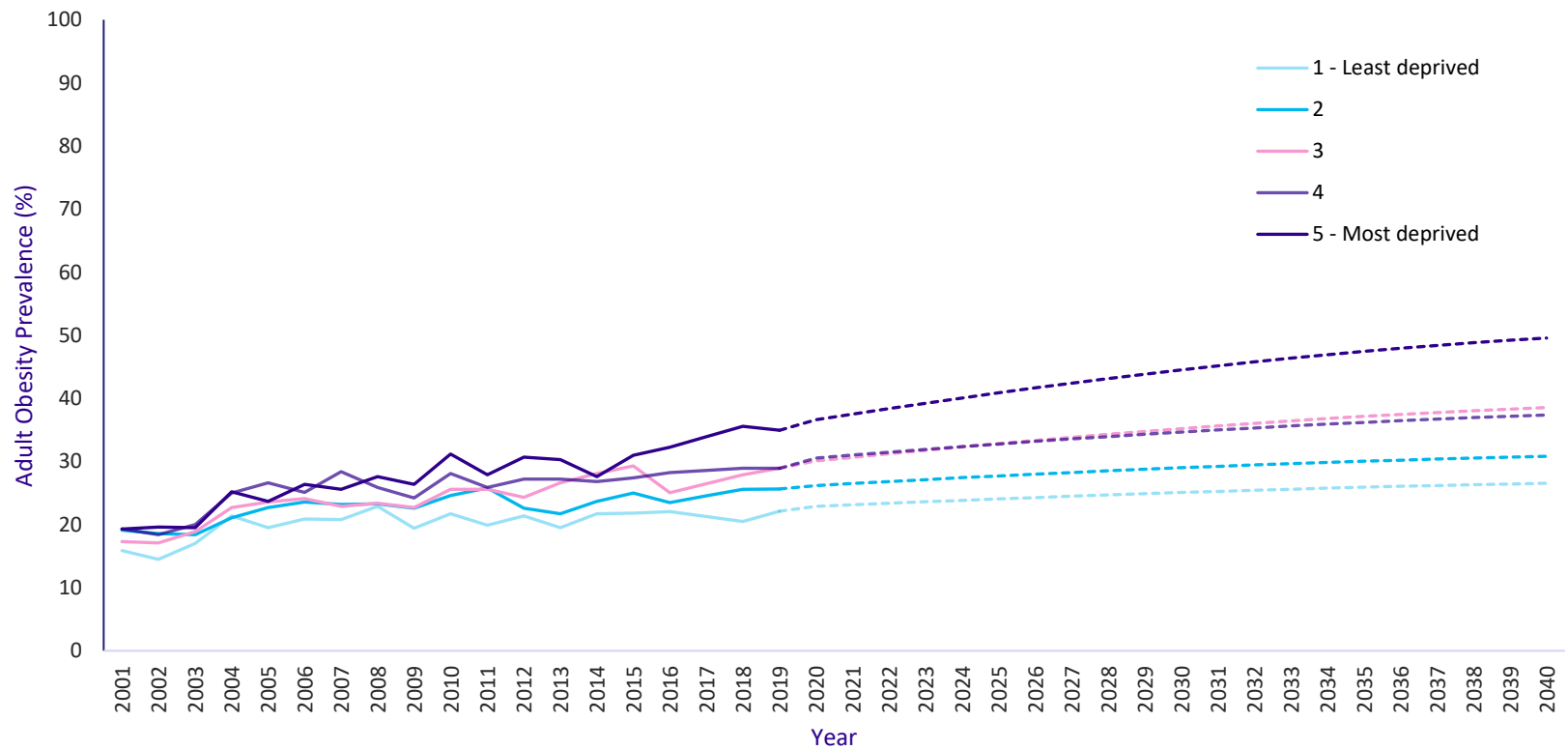
Overweight (BMI 25-29.9) prevalence projections for adults (aged 16+), by sex in England



Obesity (BMI 30+) prevalence projections for adults (aged 16+), by sex in England

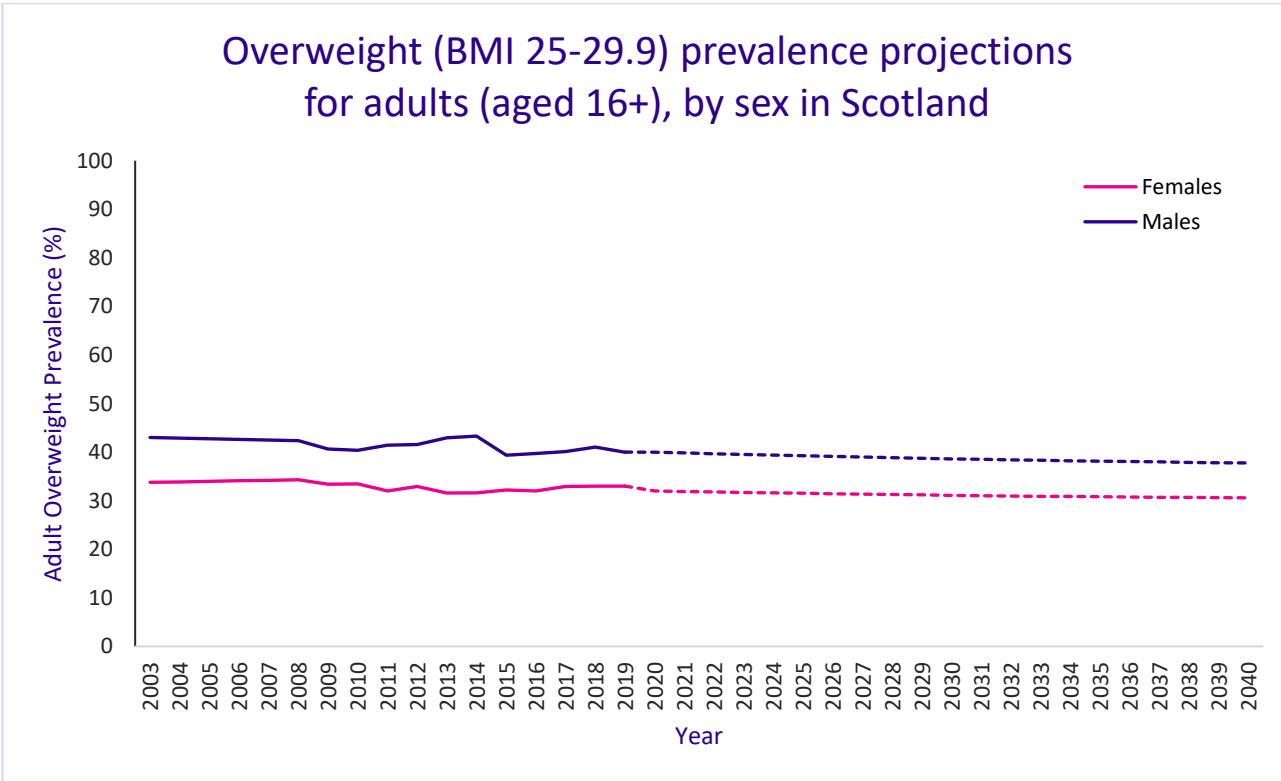
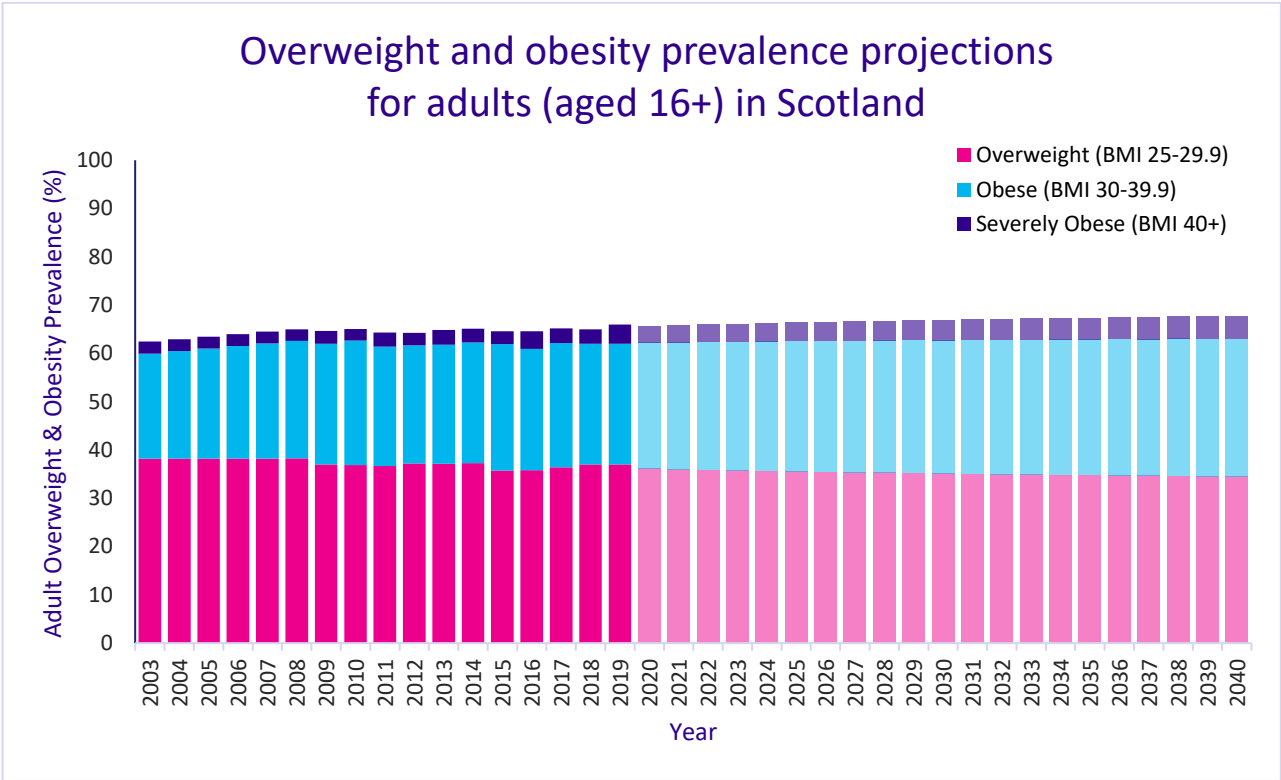


Obesity (BMI 30+) prevalence projections for adults
(aged 16+), by deprivation quintile in England

