

# **Childhood Overweight and Obesity Warrington Summary 2017/18**

**Including trends from the  
National Child Measurement Programme**

**Academic Years  
2007/08 to 2017/18**

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## VERSION CONTROL

Version	Date amended	Amendments
0.1		Draft
1.0		Final

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November 2018

## INTRODUCTION

### THE NATIONAL CHILD MEASUREMENT PROGRAMME

Analysis of the National Child Measurement Programme (NCMP) data collected from Warrington schools is used to help inform future commissioning of weight management services for children and healthy lifestyles delivery in schools and the local community.

NHS Primary Care Trusts (PCTs) were responsible for undertaking the NCMP programme until they were abolished on 31<sup>st</sup> March 2013; from 1<sup>st</sup> April 2013, responsibility for local delivery of the NCMP programme transferred to Local Authorities (LAs). The NCMP is delivered by the School Nursing Team at Bridgewater Community Healthcare, as part of the 0-19 years Public Health Integrated Service, commissioned by Warrington Borough Council.

Two indicators relating to the NCMP are included in the Public Health Outcomes Framework (PHOF): indicator 2.6i “*the percentage of children aged 4 to 5 classified as overweight or obese*” and indicator 2.6ii “*the percentage of children aged 10 to 11 classified as overweight or obese*”. Therefore, as well as providing information on obesity, this report also includes information on overweight/obesity.

Annually, from the summer of 2006, the heights and weights of Warrington primary school children in Reception (aged 4 and 5) and Year 6 (aged 10 and 11) were measured and collated. This data was made anonymous and uploaded onto the National Childhood Measurement Programme Database, which automatically calculates the BMI for each record. The BMI classification of each child is determined using age and sex as well as height and weight to take into account different growth patterns in boys and girls at different ages. Each child is classified<sup>1</sup> as underweight, healthy weight, overweight or obese. In 2017/18 for the first time, a classification of ‘severely obese’ was added, as a subset of obese.

The data in this report is presented in a number of different ways to enable schools and service providers to evaluate the most appropriate way to address childhood obesity in their area. Prevalence rates are provided by sex, electoral ward, and socio-economic deprivation quintile. It should be used for indicative purposes only, as due to the relatively small numbers, prevalence figures calculated may not be statistically robust. (In some cases, the 95% statistical confidence intervals are shown either as vertical bars on charts or as figures in brackets – see data interpretation section at the end of this report).

### DATA INTERPRETATION

The data in this report is presented in a number of different ways to enable schools and service providers to evaluate the most appropriate way to address childhood obesity in their area. Prevalence rates are provided by sex, ward and deprivation quintile. It should be used for indicative purposes only, as, due to the relatively small numbers, prevalence figures calculated may not be statistically robust.

In the report, prevalence in different sub-groups of children are compared to prevalence in Warrington as a whole. If prevalence in a sub-group is statistically significantly different to Warrington, it will be described as significantly higher/lower. (Significance testing was at the 95% level). If there is quite a large difference in prevalence, but one which is not statistically different, it may be described as substantially different.

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<sup>1</sup> Using the UK 1990 reference population for each age (at 1 month cut offs) and gender, the results were categorised as underweight, healthy weight, overweight or obese. Definitions of overweight and obese are described in the Health and Social Care Information Centre report *National Child Measurement Programme - England, 2014/15 School Year* as the 85th and 95th centiles on the UK BMI 1990 growth charts. (NB This is different to the clinical definition, which uses the 91st and 98th centiles.) The definition used for underweight is below the 2nd centile. In 2017/18, for the first time figures have been published by NHS Digital on the prevalence of ‘severely obese’, defined as above the 99.6th centile. More information is available from NHS Digital at <https://digital.nhs.uk/data-and-information/publications/statistical/national-child-measurement-programme/2014-15-school-year>

## KEY FINDINGS 2017/18

The analysis presented in this report is based on children measured at a Warrington primary school<sup>2</sup>.