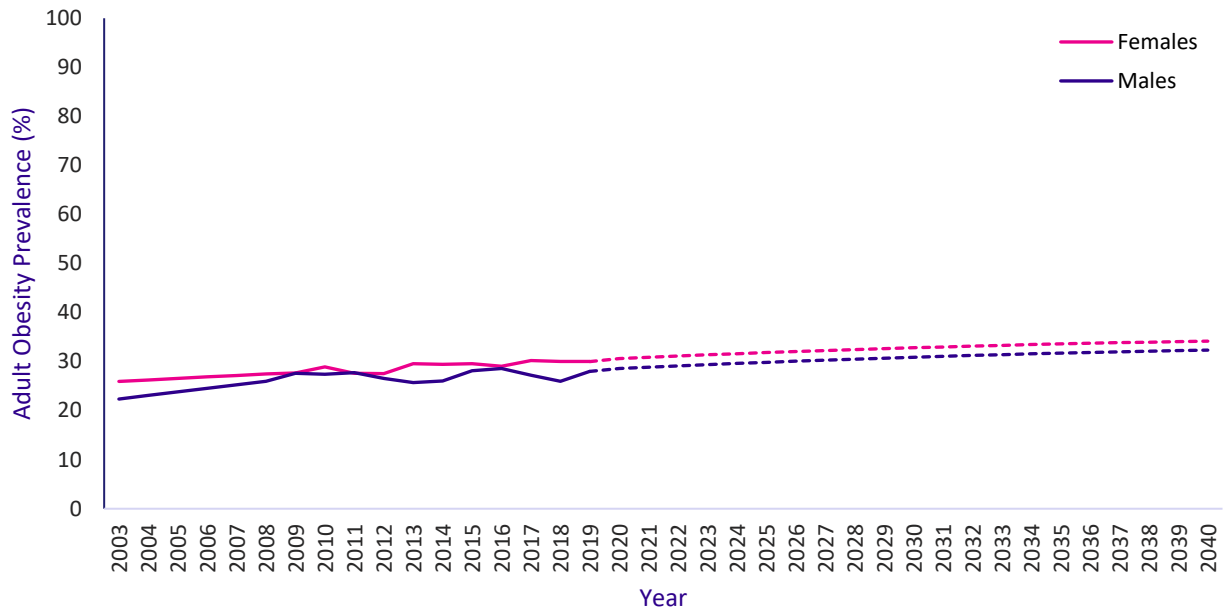


- If current overweight and obesity prevalence trends continue, average adult overweight and obesity prevalence in England is projected to increase from 64% in 2019 to 71% (11% relative increase) by 2040, that equates to around 36 million people (17.5 million overweight; 18.6 million obese)
- If current overweight and obesity prevalence trends continue, female adult overweight and obesity prevalence in England is projected to increase from 60% in 2019 to 67% (11% relative increase) by 2040, that equates to around 17.3 million women (7.8 million overweight; 9.4 million obese)
- If current overweight and obesity prevalence trends continue, male adult overweight and obesity prevalence in England is projected to increase from 68% in 2019 to 75% by 2040 (10% relative increase), that equates to around 18.7 million men (9.5 million overweight; 9.3 million obese)
- If current adult BMI trends continue, it is projected that there will be more people who are obese (37%, 18.6 million people) compared to people who are healthy weight (29%, 14.9 million people) in England by 2040, with the crossover occurring in the late 2020s
- If current severe obesity prevalence trends continue, average adult severe obesity prevalence in England is projected to increase from 3% in 2019 to 7% (102% relative increase) by 2040 (from 4% to 8% in females (79% relative increase); from 2% to 6% in males (192% relative increase))
- If current obesity prevalence trends continue, adult obesity prevalence is projected to increase from 22% in 2019 to 25% (15% relative increase) by 2040 in England for the least deprived group
- If current obesity prevalence trends continue, adult obesity prevalence is projected to increase from 35% in 2019 to 46% by 2040 (32% relative increase) in England for the most deprived group

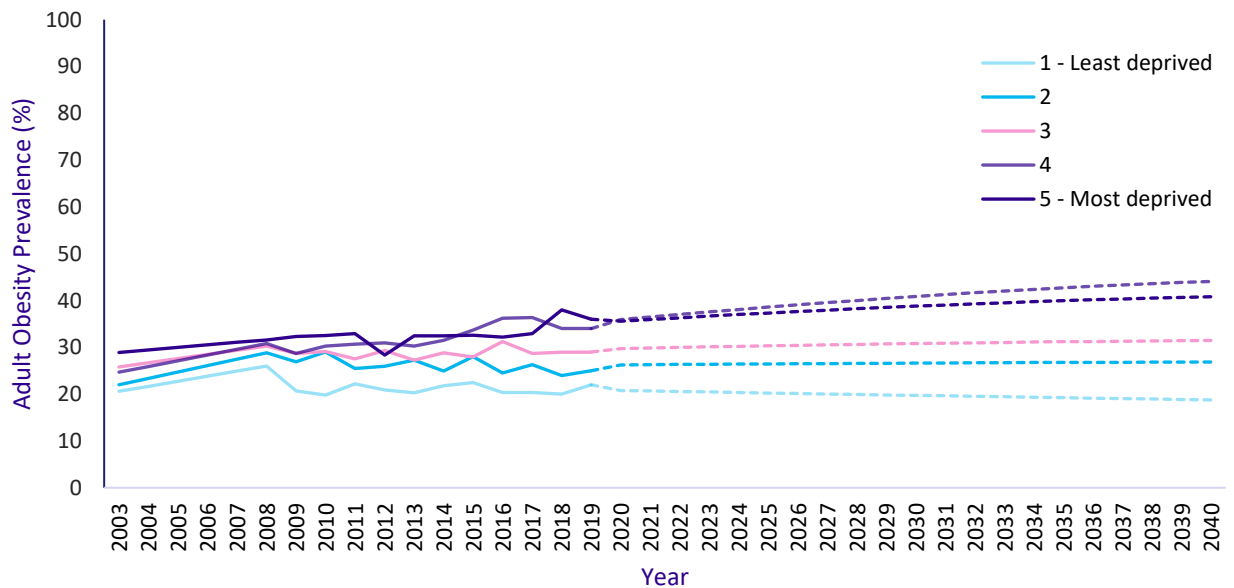
Scotland



Obesity (BMI 30+) prevalence projections for adults (aged 16+), by sex in Scotland

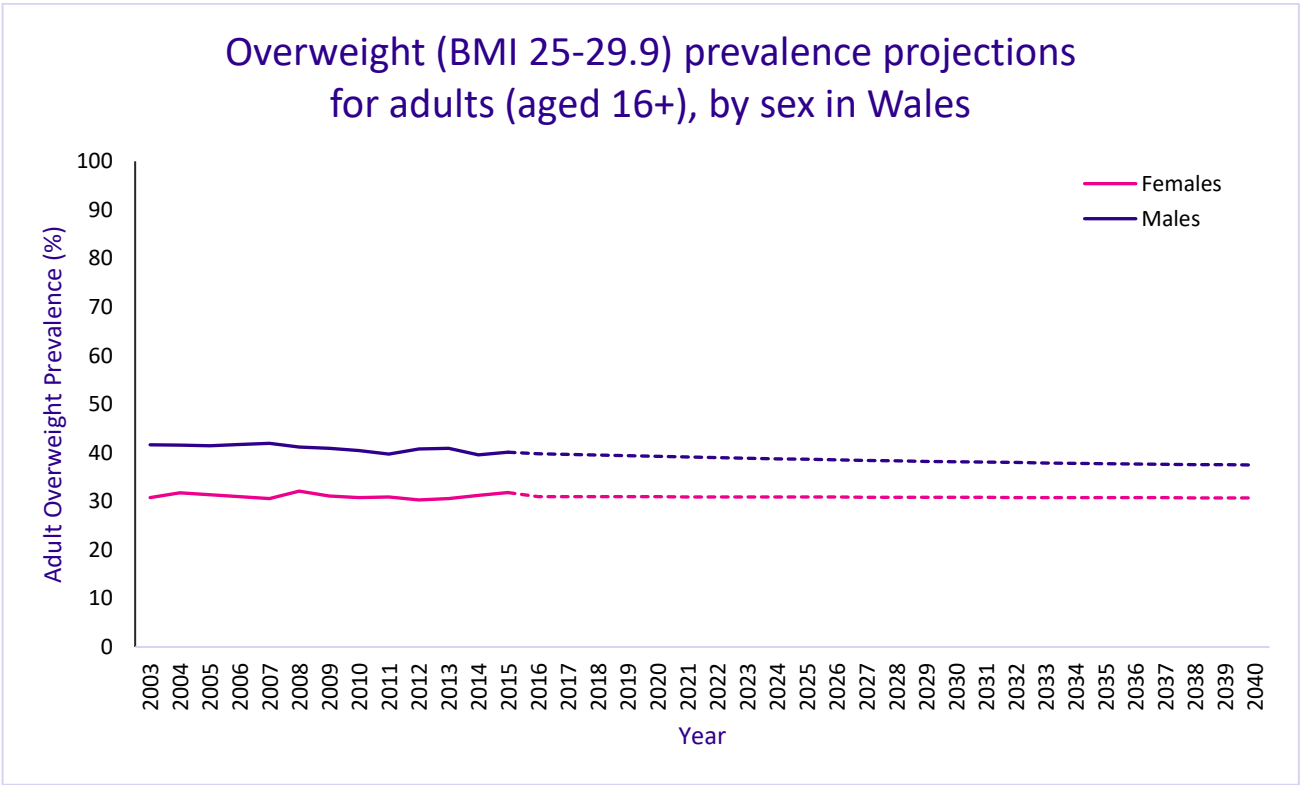
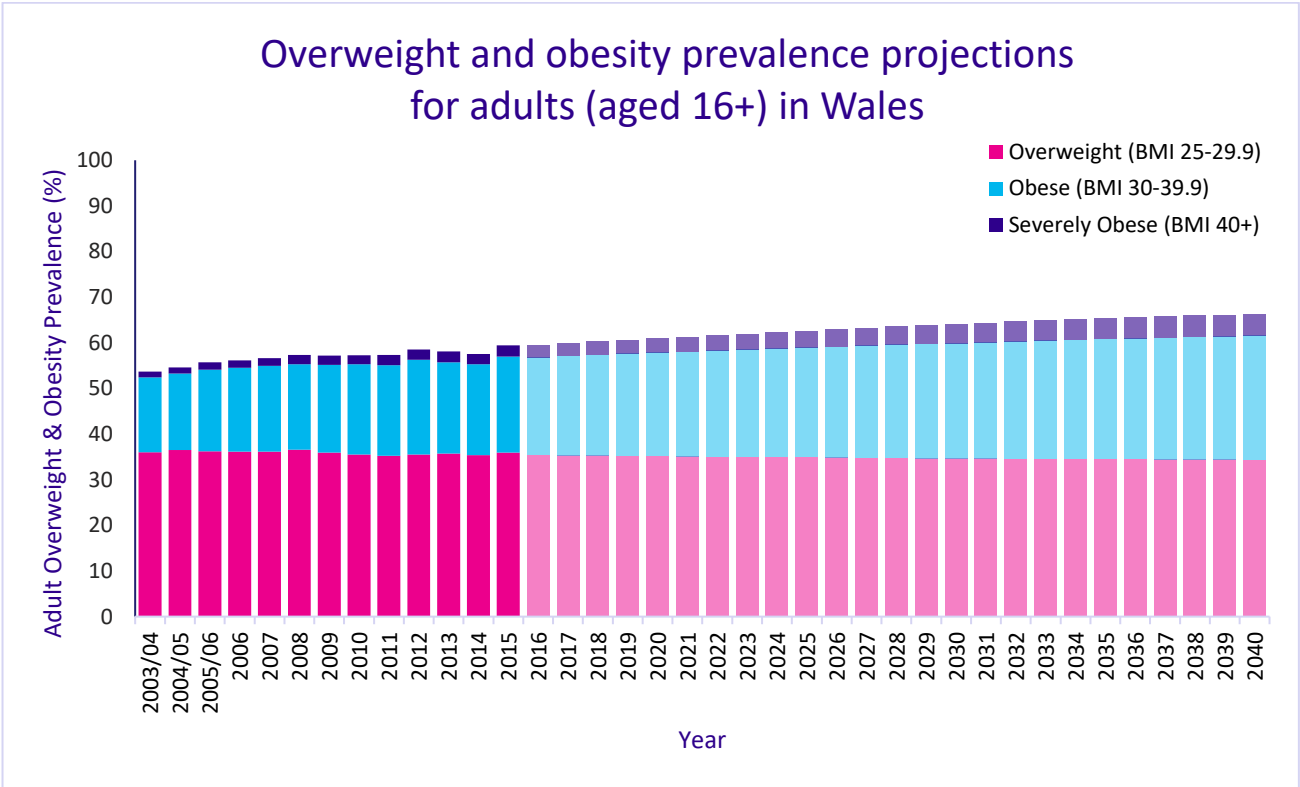


Obesity (BMI 30+) prevalence projections for adults (aged 16+), by deprivation in Scotland

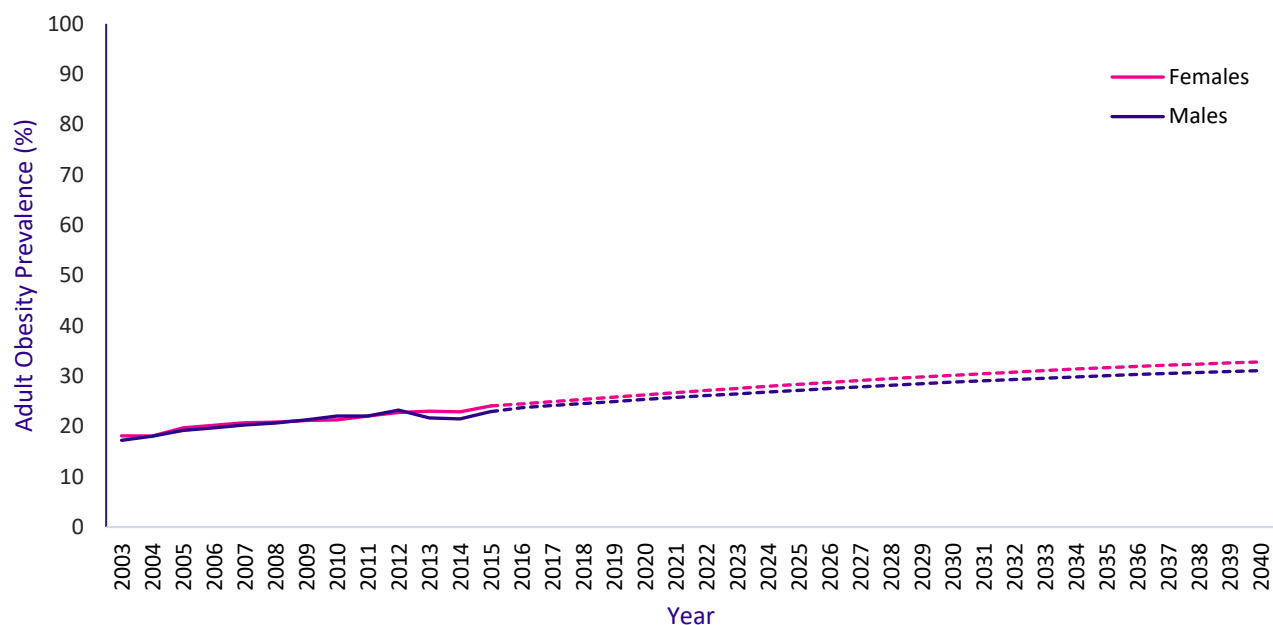


- If current overweight and obesity prevalence trends continue, average adult overweight and obesity prevalence in Scotland is projected to increase from 66% in 2019 to 68% (3% relative increase) by 2040, that equates to around 3.2 million people (1.6 million overweight; 1.6 million obese)
- If current overweight and obesity prevalence trends continue, female adult overweight and obesity prevalence in Scotland is projected to increase from 63% in 2019 to 65% (3% relative increase) by 2040, that equates to around 1.6 million women (750,000 overweight; 830,000 obese)
- If current overweight and obesity prevalence trends continue, male adult overweight and obesity prevalence in Scotland is projected to increase from 68% in 2019 to 70% (3% relative increase) by 2040, that equates to around 1.6 million men (870,000 overweight; 750,000 obese)
- If current adult BMI trends continue, it is projected that there will be a similar number of people who are healthy weight (34%, 1.6 million people) and people who are obese (33%, 1.6 million people) in Scotland by 2040
- If current severe obesity prevalence trends continue, average adult severe obesity prevalence in Scotland is projected to increase from 4% in 2019 to 5% (17% relative increase) by 2040 (from 6% to 7% (13% relative increase) in females; from 3% to 4% (38% relative increase) in males)
- If current obesity prevalence trends continue, adult obesity prevalence is projected to decrease from 22% in 2019 to 19% (15% relative decrease) by 2040 in Scotland for the least deprived group
- If current obesity prevalence trends continue, adult obesity prevalence is projected to increase from 36.0% in 2019 to 41% (13% relative increase) by 2040 in Scotland for the most deprived group

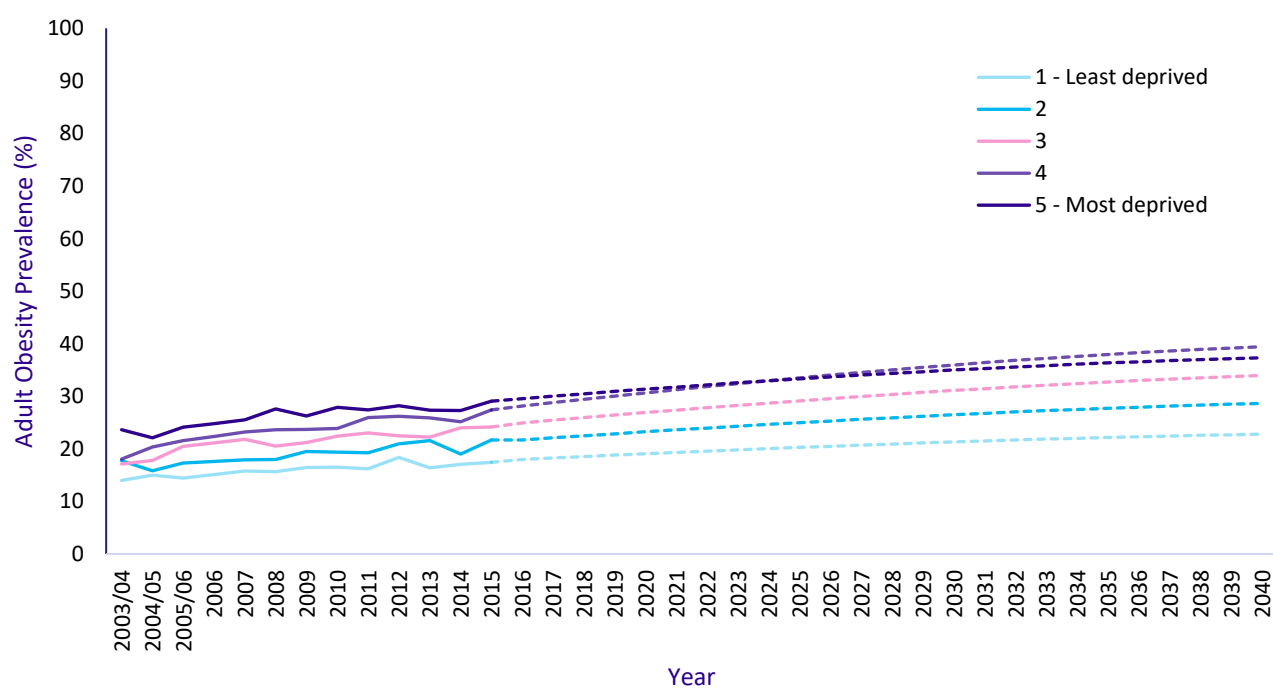
Wales



Obesity (BMI 30+) prevalence projections for adults (aged 16+), by sex in Wales

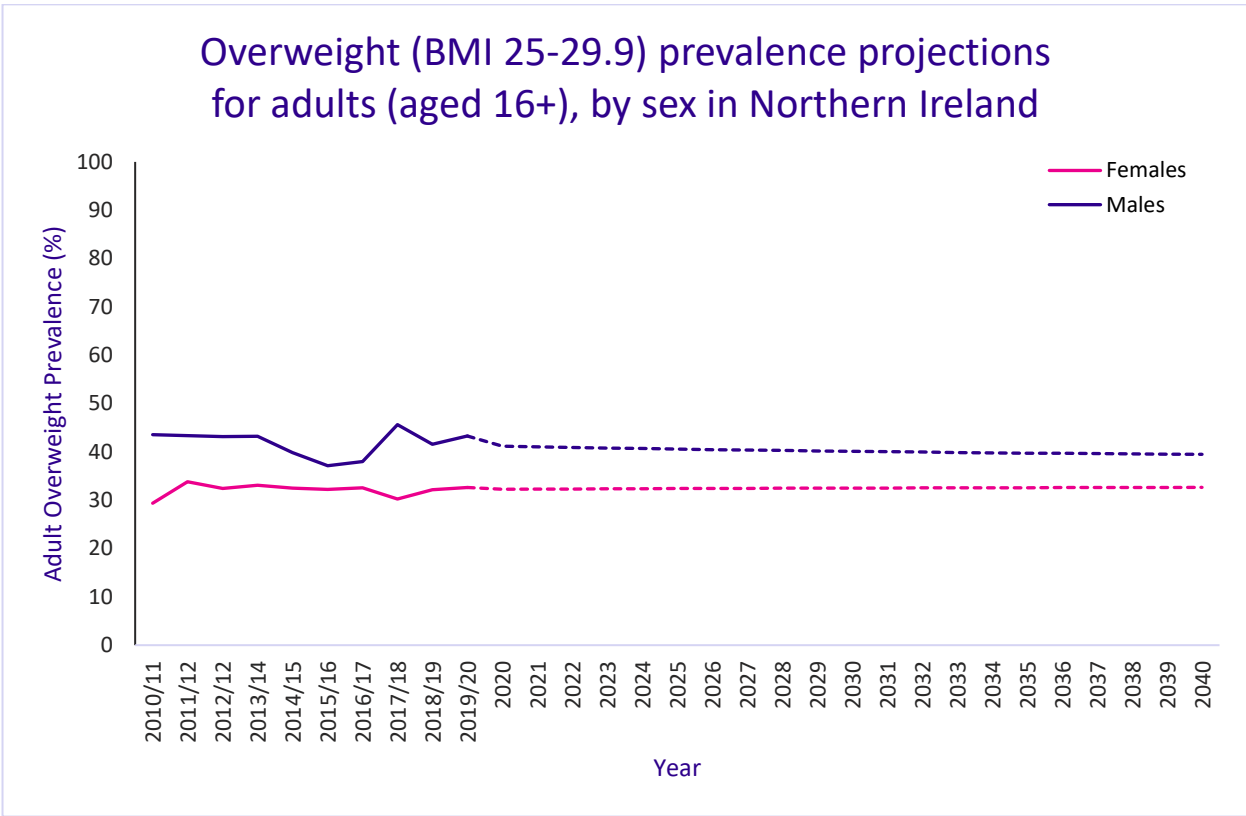
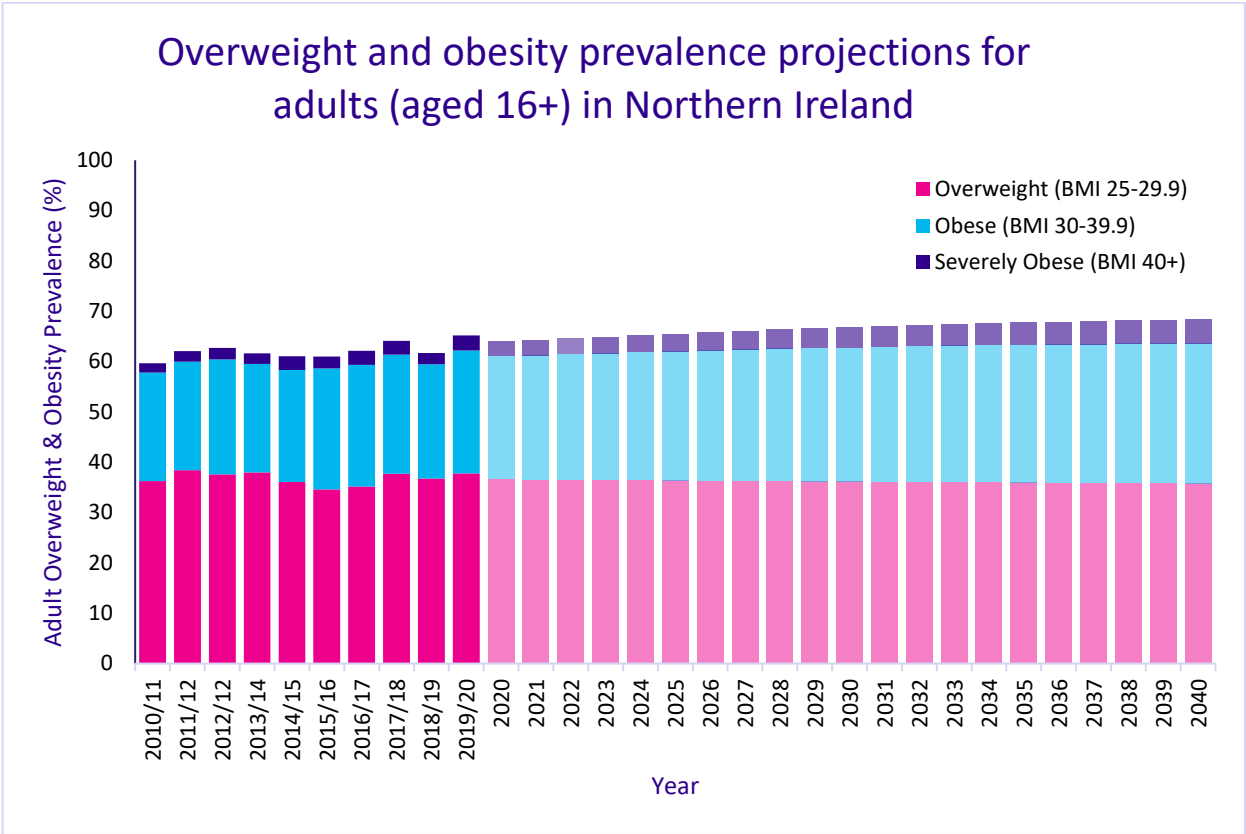