- The participation rate in Reception in 2017/18 was higher in Warrington (99.1%) than in England (95.2%) and the North West (95.5%). In Year 6, the Warrington rate (97.3%) was also higher than in England (94.3%) and the North West (94.7%).
- Prevalence of obesity and prevalence of overweight/obesity in Warrington fluctuate over time, but in the past have consistently been lower than the North West, and either lower or similar to England. However, in 2017/18, in both Reception and Year 6, prevalence rose sharply in Warrington. In Year 6, although the gap has narrowed, Warrington prevalence is still lower than England and the North West, but in Reception, for the first time, prevalence was significantly higher than England and the North West.
- Approximately 1 in 5 Reception children and 1 in 3 Year 6 children were either overweight/obese.
- Approximately 1 in 9 Reception children and 1 in 5 Year 6 children were obese.
- More than 1 in 40 Reception children and more than 1 in 20 Year 6 children were categorised as severely obese.
- In Warrington obesity prevalence in Year 6 (19.5%) is much higher than that in Reception (11.5%). This is also the case for the North West and for England, where prevalence in Year 6 is more than double the prevalence in Reception.
- Obesity prevalence is higher in the more socio-economically deprived areas of Warrington. In Reception, it was 13.4% in the 20% most deprived areas, compared to 8.1% in the 20% least deprived areas. In Year 6, it was 26.7% in the most deprived areas, two-and-a-half times that in the least deprived areas (10.8%).
- Analysis was carried out to investigate whether the rise in prevalence was concentrated in any particular sub-groups of children. It compared girls/boys, location (electoral wards, and groups of wards), and socio-economic deprivation. Usually obesity prevalence is higher in more deprived areas; analysis was carried out to see whether there had been an increase in the proportion of children from deprived areas, which could have explained the sudden rise in Warrington obesity prevalence, but it was not the case.

### Reception overweight/obese

- In the past, Warrington prevalence fluctuated substantially from year to year, mostly between 19% and 22%, and was generally lower than England and the North West. However, in 2017/18, it rose sharply in Warrington by 4 percentage points, from 21.9% to 25.9%, and for the first time was significantly higher than England (22.4%) and the North West (23.9%).
- Both nationally and in Warrington, usually prevalence is higher in boys than in girls, but in 2017/18 overweight/obesity in Warrington was higher in girls (26.5%) than boys (25.3%).
- The increase from 2016/17 to 2017/18 was much more extreme in girls; a 5.6 percentage point rise in girls and a 2.5 percentage point rise in boys.

### Reception obese

- In the past, Warrington prevalence has generally been lower than England and the North West, but in 2017/18, it rose sharply in Warrington from 9.3% to 11.5% (i.e. approximately 1 in 9 children). For the first time it was higher than the North West (10.2%), and significantly higher than England (9.5%).

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<sup>2</sup> Most children attending Warrington schools also live within Warrington borough. However, this data also includes children who attend a Warrington primary but live outside Warrington, but excludes children who live in Warrington borough but attend a school outside Warrington. Therefore some of these results may be slightly different to those published elsewhere, e.g. in the Public Health Outcomes Framework (PHOF) which is calculated based on where a child lives, rather than where they go to school.

- Nationally, prevalence has been consistently higher in boys than girls, although this is not always the case in Warrington.
- The increase from 2016/17 to 2017/18 was higher in boys; a 2.7 percentage point rise in boys and a 1.7 percentage point rise in girls.

### Year 6 overweight/obese

- Overweight/obesity prevalence rose substantially in Warrington from 30.8% in 2016/17 to 33.0% in 2017/18 (i.e. approximately 1 in 3 children). England rose slightly from 34.2% to 34.3%, and the North West rose from 35.2% to 35.5%.
- Nationally, and in Warrington, prevalence has consistently been higher in boys than girls.
- Warrington prevalence has fluctuated from year to year, mostly between 30% and 35% in boys, and between 29% and 31% in girls. In 2017/18 34.8% of boys and 31.1% of girls were overweight or obese.
- The increase from 2016/17 to 2017/18 was higher in boys; a 3.2 percentage point rise in boys and a 1.1 percentage point rise in girls.

### Year 6 obese

- Obesity prevalence in Warrington is consistently lower than in England and the North West. However in Warrington it rose substantially from 17.5% in 2016/17 to 19.5% in 2017/18 (i.e. approximately 1 in 5 children). England rose slightly from 20.0% to 20.1%, and the North West rose from 20.8% to 21.0%.
- Nationally, and in Warrington, prevalence has been consistently higher in boys than girls.
- Warrington prevalence has fluctuated from year to year, mostly between 16% and 21% in boys, and between 14% and 18% in girls. In 2017/18 it was 21.3% in boys and 17.6% in girls.
- The increase from 2016/17 to 2017/18 was higher in boys; a 2.9 percentage point rise in boys and a 1.1 percentage point rise in girls.

## PARTICIPATION RATES

The following table shows that Warrington has almost always achieved higher participation rates than the North West and England. Thanks are due to the Bridgewater School Health team for their efforts in achieving these high participation rates, and to Warrington primary schools for participating in the NCMP program.