Obesity (BMI 30+) prevalence projections for adults (aged 16+), by deprivation quintile in Wales

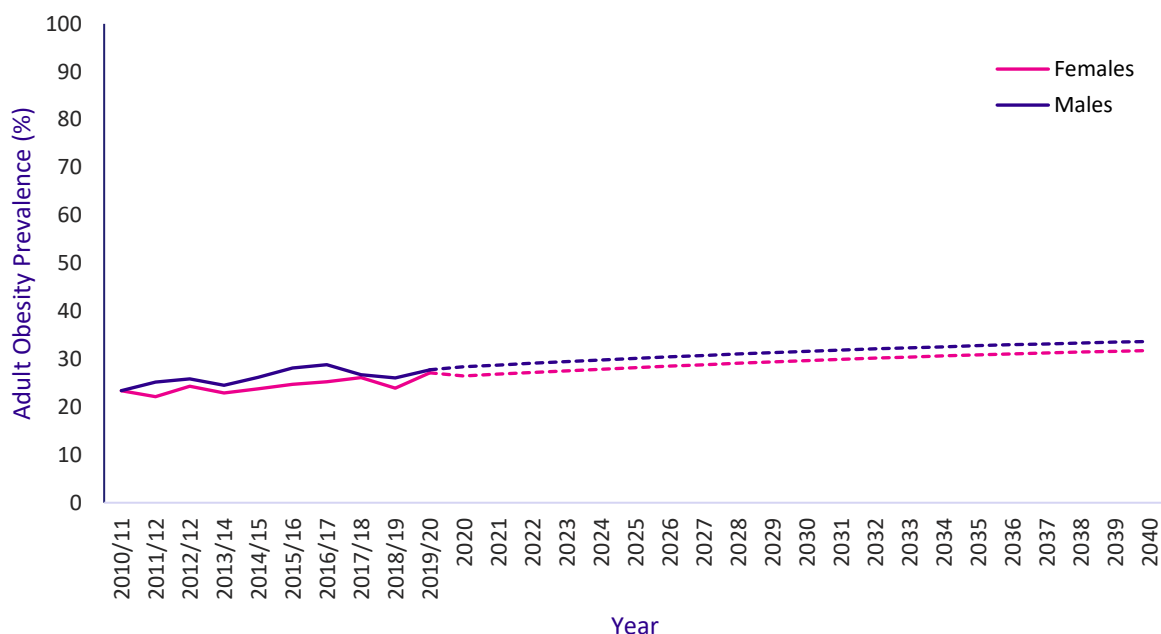


- If current overweight and obesity prevalence trends continue, average adult overweight and obesity prevalence in Wales is projected to increase from 59% in 2015 to 66% (12% relative increase) by 2040, that equates to around 1.8 million people (940,000 overweight; 870,000 people)
- If current overweight and obesity prevalence trends continue, female adult overweight and obesity prevalence in Wales is projected to increase from 56% in 2015 to 64% (9% relative increase) by 2040, that equates to around 880,000 women (430,000 overweight; 460,000 obese)
- If current overweight and obesity prevalence trends continue, male adult overweight and obesity prevalence in Wales is projected to increase from 63% in 2015 to 69% (9% relative increase) by 2040, that equates to around 920,000 men (500,000 overweight; 420,000 obese)
- If current severe obesity prevalence trends continue, average adult severe obesity prevalence in Wales is projected to increase from 3% in 2015 to 5% (91% relative increase) by 2040 (from 3% to 5% (72% relative increase) in females; from 2% to 5% (161% relative increase) in males)
- If current adult BMI trends continue, it is projected that there will remain a higher number of people who are healthy weight (34%, 920,000 people) and people who are obese (32%, 870,000 people) in Wales by 2040, though the gap will narrow markedly
- If current obesity prevalence trends continue, adult obesity prevalence is projected to increase from 17% in 2015 to 23% (31% relative increase) by 2040 in Wales for the least deprived group
- If current obesity prevalence trends continue, adult obesity prevalence is projected to increase from 29% in 2015 to 37% (28% relative increase) by 2040 in Wales for the most deprived group

Northern Ireland



Obesity (BMI 30+) prevalence projections for adults (aged 16+), by sex in Northern Ireland



- If current overweight and obesity prevalence trends continue, average adult overweight and obesity prevalence in Northern Ireland is projected to increase from 65% in 2019 to 68% (5% relative increase) by 2040, that equates to around 1.1 million (580,000 overweight; 530,000 obese)
- If current overweight and obesity prevalence trends continue, female adult overweight and obesity prevalence in Northern Ireland is projected to increase from 60% in 2019 to 64% (8% relative increase) by 2040, that equates to around 530,000 women (270,000 overweight; 260,000 obese)
- If current overweight and obesity prevalence trends continue, male adult overweight and obesity prevalence in Northern Ireland is projected to increase from 70% in 2019 to 71% (3% relative increase) by 2040, that equates to around 590,000 men (320,000 overweight; 270,000 obese)
- If current severe obesity prevalence trends continue, adult severe obesity prevalence is projected to increase from 3% in 2019 to 5% (61% relative increase) by 2040 in Northern Ireland (from 4% to 4.5% (20% relative increase) in females; from 2% to 6% (159% relative increase) in males)
- If current adult BMI trends continue, it is projected that there will more people who are obese (33%, 530,000 people) than people who are healthy weight (31%, 510,000 people) in Northern Ireland by 2040, with the crossover occurring in the late 2030s

Discussion

Summary of results

Overweight and obesity is the second biggest cause of cancer after smoking in the UK.³ Our projections suggest that around 7 in 10 of the UK adult population will be overweight or obese by 2040, ranging between 68-71% for England, Scotland, Wales and Northern Ireland individually.

Overweight prevalence is projected not to change markedly across the UK, if anything a slight decrease may be seen. Conversely, obesity prevalence is projected to rise between 4-9 percentage points in the UK and its constituent nations, indicating obesity to be the main driver of increasing overweight and obesity prevalence overall.

By 2040, obesity prevalence is projected to be higher than healthy weight prevalence in the UK overall, with higher levels of obesity compared with healthy weight in England and Northern Ireland. Similar levels of obesity compared with healthy weight are projected in Scotland, and slightly higher healthy weight prevalence versus obesity prevalence in Wales (though Wales' use of self-report height and weight could partly explain this difference, as BMI underestimation is a concern with this approach¹⁷).

England has the longest continuous data time series, which includes the majority of the 1990s when a particularly rapid increase in obesity prevalence occurred. Trend data from this earlier time period is likely influencing the higher prevalence we observe for England obesity (and severe obesity) prevalence projections, compared with other UK nations.

Severe obesity prevalence is projected to rise in the UK and its constituent nations. Men are generally projected to see a larger relative increase than women by 2040, which is partly a result of men having currently lower observed prevalence than women for severe obesity.

Our findings are similar to previous overweight and obesity prevalence projections, in that they show a general increase for both sexes across UK nations for obesity and severe obesity prevalence.^{18,19} However, direct comparisons should not be made due to methodological differences (e.g. projection approaches, data sources, age cohorts, years studied).

The deprivation gap for obesity prevalence is projected to persist, and potentially worsen over the next two decades in England and Scotland. This resonates with recent trends observed for children, with children in the most deprived areas twice as likely to be obese compared to the least deprived areas, and the deprivation gap widening.¹³ Children who are obese are 5 times more likely to be obese as adults,²⁰ indicating a continuation and exacerbation of health-related inequalities due to obesity.

Strengths & limitations

Data availability varied between nations meaning that our findings for some nations might be less reliable. Data for Wales is collected via self-report, which could lead to unreliable estimates for Wales as self-report methods are prone to under-reporting.¹⁷ Comparisons between each UK nation should be avoided, because the results are based on different datasets for each nation. In some instances, data was missing and had to be interpolated.

We used inferential statistics with nationally representative health survey data to project overweight and obesity prevalence, using established statistical methods²¹ combined with a novel approach to attenuation.

The assumption of linearity between year and the prevalence outcome is the same as assuming a constant change in the prevalence over time. This might not necessarily be true for all models, however modelling year as a non-linear variable (e.g. quadratic) yielded poorly fitted models which led us to adopt our approach as the most suitable. Assuming linearity provides a better model fit but generates unrealistic values at the furthest end of the projected period, attenuation is necessary; various attenuation approaches have been used,^{22,23} but our novel approach is based on observed data and is therefore minimally subjective. Regardless of method used, any projection may turn out to be incorrect due to unexpected circumstances or interventions that could influence overweight and obesity prevalence in the future, however projecting future data based on observed data is a recognised approach and undoubtedly has value for service planning.

Our sensitivity analysis comparing observed to projected values for 2015-2019 indicated a very small tendency to overestimation in the projections, though year-on-year variation makes interpretation difficult. However, the influence of our attenuation applies more heavily further into the projection time period, meaning that any potential early overestimation should be countered by the attenuation further in the time series (i.e. by 2040).

Furthermore, the overweight and obesity combined projections as the sum of the separate projections for each category, yielded slightly higher estimates than if the two categories are combined in the observed data and projected. But our selected approach provides a more coherent and nuanced picture of where the increases are projected to occur.

The key figures reported here are point estimates, around which there is projected variability of 2-3 percentage points. These margins of variability are extreme, representing an almost completely linear change at their upper bound, and an almost completely flat trend at their lower bound. Even with these margins, our broad conclusions remain true: by 2040, UK overweight and obesity prevalence is projected to reach around 7 in 10, obesity prevalence is projected to exceed healthy weight prevalence in the UK, and the deprivation gap is projected to grow in England and Scotland.

Conclusion

Prevalence of overweight and obesity is expected to increase in the next 20 years across the UK, with obesity and severe obesity contributing most of this increase. These projections use nationally representative data and a mix of established and novel statistical methods to obtain plausible estimates of future overweight and obesity prevalence.

Appendices

Appendix 1. 2019 observed and 2040 projected overweight and obesity (BMI 25+) prevalence in adults (aged 16+) by sex and country

Country	Sex	2019 observed ⁹		2040 projected		Change between 2019 and 2040	
		Overweight and obesity prevalence (%)	Estimated number of overweight or obese people	Overweight and obesity prevalence (%)	Estimated number of overweight or obese people	Percentage-point (absolute difference)	Percentage change (relative difference)
UK	Females	60.4%	16,700,000	66.9%	20,300,000	6.4%	10.6%
	Males	68.1%	18,400,000	74.2%	21,900,000	6.1%	9.0%
	Persons	64.2%	34,800,000	70.6%	42,200,000	6.3%	9.9%
England	Females	60.4%	14,000,000	67.3%	17,300,000	6.9%	11.4%
	Males	68.2%	15,200,000	74.9%	18,700,000	6.7%	9.9%
	Persons	64.2%	29,200,000	71.2%	36,000,000	6.9%	10.8%
Scotland	Females	63.0%	1,500,000	64.7%	1,600,000	1.7%	2.8%
	Males	68.0%	1,500,000	70.1%	1,600,000	2.1%	3.1%
	Persons	66.0%	3,000,000	67.7%	3,200,000	1.7%	2.6%
Wales	Females	55.9%	730,000	63.5%	880,000	7.7%	13.7%
	Males	63.0%	780,000	68.6%	920,000	5.5%	8.7%
	Persons	59.0%	1,500,000	66.3%	1,800,000	6.9%	11.6%
Northern Ireland	Females	59.7%	460,000	64.4%	530,000	4.7%	7.9%
	Males	71.0%	520,000	73.2%	590,000	2.1%	3.0%
	Persons	65.2%	980,000	68.4%	1,100,000	3.2%	4.9%

Appendix 2. Overweight, obesity, and severe obesity prevalence projections for adults (aged 16+) in the UK by sex and year

Year	Overweight (BMI 25-29.9)			Obesity (BMI 30+)			Severe obesity (BMI 40+)		
	Females	Males	Persons	Females	Males	Persons	Females	Males	Persons
2020	31.4%	40.1%	35.8%	29.8%	29.0%	29.4%	4.7%	2.7%	3.6%
2021	31.4%	39.9%	35.7%	30.2%	29.5%	29.8%	4.9%	2.8%	3.8%
2022	31.3%	39.8%	35.6%	30.6%	30.0%	30.3%	5.0%	3.0%	3.9%
2023	31.2%	39.6%	35.6%	31.1%	30.5%	30.7%	5.2%	3.2%	4.1%
2024	31.2%	39.5%	35.5%	31.5%	30.9%	31.2%	5.4%	3.3%	4.2%
2025	31.1%	39.3%	35.4%	31.9%	31.4%	31.6%	5.5%	3.5%	4.4%
2026	31.1%	39.2%	35.3%	32.3%	31.8%	32.0%	5.7%	3.7%	4.5%
2027	31.0%	39.0%	35.2%	32.6%	32.3%	32.4%	5.8%	3.9%	4.7%
2028	31.0%	38.9%	35.1%	33.0%	32.7%	32.7%	6.0%	4.0%	4.8%
2029	31.0%	38.8%	35.1%	33.4%	33.1%	33.1%	6.1%	4.2%	5.0%
2030	30.9%	38.7%	35.0%	33.7%	33.4%	33.5%	6.3%	4.4%	5.1%
2031	30.9%	38.5%	34.9%	34.0%	33.8%	33.8%	6.4%	4.6%	5.3%
2032	30.8%	38.4%	34.9%	34.3%	34.2%	34.1%	6.6%	4.7%	5.4%
2033	30.8%	38.3%	34.8%	34.6%	34.5%	34.4%	6.7%	4.9%	5.5%
2034	30.8%	38.2%	34.8%	34.9%	34.8%	34.7%	6.9%	5.1%	5.7%
2035	30.7%	38.2%	34.7%	35.2%	35.1%	35.0%	7.0%	5.3%	5.8%
2036	30.7%	38.1%	34.7%	35.4%	35.4%	35.2%	7.1%	5.5%	5.9%
2037	30.7%	38.0%	34.6%	35.6%	35.7%	35.5%	7.3%	5.6%	6.1%
2038	30.6%	37.9%	34.6%	35.9%	35.9%	35.7%	7.4%	5.8%	6.2%
2039	30.6%	37.9%	34.5%	36.1%	36.2%	35.9%	7.5%	6.0%	6.3%
2040	30.6%	37.8%	34.5%	36.3%	36.4%	36.1%	7.6%	6.1%	6.4%

Appendix 3. Overweight and obesity prevalence projections for adults (aged 16+) in England by sex and year

Year	Overweight (BMI 25-29.9)			Obese (BMI 30+)			Severe obesity (BMI 40+)		
	Females	Males	Persons	Females	Males	Persons	Females	Males	Persons
2020	31.4%	40.1%	35.8%	30.0%	29.3%	29.6%	4.8%	2.7%	3.7%
2021	31.3%	39.9%	35.7%	30.5%	29.8%	30.1%	5.0%	2.9%	3.9%
2022	31.2%	39.8%	35.6%	30.9%	30.4%	30.6%	5.1%	3.0%	4.0%
2023	31.2%	39.6%	35.5%	31.4%	30.9%	31.0%	5.3%	3.2%	4.2%
2024	31.1%	39.5%	35.4%	31.8%	31.3%	31.5%	5.5%	3.4%	4.3%
2025	31.1%	39.3%	35.3%	32.2%	31.8%	31.9%	5.7%	3.6%	4.5%
2026	31.0%	39.2%	35.3%	32.6%	32.3%	32.4%	5.8%	3.7%	4.7%
2027	31.0%	39.0%	35.2%	33.0%	32.7%	32.8%	6.0%	3.9%	4.8%
2028	30.9%	38.9%	35.1%	33.4%	33.2%	33.2%	6.2%	4.1%	5.0%
2029	30.9%	38.8%	35.0%	33.8%	33.6%	33.6%	6.3%	4.3%	5.1%
2030	30.8%	38.6%	35.0%	34.1%	34.0%	33.9%	6.5%	4.5%	5.3%
2031	30.8%	38.5%	34.9%	34.4%	34.4%	34.3%	6.7%	4.7%	5.4%
2032	30.8%	38.4%	34.8%	34.8%	34.8%	34.6%	6.8%	4.9%	5.6%
2033	30.7%	38.3%	34.8%	35.1%	35.1%	34.9%	7.0%	5.1%	5.7%
2034	30.7%	38.2%	34.7%	35.4%	35.5%	35.2%	7.1%	5.3%	5.9%
2035	30.7%	38.1%	34.7%	35.6%	35.8%	35.5%	7.3%	5.5%	6.0%
2036	30.6%	38.0%	34.6%	35.9%	36.1%	35.8%	7.4%	5.7%	6.2%
2037	30.6%	38.0%	34.6%	36.1%	36.4%	36.1%	7.5%	5.8%	6.3%
2038	30.6%	37.9%	34.5%	36.4%	36.7%	36.3%	7.6%	6.0%	6.4%
2039	30.6%	37.8%	34.5%	36.6%	36.9%	36.5%	7.8%	6.2%	6.6%
2040	30.5%	37.8%	34.4%	36.8%	37.1%	36.7%	7.9%	6.4%	6.7%

Appendix 4. Overweight and obesity prevalence projections for adults (aged 16+) in Scotland by sex and year

Year	Overweight (BMI 25-29.9)			Obesity (BMI 30+)			Severe obesity (BMI 40+)		
	Females	Males	Persons	Females	Males	Persons	Females	Males	Persons
2020	32.0%	40.0%	36.1%	30.6%	28.6%	29.6%	4.8%	2.6%	3.5%
2021	31.9%	39.8%	36.0%	30.9%	28.9%	29.9%	4.9%	2.7%	3.5%
2022	31.8%	39.7%	35.9%	31.1%	29.1%	30.1%	5.1%	2.8%	3.6%
2023	31.7%	39.5%	35.8%	31.4%	29.4%	30.4%	5.2%	2.8%	3.7%
2024	31.6%	39.4%	35.7%	31.6%	29.6%	30.6%	5.3%	2.9%	3.8%
2025	31.5%	39.2%	35.6%	31.8%	29.8%	30.8%	5.4%	3.0%	3.8%
2026	31.4%	39.1%	35.5%	32.0%	30.1%	31.0%	5.5%	3.1%	3.9%
2027	31.3%	39.0%	35.4%	32.2%	30.3%	31.2%	5.6%	3.2%	4.0%
2028	31.3%	38.8%	35.3%	32.4%	30.5%	31.4%	5.7%	3.3%	4.1%
2029	31.2%	38.7%	35.2%	32.6%	30.7%	31.6%	5.8%	3.4%	4.1%
2030	31.1%	38.6%	35.1%	32.8%	30.9%	31.8%	5.9%	3.4%	4.2%
2031	31.0%	38.5%	35.0%	33.0%	31.1%	32.0%	6.0%	3.5%	4.2%
2032	31.0%	38.4%	35.0%	33.2%	31.2%	32.2%	6.1%	3.6%	4.3%
2033	30.9%	38.3%	34.9%	33.3%	31.4%	32.3%	6.2%	3.7%	4.4%
2034	30.9%	38.2%	34.8%	33.5%	31.6%	32.5%	6.3%	3.7%	4.4%
2035	30.8%	38.1%	34.8%	33.6%	31.7%	32.6%	6.4%	3.8%	4.5%
2036	30.8%	38.0%	34.7%	33.7%	31.9%	32.7%	6.5%	3.9%	4.5%
2037	30.7%	38.0%	34.7%	33.9%	32.0%	32.9%	6.6%	3.9%	4.6%
2038	30.7%	37.9%	34.6%	34.0%	32.1%	33.0%	6.6%	4.0%	4.6%
2039	30.6%	37.8%	34.6%	34.1%	32.2%	33.1%	6.7%	4.1%	4.7%
2040	30.6%	37.8%	34.5%	34.2%	32.3%	33.2%	6.8%	4.1%	4.7%

Appendix 5. Overweight and obesity prevalence projections for adults (aged 16+) in Wales by sex and year

Year	Overweight (BMI 25-29.9)			Obesity (BMI 30+)			Severe obesity (BMI 40+)		
	Females	Males	Persons	Females	Males	Persons	Females	Males	Persons
2016	31.0%	39.8%	35.4%	24.5%	23.7%	24.1%	3.3%	2.1%	2.7%
2017	31.0%	39.7%	35.3%	24.9%	24.2%	24.5%	3.4%	2.2%	2.8%
2018	30.9%	39.5%	35.3%	25.4%	24.6%	25.0%	3.5%	2.4%	2.9%
2019	30.9%	39.4%	35.2%	25.8%	25.0%	25.4%	3.7%	2.5%	3.0%
2020	30.9%	39.2%	35.2%	26.3%	25.4%	25.8%	3.8%	2.7%	3.1%
2021	30.9%	39.1%	35.1%	26.7%	25.7%	26.2%	3.9%	2.8%	3.3%
2022	30.9%	39.0%	35.1%	27.1%	26.1%	26.6%	4.0%	3.0%	3.4%
2023	30.9%	38.9%	35.0%	27.6%	26.5%	27.0%	4.1%	3.1%	3.5%
2024	30.9%	38.7%	34.9%	28.0%	26.8%	27.4%	4.2%	3.3%	3.6%
2025	30.9%	38.6%	34.9%	28.4%	27.2%	27.8%	4.3%	3.4%	3.7%
2026	30.9%	38.5%	34.9%	28.7%	27.5%	28.1%	4.4%	3.6%	3.8%
2027	30.8%	38.4%	34.8%	29.1%	27.9%	28.5%	4.5%	3.7%	3.9%
2028	30.8%	38.3%	34.8%	29.5%	28.2%	28.8%	4.6%	3.9%	4.0%
2029	30.8%	38.2%	34.7%	29.8%	28.5%	29.1%	4.7%	4.0%	4.1%
2030	30.8%	38.1%	34.7%	30.2%	28.8%	29.5%	4.8%	4.2%	4.2%
2031	30.8%	38.1%	34.6%	30.5%	29.1%	29.8%	4.9%	4.3%	4.3%
2032	30.8%	38.0%	34.6%	30.8%	29.3%	30.1%	4.9%	4.4%	4.4%
2033	30.8%	37.9%	34.6%	31.1%	29.6%	30.3%	5.0%	4.5%	4.5%
2034	30.8%	37.8%	34.5%	31.4%	29.9%	30.6%	5.1%	4.6%	4.5%
2035	30.7%	37.7%	34.5%	31.7%	30.1%	30.9%	5.1%	4.7%	4.6%
2036	30.7%	37.7%	34.5%	31.9%	30.3%	31.1%	5.2%	4.8%	4.6%
2037	30.7%	37.6%	34.5%	32.2%	30.5%	31.3%	5.2%	4.9%	4.7%
2038	30.7%	37.6%	34.4%	32.4%	30.7%	31.5%	5.2%	4.9%	4.7%
2039	30.7%	37.5%	34.4%	32.6%	30.9%	31.7%	5.2%	5.0%	4.7%
2040	30.7%	37.5%	34.4%	32.8%	31.1%	31.9%	5.3%	5.0%	4.7%

Appendix 6. Overweight and obesity prevalence projections for adults (aged 16+) in Northern Ireland by sex and year