	2013/14		2014/15		2015/16		2016/17		2017/18	
	R	Y6	R	Y6	R	Y6	R	Y6	R	Y6
Warrington	97.8%	96.4%	95.3%	95.5%	98.9%	97.7%	97.6%	96.0%	99.1%	97.3%
North West	95.8%	94.7%	95.7%	94.2%	96.3%	94.6%	95.7%	94.0%	95.5%	94.7%
National	93.8%	93.6%	95.5%	94.0%	95.6%	94.0%	95.8%	94.2%	95.2%	94.3%

By far the main reason for non-participation is Parental opt-out (i.e. a child's parent/carer chooses not to have their child weighed and measured). In 2017/18, 13 Reception and 55 Year 6 children were not measured for this reason. This is 0.5% of the cohort of Reception children eligible for measurement and 2.2% of the Year 6 cohort.

The following two tables show the proportion of children in each weight category for Warrington and England, girls, boys and both, from 2011/12 to 2017/18.

**RECEPTION CHILDREN (AGED 4/5), WARRINGTON AND ENGLAND, 2011/12 to 2017/18**

		% of Reception children					No. measured
		Under-weight	Healthy Weight	Overweight	Obese	Overweight/Obese	
Warrington 2017/18	Boys	0.8%	73.9%	13.1%	12.3%	25.3%	1,271
	Girls	0.3%	73.1%	15.8%	10.8%	26.5%	1,199
	Both	0.6%	73.5%	14.4%	11.5%	25.9%	2,470
National 2017/18	Boys	1.3%	75.8%	13.0%	9.9%	22.9%	311,386
	Girls	0.7%	77.5%	12.7%	9.1%	21.8%	299,049
	Both	1.0%	76.6%	12.8%	9.5%	22.4%	610,435
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Warrington 2016/17	Boys	1.5%	75.7%	13.2%	9.6%	22.8%	1,277
	Girls	1.2%	77.8%	11.9%	9.1%	20.9%	1,222
	Both	1.4%	76.8%	12.6%	9.3%	21.9%	2,499
National 2016/17	Boys	1.2%	75.6%	13.1%	10.0%	23.2%	321,338
	Girls	0.7%	77.2%	12.9%	9.2%	22.1%	308,021
	Both	1.0%	76.4%	13.0%	9.6%	22.6%	629,359
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Warrington 2015/16	Boys	0.8%	76.6%	14.0%	8.6%	22.6%	1,289
	Girls	0.7%	77.9%	12.4%	9.0%	21.4%	1,256
	Both	0.7%	77.2%	13.2%	8.8%	22.0%	2,545
National 2015/16	Boys	1.2%	76.1%	13.1%	9.6%	22.7%	319,437
	Girls	0.7%	77.8%	12.6%	9.0%	21.5%	305,889
	Both	1.0%	76.9%	12.8%	9.3%	22.1%	625,326
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Warrington 2014/15	Boys	1.3%	80.2%	10.7%	7.9%	18.5%	1,258
	Girls	0.3%	79.5%	11.8%	8.4%	20.2%	1,189
	Both	0.8%	79.9%	11.2%	8.1%	19.3%	2,447
National 2014/15	Boys	1.2%	76.2%	13.1%	9.5%	22.6%	311,999
	Girls	0.7%	78.1%	12.5%	8.7%	21.2%	298,637
	Both	1.0%	77.2%	12.8%	9.1%	21.9%	610,636
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Warrington 2013/14	Boys	1.5%	78.2%	12.8%	7.6%	20.3%	1,268
	Girls	0.5%	79.4%	12.0%	8.1%	20.1%	1,178
	Both	1.0%	78.7%	12.4%	7.8%	20.2%	2,446
National 2013/14	Boys	1.2%	75.4%	13.5%	9.9%	23.4%	299,603
	Girls	0.7%	77.7%	12.6%	9.0%	21.6%	287,733
	Both	0.9%	76.5%	13.1%	9.5%	22.5%	587,336
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Warrington 2012/13	Boys	0.5%	76.8%	13.9%	8.7%	22.7%	1,235
	Girls	0.7%	78.3%	14.2%	6.8%	20.9%	1,227
	Both	0.6%	77.6%	14.1%	7.8%	21.8%	2,462
National 2012/13	Boys	1.1%	75.7%	13.5%	9.7%	23.2%	300,337
	Girls	0.7%	78.1%	12.5%	8.8%	21.2%	287,341
	Both	0.9%	76.9%	13.0%	9.3%	22.2%	587,678
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Warrington 2011/12	Boys	0.7%	76.6%	13.4%	9.3%	22.7%	1,220
	Girls	0.7%	76.9%	13.4%	9.0%	22.4%	1,147
	Both	0.7%	76.7%	13.4%	9.2%	22.6%	2,367
National 2011/12	Boys	1.1%	75.4%	13.6%	9.9%	23.5%	289,302
	Girls	0.7%	77.8%	12.5%	9.0%	21.6%	276,360
	Both	0.9%	76.5%	13.1%	9.5%	22.6%	565,662