Year	Overweight (BMI 25-29.9)			Obesity (BMI 30+)			Severe obesity (BMI 40+)		
	Females	Males	Persons	Females	Males	Persons	Females	Males	Persons
2020	32.3%	41.1%	36.6%	26.5%	28.4%	27.4%	3.3%	2.6%	3.0%
2021	32.3%	41.0%	36.6%	26.8%	28.8%	27.8%	3.4%	2.8%	3.1%
2022	32.3%	40.9%	36.5%	27.2%	29.1%	28.1%	3.4%	2.9%	3.2%
2023	32.3%	40.8%	36.5%	27.5%	29.5%	28.5%	3.5%	3.1%	3.3%
2024	32.4%	40.7%	36.4%	27.9%	29.8%	28.8%	3.6%	3.2%	3.4%
2025	32.4%	40.6%	36.4%	28.2%	30.1%	29.1%	3.7%	3.4%	3.5%
2026	32.4%	40.5%	36.3%	28.5%	30.4%	29.4%	3.7%	3.5%	3.6%
2027	32.4%	40.4%	36.3%	28.8%	30.8%	29.7%	3.8%	3.7%	3.7%
2028	32.5%	40.3%	36.3%	29.1%	31.0%	30.0%	3.9%	3.8%	3.8%
2029	32.5%	40.2%	36.2%	29.4%	31.3%	30.3%	3.9%	4.0%	3.9%
2030	32.5%	40.1%	36.2%	29.7%	31.6%	30.6%	4.0%	4.1%	4.0%
2031	32.5%	40.0%	36.1%	29.9%	31.9%	30.8%	4.1%	4.3%	4.1%
2032	32.5%	40.0%	36.1%	30.2%	32.1%	31.1%	4.1%	4.5%	4.2%
2033	32.6%	39.9%	36.1%	30.4%	32.4%	31.3%	4.2%	4.6%	4.3%
2034	32.6%	39.8%	36.0%	30.7%	32.6%	31.6%	4.2%	4.8%	4.3%
2035	32.6%	39.7%	36.0%	30.9%	32.8%	31.8%	4.3%	4.9%	4.4%
2036	32.6%	39.7%	35.9%	31.1%	33.0%	32.0%	4.3%	5.1%	4.5%
2037	32.6%	39.6%	35.9%	31.3%	33.2%	32.2%	4.4%	5.2%	4.6%
2038	32.6%	39.6%	35.9%	31.5%	33.4%	32.3%	4.4%	5.3%	4.7%
2039	32.6%	39.5%	35.8%	31.6%	33.5%	32.5%	4.5%	5.5%	4.7%
2040	32.7%	39.5%	35.8%	31.8%	33.7%	32.6%	4.5%	5.6%	4.8%

Appendix 7. 2019 observed and 2040 projected obesity (BMI 30+) prevalence in adults (aged 16+) by deprivation quintile and country

Country	Deprivation Quintile	2019 observed	2040 projected	Difference between 2019 and 2040	
				Percentage-point (absolute difference)	Percentage change (relative difference)
England	1 (least)	22.1%	25.4%	3.3	14.9%
	2	25.7%	29.5%	3.9	15.1%
	3	28.9%	36.4%	7.5	25.8%
	4	28.9%	35.4%	6.5	22.5%
	5 (most)	34.9%	46.3%	11.3	32.4%
Scotland	1 (least)	22.0%	18.8%	-3.2	-14.7%
	2	25.0%	26.9%	1.9	7.5%
	3	29.0%	31.5%	2.5	8.5%
	4	34.0%	44.1%	10.1	29.6%
	5 (most)	36.0%	40.8%	4.8	13.4%
Wales	1 (least)	17.4%	22.2%	4.7	27.0%
	2	21.7%	27.7%	6.0	27.8%
	3	24.2%	32.7%	8.6	35.5%
	4	27.4%	38.0%	10.6	38.5%
	5 (most)	29.1%	36.3%	7.3	25.0%

Appendix 8. Overweight (BMI 25-29.9) and obesity (BMI 30+) prevalence projections for 2015-2019, using data from 1993-2014 in England

Year	Observed		Projected	
	Overweight	Obesity	Overweight	Obesity
2015	36.1%	26.9%	36.8%	27.6%
2016	35.2%	26.2%	36.8%	28.1%
2017	35.6%	28.7%	36.7%	28.6%
2018	35.5%	27.7%	36.6%	29.1%
2019	36.2%	28.0%	36.6%	29.5%

Appendix 9. Overweight and obesity (BMI 25+) prevalence projections as sum of overweight plus obese categories versus as overweight and obesity combined for England

Year	Overweight (BMI 25-29.9) plus obesity (BMI 30+)			Overweight and obesity (25+)		
	Persons	Females	Males	Persons	Females	Males
2020	65.4%	61.3%	69.4%	64.9%	60.9%	68.8%
2021	65.8%	61.7%	69.8%	65.2%	61.2%	69.0%
2022	66.2%	62.1%	70.1%	65.5%	61.6%	69.3%
2023	66.6%	62.5%	70.5%	65.8%	61.9%	69.5%
2024	66.9%	62.9%	70.8%	66.0%	62.1%	69.7%
2025	67.3%	63.3%	71.1%	66.3%	62.4%	69.9%
2026	67.6%	63.6%	71.5%	66.5%	62.7%	70.1%
2027	68.0%	64.0%	71.8%	66.7%	62.9%	70.3%
2028	68.3%	64.3%	72.1%	67.0%	63.2%	70.5%
2029	68.6%	64.6%	72.4%	67.2%	63.4%	70.7%
2030	68.9%	64.9%	72.7%	67.4%	63.6%	70.8%
2031	69.2%	65.2%	72.9%	67.6%	63.9%	71.0%
2032	69.4%	65.5%	73.2%	67.7%	64.0%	71.1%
2033	69.7%	65.8%	73.4%	67.9%	64.2%	71.3%
2034	70.0%	66.1%	73.7%	68.1%	64.4%	71.4%
2035	70.2%	66.3%	73.9%	68.2%	64.6%	71.5%
2036	70.4%	66.5%	74.1%	68.3%	64.7%	71.6%
2037	70.6%	66.7%	74.4%	68.5%	64.9%	71.8%
2038	70.8%	67.0%	74.6%	68.6%	65.0%	71.9%
2039	71.0%	67.1%	74.7%	68.7%	65.1%	71.9%
2040	71.2%	67.3%	74.9%	68.8%	65.2%	72.0%

Appendix 10. 5th and 95th centiles of the response distribution for adult overweight and obesity prevalence projections in the UK

Year	Overweight (BMI 25-29.9)			Obese (BMI 30+)			Severely obese (BMI 40+)		
	Females 5 th , 95 th centile	Males 5 th , 95 th centile	Persons 5 th , 95 th centile	Females 5 th , 95 th centile	Males 5 th , 9 th centile	Persons 5 th , 95 th centile	Females 5 th , 9 th centile	Males 5 th , 95 th centiles	Persons, 5 th , 95 th centile
2020	30.24%, 32.60%	38.68%, 41.57%	34.85%, 36.86%	27.94%, 31.56%	26.43%, 31.69%	27.41%, 31.33%	4.07%, 5.34%	2.22%, 3.20%	3.21%, 4.07%
2021	30.19%, 32.53%	38.53%, 41.39%	34.77%, 36.75%	28.38%, 31.99%	26.95%, 32.16%	27.89%, 31.77%	4.23%, 5.51%	2.37%, 3.36%	3.36%, 4.22%
2022	30.14%, 32.45%	38.38%, 41.21%	34.68%, 36.65%	28.82%, 32.41%	27.45%, 32.62%	28.35%, 32.21%	4.39%, 5.67%	2.52%, 3.52%	3.50%, 4.37%
2023	30.09%, 32.38%	38.24%, 41.04%	34.60%, 36.55%	29.24%, 32.81%	27.94%, 33.07%	28.81%, 32.63%	4.55%, 5.84%	2.68%, 3.69%	3.65%, 4.52%
2024	30.05%, 32.31%	38.11%, 40.88%	34.52%, 36.45%	29.65%, 33.21%	28.42%, 33.51%	29.24%, 33.04%	4.71%, 6.00%	2.84%, 3.87%	3.79%, 4.67%
2025	30.01%, 32.25%	37.98%, 40.73%	34.44%, 36.36%	30.05%, 33.59%	28.88%, 33.94%	29.67%, 33.44%	4.87%, 6.16%	3.01%, 4.04%	3.94%, 4.81%
2026	29.97%, 32.19%	37.86%, 40.58%	34.37%, 36.27%	30.44%, 33.96%	29.33%, 34.35%	30.08%, 33.82%	5.02%, 6.32%	3.18%, 4.22%	4.08%, 4.96%
2027	29.93%, 32.13%	37.74%, 40.43%	34.30%, 36.19%	30.82%, 34.32%	29.76%, 34.75%	30.48%, 34.19%	5.18%, 6.48%	3.35%, 4.40%	4.23%, 5.11%
2028	29.89%, 32.07%	37.62%, 40.30%	34.23%, 36.11%	31.18%, 34.66%	30.19%, 35.14%	30.87%, 34.55%	5.33%, 6.64%	3.52%, 4.58%	4.37%, 5.25%
2029	29.85%, 32.01%	37.51%, 40.16%	34.16%, 36.03%	31.52%, 35.00%	30.59%, 35.51%	31.24%, 34.90%	5.48%, 6.79%	3.70%, 4.77%	4.51%, 5.40%
2030	29.82%, 31.96%	37.41%, 40.04%	34.10%, 35.95%	31.86%, 35.32%	30.98%, 35.87%	31.60%, 35.23%	5.63%, 6.95%	3.87%, 4.95%	4.66%, 5.54%
2031	29.79%, 31.91%	37.31%, 39.92%	34.04%, 35.88%	32.18%, 35.62%	31.36%, 36.22%	31.94%, 35.55%	5.78%, 7.10%	4.05%, 5.14%	4.79%, 5.68%
2032	29.75%, 31.86%	37.22%, 39.81%	33.99%, 35.82%	32.48%, 35.92%	31.72%, 36.55%	32.27%, 35.86%	5.92%, 7.24%	4.23%, 5.33%	4.93%, 5.82%
2033	29.73%, 31.82%	37.13%, 39.70%	33.93%, 35.75%	32.77%, 36.20%	32.06%, 36.87%	32.58%, 36.15%	6.06%, 7.38%	4.41%, 5.52%	5.06%, 5.96%
2034	29.70%, 31.77%	37.05%, 39.60%	33.88%, 35.69%	33.05%, 36.46%	32.38%, 37.17%	32.88%, 36.42%	6.19%, 7.52%	4.59%, 5.70%	5.20%, 6.09%
2035	29.67%, 31.73%	36.97%, 39.51%	33.83%, 35.64%	33.31%, 36.71%	32.69%, 37.46%	33.16%, 36.68%	6.33%, 7.65%	4.77%, 5.89%	5.32%, 6.22%
2036	29.65%, 31.69%	36.90%, 39.42%	33.79%, 35.58%	33.56%, 36.95%	32.98%, 37.73%	33.42%, 36.93%	6.45%, 7.78%	4.95%, 6.08%	5.45%, 6.34%
2037	29.62%, 31.66%	36.83%, 39.34%	33.75%, 35.54%	33.78%, 37.17%	33.25%, 37.98%	33.67%, 37.16%	6.58%, 7.91%	5.12%, 6.26%	5.57%, 6.46%
2038	29.60%, 31.63%	36.77%, 39.26%	33.71%, 35.49%	34.00%, 37.38%	33.51%, 38.22%	33.90%, 37.37%	6.69%, 8.03%	5.29%, 6.43%	5.68%, 6.58%
2039	29.58%, 31.60%	36.71%, 39.19%	33.67%, 35.45%	34.20%, 37.58%	33.74%, 38.44%	34.11%, 37.57%	6.80%, 8.14%	5.46%, 6.61%	5.79%, 6.69%
2040	29.56%, 31.57%	36.65%, 39.12%	33.64%, 35.41%	34.38%, 37.75%	33.95%, 38.64%	34.30%, 37.75%	6.91%, 8.24%	5.62%, 6.77%	5.89%, 6.79%

Appendix 11. 5th and 95th centiles of the response distribution for adult overweight and obesity prevalence projections in England

Year	Overweight (BMI 25-29.9)			Obese (BMI 30+)			Severely obese (BMI 40+)		
	Females 5 th , 95 th centile	Males 5 th , 9 th centile	Persons 5 th , 95 th centile	Females 5 th , 95 th centile	Males 5 th , 95 th centile	Persons 5 th , 95 th centile	Females 5 th , 95 th centile	Males 5 th , 95 th centile	Persons 5 th , 95 th centile
2020	30.17%, 32.55%	38.75%, 41.54%	34.82%, 36.86%	27.97%, 31.97%	26.53%, 32.10%	27.47%, 31.75%	4.16%, 5.42%	2.23%, 3.22%	3.27%, 4.15%
2021	30.12%, 32.47%	38.60%, 41.36%	34.73%, 36.75%	28.44%, 32.41%	27.07%, 32.60%	27.98%, 32.22%	4.33%, 5.60%	2.38%, 3.39%	3.43%, 4.31%
2022	30.07%, 32.39%	38.45%, 41.18%	34.64%, 36.65%	28.89%, 32.85%	27.61%, 33.10%	28.47%, 32.68%	4.50%, 5.77%	2.55%, 3.56%	3.58%, 4.47%
2023	30.02%, 32.32%	38.30%, 41.01%	34.56%, 36.54%	29.34%, 33.27%	28.13%, 33.60%	28.95%, 33.12%	4.67%, 5.95%	2.71%, 3.74%	3.74%, 4.62%
2024	29.97%, 32.25%	38.16%, 40.84%	34.48%, 36.45%	29.77%, 33.69%	28.64%, 34.10%	29.41%, 33.56%	4.84%, 6.12%	2.89%, 3.92%	3.89%, 4.78%
2025	29.93%, 32.18%	38.03%, 40.68%	34.40%, 36.35%	30.19%, 34.08%	29.14%, 34.50%	29.86%, 33.98%	5.01%, 6.30%	3.06%, 4.11%	4.05%, 4.94%
2026	29.89%, 32.12%	37.90%, 40.53%	34.33%, 36.26%	30.60%, 34.47%	29.62%, 35.00%	30.30%, 34.38%	5.18%, 6.47%	3.24%, 4.30%	4.21%, 5.10%
2027	29.85%, 32.05%	37.78%, 40.38%	34.25%, 36.17%	30.99%, 34.85%	30.08%, 35.40%	30.72%, 34.78%	5.34%, 6.64%	3.42%, 4.49%	4.36%, 5.26%
2028	29.81%, 31.99%	37.66%, 40.24%	34.18%, 36.09%	31.37%, 35.21%	30.53%, 35.80%	31.13%, 35.15%	5.51%, 6.80%	3.60%, 4.68%	4.51%, 5.42%
2029	29.77%, 31.94%	37.55%, 40.10%	34.12%, 36.01%	31.73%, 35.55%	30.97%, 36.20%	31.52%, 35.52%	5.67%, 6.97%	3.79%, 4.88%	4.67%, 5.58%
2030	29.74%, 31.88%	37.44%, 39.98%	34.05%, 35.93%	32.08%, 35.89%	31.38%, 36.60%	31.90%, 35.87%	5.83%, 7.13%	3.98%, 5.08%	4.82%, 5.73%
2031	29.70%, 31.83%	37.34%, 39.85%	33.99%, 35.86%	32.41%, 36.21%	31.78%, 37.00%	32.26%, 36.20%	5.99%, 7.29%	4.17%, 5.28%	4.97%, 5.88%
2032	29.67%, 31.78%	37.24%, 39.74%	33.94%, 35.79%	32.73%, 36.52%	32.17%, 37.30%	32.61%, 36.52%	6.14%, 7.45%	4.36%, 5.48%	5.12%, 6.03%
2033	29.64%, 31.73%	37.15%, 39.63%	33.88%, 35.73%	33.04%, 36.81%	32.53%, 37.70%	32.94%, 36.83%	6.29%, 7.60%	4.56%, 5.69%	5.26%, 6.18%
2034	29.61%, 31.69%	37.07%, 39.53%	33.83%, 35.67%	33.32%, 37.08%	32.88%, 38.00%	33.25%, 37.12%	6.44%, 7.75%	4.75%, 5.89%	5.41%, 6.33%
2035	29.58%, 31.65%	36.99%, 39.43%	33.78%, 35.61%	33.60%, 37.35%	33.20%, 38.30%	33.54%, 37.39%	6.58%, 7.90%	4.95%, 6.09%	5.55%, 6.47%
2036	29.56%, 31.61%	36.91%, 39.34%	33.74%, 35.56%	33.85%, 37.59%	33.51%, 38.60%	33.82%, 37.65%	6.72%, 8.04%	5.14%, 6.29%	5.68%, 6.60%
2037	29.53%, 31.57%	36.84%, 39.25%	33.70%, 35.51%	34.09%, 37.83%	33.80%, 38.90%	34.08%, 37.89%	6.86%, 8.17%	5.33%, 6.49%	5.81%, 6.74%
2038	29.51%, 31.54%	36.78%, 39.17%	33.66%, 35.46%	34.31%, 38.04%	34.07%, 39.10%	34.32%, 38.11%	6.98%, 8.30%	5.52%, 6.68%	5.94%, 6.86%
2039	29.49%, 31.51%	36.72%, 39.10%	33.62%, 35.42%	34.52%, 38.24%	34.32%, 39.30%	34.54%, 38.32%	7.11%, 8.42%	5.70%, 6.87%	6.06%, 6.99%
2040	29.47%, 31.48%	36.66%, 39.04%	33.59%, 35.38%	34.71%, 38.43%	34.54%, 39.60%	34.75%, 38.50%	7.22%, 8.54%	5.88%, 7.06%	6.17%, 7.10%

Appendix 12. 5th and 95th centiles of the response distribution for adult overweight and obesity prevalence projections in Scotland

Year	Overweight (BMI 25-29.9)			Obese (BMI 30+)			Severely obese (BMI 40+)		
	Females	Males	Persons	Females	Males	Persons	Females	Males	Persons
	5 th , 95 th centile	5 th , 95 th centile	5 th , 95 th centile	5 th , 95 th centile	5 th , 95 th centile	5 th , 95 th centile	5 th , 95 th centile	5 th , 95 th centile	5 th , 95 th centile
2020	30.98%, 33.07%	38.50%, 41.53%	35.30%, 36.94%	29.87%, 31.40%	26.75%, 30.50%	28.65%, 30.60%	3.91%, 5.77%	2.07%, 3.10%	3.00%, 3.93%
2021	30.88%, 32.96%	38.36%, 41.36%	35.20%, 36.82%	30.13%, 31.65%	27.02%, 30.70%	28.92%, 30.84%	4.02%, 5.89%	2.15%, 3.19%	3.07%, 4.01%
2022	30.79%, 32.85%	38.23%, 41.20%	35.10%, 36.70%	30.38%, 31.88%	27.29%, 31.00%	29.17%, 31.08%	4.13%, 6.02%	2.23%, 3.28%	3.15%, 4.08%
2023	30.71%, 32.74%	38.10%, 41.04%	35.00%, 36.59%	30.63%, 32.11%	27.55%, 31.20%	29.42%, 31.30%	4.24%, 6.14%	2.32%, 3.36%	3.22%, 4.16%
2024	30.62%, 32.64%	37.97%, 40.88%	34.90%, 36.48%	30.86%, 32.33%	27.80%, 31.40%	29.66%, 31.52%	4.35%, 6.26%	2.40%, 3.45%	3.29%, 4.23%
2025	30.54%, 32.55%	37.85%, 40.73%	34.81%, 36.37%	31.09%, 32.55%	28.04%, 31.60%	29.89%, 31.74%	4.45%, 6.38%	2.48%, 3.54%	3.36%, 4.30%
2026	30.47%, 32.45%	37.73%, 40.59%	34.72%, 36.27%	31.31%, 32.75%	28.27%, 31.80%	30.12%, 31.94%	4.55%, 6.49%	2.56%, 3.62%	3.42%, 4.37%
2027	30.39%, 32.36%	37.62%, 40.46%	34.64%, 36.18%	31.52%, 32.95%	28.50%, 32.00%	30.34%, 32.14%	4.66%, 6.61%	2.64%, 3.71%	3.49%, 4.44%
2028	30.32%, 32.28%	37.52%, 40.33%	34.56%, 36.08%	31.73%, 33.14%	28.71%, 32.20%	30.55%, 32.33%	4.75%, 6.72%	2.72%, 3.79%	3.55%, 4.50%
2029	30.25%, 32.19%	37.41%, 40.20%	34.48%, 36.00%	31.93%, 33.33%	28.92%, 32.40%	30.75%, 32.52%	4.85%, 6.83%	2.79%, 3.87%	3.62%, 4.57%
2030	30.19%, 32.12%	37.32%, 40.08%	34.41%, 35.91%	32.12%, 33.50%	29.12%, 32.60%	30.94%, 32.69%	4.95%, 6.93%	2.87%, 3.95%	3.68%, 4.63%
2031	30.13%, 32.04%	37.23%, 39.97%	34.34%, 35.83%	32.30%, 33.67%	29.31%, 32.70%	31.13%, 32.86%	5.04%, 7.03%	2.94%, 4.03%	3.74%, 4.69%
2032	30.07%, 31.97%	37.14%, 39.87%	34.27%, 35.75%	32.47%, 33.83%	29.49%, 32.90%	31.30%, 33.03%	5.13%, 7.13%	3.02%, 4.10%	3.79%, 4.75%
2033	30.01%, 31.91%	37.06%, 39.77%	34.21%, 35.68%	32.63%, 33.98%	29.66%, 33.00%	31.47%, 33.18%	5.22%, 7.23%	3.09%, 4.18%	3.85%, 4.80%
2034	29.96%, 31.84%	36.98%, 39.67%	34.15%, 35.61%	32.79%, 34.12%	29.83%, 33.20%	31.63%, 33.33%	5.30%, 7.32%	3.16%, 4.25%	3.90%, 4.86%
2035	29.91%, 31.79%	36.90%, 39.59%	34.10%, 35.55%	32.93%, 34.26%	29.98%, 33.30%	31.78%, 33.47%	5.38%, 7.41%	3.23%, 4.32%	3.95%, 4.91%
2036	29.86%, 31.73%	36.84%, 39.50%	34.05%, 35.49%	33.07%, 34.39%	30.12%, 33.40%	31.92%, 33.60%	5.46%, 7.49%	3.29%, 4.39%	4.00%, 4.96%
2037	29.82%, 31.68%	36.77%, 39.43%	34.00%, 35.43%	33.20%, 34.51%	30.26%, 33.50%	32.06%, 33.72%	5.53%, 7.57%	3.36%, 4.45%	4.05%, 5.01%
2038	29.78%, 31.63%	36.71%, 39.36%	33.95%, 35.38%	33.32%, 34.62%	30.38%, 33.60%	32.18%, 33.84%	5.60%, 7.65%	3.42%, 4.52%	4.09%, 5.05%
2039	29.74%, 31.59%	36.66%, 39.29%	33.91%, 35.33%	33.44%, 34.72%	30.50%, 33.80%	32.30%, 33.95%	5.67%, 7.72%	3.48%, 4.57%	4.13%, 5.09%
2040	29.71%, 31.55%	36.61%, 39.23%	33.87%, 35.29%	33.54%, 34.81%	30.60%, 33.80%	32.40%, 34.05%	5.73%, 7.79%	3.53%, 4.63%	4.17%, 5.13%

Appendix 13. 5th and 95th centiles of the response distribution for adult overweight and obesity prevalence projections in Wales

Year	Overweight (BMI 25-29.9)			Obese (BMI 30+)			Severely obese (BMI 40+)		
	Females	Males	Persons	Female	Males	Persons	Females	Males	Persons
	5 th , 95 th centile	5 th , 95 th centile	5 th , 95 th centile	5 th , 95 th centile	5 th , 95 th centile	5 th , 95 th centile	5 th , 95 th centile	5 th , 95 th centile	5 th , 95 th centile
2016	30.17%, 31.81%	39.14%, 40.50%	34.95%, 35.89%	23.82%, 25.11%	22.50%, 25.00%	23.25%, 24.96%	3.01%, 3.58%	1.88%, 2.32%	2.47%, 2.88%
2017	30.16%, 31.80%	39.00%, 40.35%	34.89%, 35.82%	24.29%, 25.57%	22.92%, 25.40%	23.69%, 25.40%	3.14%, 3.70%	2.02%, 2.47%	2.59%, 3.00%
2018	30.15%, 31.78%	38.86%, 40.20%	34.84%, 35.76%	24.75%, 26.03%	23.34%, 25.80%	24.13%, 25.82%	3.26%, 3.82%	2.16%, 2.61%	2.71%, 3.12%
2019	30.13%, 31.77%	38.73%, 40.07%	34.78%, 35.69%	25.21%, 26.48%	23.75%, 26.20%	24.56%, 26.24%	3.38%, 3.94%	2.30%, 2.76%	2.83%, 3.24%
2020	30.12%, 31.76%	38.61%, 39.93%	34.73%, 35.63%	25.66%, 26.91%	24.15%, 26.60%	24.98%, 26.65%	3.49%, 4.05%	2.45%, 2.91%	2.95%, 3.35%
2021	30.11%, 31.75%	38.49%, 39.80%	34.67%, 35.57%	26.09%, 27.34%	24.54%, 27.00%	25.39%, 27.05%	3.61%, 4.16%	2.59%, 3.06%	3.07%, 3.47%
2022	30.10%, 31.73%	38.37%, 39.68%	34.62%, 35.52%	26.52%, 27.76%	24.93%, 27.30%	25.80%, 27.44%	3.72%, 4.28%	2.74%, 3.21%	3.19%, 3.58%
2023	30.09%, 31.72%	38.26%, 39.55%	34.57%, 35.46%	26.94%, 28.17%	25.3%, 27.70%	26.19%, 27.82%	3.83%, 4.38%	2.89%, 3.37%	3.30%, 3.70%
2024	30.08%, 31.71%	38.15%, 39.44%	34.53%, 35.41%	27.34%, 28.57%	25.66%, 28.00%	26.57%, 28.19%	3.94%, 4.49%	3.04%, 3.53%	3.42%, 3.81%
2025	30.07%, 31.69%	38.04%, 39.33%	34.48%, 35.36%	27.74%, 28.96%	26.02%, 28.40%	26.95%, 28.56%	4.04%, 4.59%	3.19%, 3.68%	3.53%, 3.92%
2026	30.06%, 31.68%	37.94%, 39.22%	34.44%, 35.31%	28.12%, 29.34%	26.36%, 28.70%	27.31%, 28.91%	4.14%, 4.69%	3.35%, 3.84%	3.64%, 4.02%
2027	30.05%, 31.67%	37.85%, 39.12%	34.39%, 35.26%	28.49%, 29.70%	26.70%, 29.00%	27.66%, 29.25%	4.24%, 4.78%	3.49%, 3.99%	3.74%, 4.12%
2028	30.03%, 31.66%	37.75%, 39.02%	34.35%, 35.21%	28.85%, 30.06%	27.02%, 29.30%	28.00%, 29.58%	4.33%, 4.87%	3.64%, 4.14%	3.84%, 4.22%
2029	30.02%, 31.64%	37.66%, 38.93%	34.32%, 35.17%	29.20%, 30.40%	27.33%, 29.60%	28.33%, 29.90%	4.42%, 4.95%	3.79%, 4.29%	3.94%, 4.32%
2030	30.01%, 31.63%	37.58%, 38.84%	34.28%, 35.13%	29.53%, 30.73%	27.64%, 29.90%	28.64%, 30.20%	4.50%, 5.03%	3.93%, 4.44%	4.04%, 4.41%
2031	30.00%, 31.62%	37.50%, 38.75%	34.24%, 35.09%	29.86%, 31.05%	27.93%, 30.10%	28.94%, 30.50%	4.58%, 5.11%	4.07%, 4.58%	4.13%, 4.49%
2032	29.99%, 31.61%	37.42%, 38.67%	34.21%, 35.05%	30.16%, 31.36%	28.20%, 30.40%	29.23%, 30.78%	4.65%, 5.18%	4.20%, 4.72%	4.21%, 4.57%
2033	29.98%, 31.59%	37.35%, 38.60%	34.18%, 35.02%	30.46%, 31.65%	28.47%, 30.70%	29.51%, 31.05%	4.71%, 5.24%	4.32%, 4.85%	4.29%, 4.64%
2034	29.97%, 31.58%	37.28%, 38.53%	34.15%, 34.98%	30.74%, 31.93%	28.72%, 30.90%	29.77%, 31.31%	4.77%, 5.29%	4.43%, 4.97%	4.36%, 4.70%
2035	29.96%, 31.57%	37.22%, 38.46%	34.12%, 34.95%	31.00%, 32.19%	28.96%, 31.10%	30.02%, 31.55%	4.82%, 5.34%	4.53%, 5.08%	4.43%, 4.76%
2036	29.95%, 31.56%	37.16%, 38.40%	34.09%, 34.92%	31.25%, 32.44%	29.18%, 31.30%	30.26%, 31.78%	4.86%, 5.38%	4.62%, 5.18%	4.48%, 4.80%

2037	29.94%, 31.54%	37.10%, 38.34%	34.07%, 34.90%	31.49%, 32.68%	29.40%, 31.50%	30.48%, 31.99%	4.90%, 5.41%	4.70%, 5.26%	4.53%, 4.84%
2038	29.93%, 31.53%	37.05%, 38.29%	34.04%, 34.87%	31.70%, 32.90%	29.60%, 31.70%	30.69%, 32.19%	4.92%, 5.43%	4.75%, 5.33%	4.56%, 4.87%
2039	29.92%, 31.52%	37.00%, 38.24%	34.02%, 34.85%	31.91%, 33.11%	29.78%, 31.90%	30.88%, 32.38%	4.93%, 5.45%	4.79%, 5.38%	4.59%, 4.88%
2040	29.91%, 31.51%	36.95%, 38.19%	34.00%, 34.83%	32.09%, 33.29%	29.95%, 32.00%	31.05%, 32.55%	4.94%, 5.45%	4.81%, 5.41%	4.60%, 4.88%

Appendix 14. 5th and 95th centiles of the response distribution for adult overweight and obesity prevalence projections in Northern Ireland

Year	Overweight (BMI 25-29.9)			Obese (BMI 30+)			Severely obese (BMI 40+)		
	Females	Males	Persons	Females	Males	Persons	Females	Males	Persons
	5 th , 95 th centile	5 th , 95 th centile	5 th , 95 th centile	5 th , 95 th centile	5 th , 95 th centile	5 th , 95 th centile	5 th , 95 th centile	5 th , 95 th centile	5 th , 95 th centile
2020	30.28%, 34.25%	37.17%, 45.29%	34.69%, 38.55%	25.01%, 27.92%	26.56%, 30.20%	26.05%, 28.74%	2.74%, 3.85%	2.02%, 3.28%	2.55%, 3.38%
2021	30.36%, 34.27%	37.09%, 45.12%	34.66%, 38.50%	25.38%, 28.27%	26.94%, 30.55%	26.43%, 29.09%	2.82%, 3.92%	2.15%, 3.43%	2.65%, 3.49%
2022	30.43%, 34.28%	37.01%, 44.97%	34.62%, 38.46%	25.74%, 28.61%	27.30%, 30.89%	26.80%, 29.43%	2.89%, 4.00%	2.29%, 3.58%	2.75%, 3.59%
2023	30.49%, 34.30%	36.93%, 44.82%	34.58%, 38.41%	26.10%, 28.94%	27.65%, 31.22%	27.15%, 29.76%	2.97%, 4.07%	2.43%, 3.73%	2.85%, 3.70%
2024	30.56%, 34.31%	36.86%, 44.67%	34.54%, 38.37%	26.44%, 29.27%	28.00%, 31.54%	27.50%, 30.08%	3.04%, 4.14%	2.57%, 3.89%	2.95%, 3.80%
2025	30.62%, 34.32%	36.79%, 44.53%	34.50%, 38.33%	26.78%, 29.58%	28.33%, 31.84%	27.83%, 30.40%	3.11%, 4.21%	2.71%, 4.04%	3.05%, 3.91%
2026	30.69%, 34.34%	36.72%, 44.39%	34.46%, 38.28%	27.10%, 29.88%	28.65%, 32.14%	28.16%, 30.70%	3.18%, 4.28%	2.85%, 4.20%	3.15%, 4.01%
2027	30.75%, 34.35%	36.65%, 44.27%	34.43%, 38.24%	27.41%, 30.18%	28.97%, 32.43%	28.47%, 30.99%	3.25%, 4.35%	3.00%, 4.36%	3.25%, 4.11%
2028	30.80%, 34.36%	36.59%, 44.14%	34.39%, 38.20%	27.71%, 30.46%	29.27%, 32.71%	28.77%, 31.27%	3.31%, 4.42%	3.15%, 4.52%	3.35%, 4.21%
2029	30.86%, 34.37%	36.53%, 44.02%	34.35%, 38.15%	28.00%, 30.74%	29.55%, 32.98%	29.06%, 31.55%	3.38%, 4.48%	3.29%, 4.68%	3.45%, 4.31%
2030	30.92%, 34.38%	36.47%, 43.91%	34.31%, 38.11%	28.28%, 31.00%	29.83%, 33.23%	29.34%, 31.81%	3.44%, 4.54%	3.44%, 4.84%	3.55%, 4.40%
2031	30.97%, 34.39%	36.42%, 43.80%	34.28%, 38.07%	28.55%, 31.25%	30.10%, 33.48%	29.61%, 32.06%	3.51%, 4.61%	3.59%, 5.00%	3.64%, 4.50%
2032	31.02%, 34.40%	36.37%, 43.70%	34.24%, 38.02%	28.81%, 31.49%	30.35%, 33.71%	29.87%, 32.30%	3.57%, 4.66%	3.74%, 5.16%	3.73%, 4.59%
2033	31.07%, 34.41%	36.32%, 43.61%	34.20%, 37.98%	29.05%, 31.72%	30.59%, 33.93%	30.11%, 32.53%	3.62%, 4.72%	3.89%, 5.32%	3.82%, 4.68%
2034	31.12%, 34.42%	36.27%, 43.52%	34.17%, 37.94%	29.28%, 31.94%	30.82%, 34.14%	30.34%, 32.74%	3.68%, 4.78%	4.04%, 5.48%	3.91%, 4.77%
2035	31.16%, 34.43%	36.23%, 43.43%	34.13%, 37.90%	29.50%, 32.15%	31.03%, 34.34%	30.56%, 32.95%	3.73%, 4.83%	4.19%, 5.63%	4.00%, 4.86%
2036	31.21%, 34.44%	36.19%, 43.35%	34.09%, 37.85%	29.70%, 32.35%	31.23%, 34.53%	30.76%, 33.14%	3.79%, 4.88%	4.34%, 5.79%	4.08%, 4.94%
2037	31.25%, 34.44%	36.15%, 43.28%	34.06%, 37.81%	29.90%, 32.53%	31.42%, 34.70%	30.96%, 33.32%	3.83%, 4.93%	4.48%, 5.94%	4.16%, 5.02%
2038	31.29%, 34.45%	36.11%, 43.21%	34.02%, 37.77%	30.08%, 32.70%	31.60%, 34.86%	31.13%, 33.49%	3.88%, 4.98%	4.62%, 6.08%	4.24%, 5.10%
2039	31.33%, 34.46%	36.08%, 43.15%	33.99%, 37.73%	30.24%, 32.86%	31.76%, 35.01%	31.30%, 33.65%	3.93%, 5.02%	4.76%, 6.22%	4.32%, 5.18%
2040	31.37%, 34.46%	36.05%, 43.09%	33.95%, 37.69%	30.40%, 33.01%	31.91%, 35.15%	31.45%, 33.80%	3.97%, 5.06%	4.89%, 6.36%	4.39%, 5.25%

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