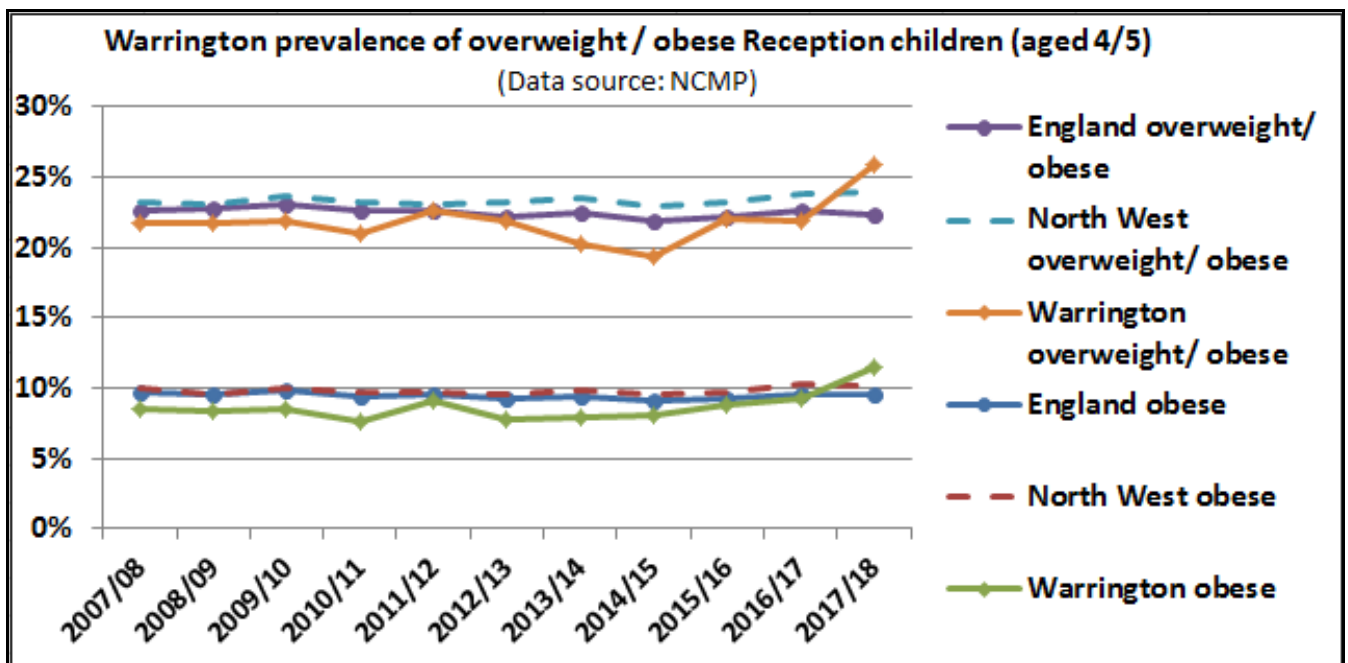
**YEAR 6 CHILDREN (AGED 10/11), WARRINGTON AND ENGLAND, 2011/12 to 2017/18**

		% of Year 6 children					No. measured
		Under-weight	Healthy Weight	Overweight	Obese	Overweight/Obese	
Warrington 2017/18	Boys	1.3%	63.9%	13.5%	21.3%	34.8%	1,245
	Girls	1.2%	67.7%	13.5%	17.6%	31.1%	1,173
	Both	1.2%	65.8%	13.5%	19.5%	33.0%	2,418
National 2017/18	Boys	1.2%	62.4%	14.2%	22.2%	36.4%	294,252
	Girls	1.6%	66.2%	14.2%	18.0%	32.2%	282,322
	Both	1.4%	64.3%	14.2%	20.1%	34.3%	576,574
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Warrington 2016/17	Boys	2.0%	66.4%	13.2%	18.4%	31.6%	1,163
	Girls	1.7%	68.3%	13.5%	16.5%	30.0%	1,115
	Both	1.8%	67.3%	13.3%	17.5%	30.8%	2,278
National 2016/17	Boys	1.2%	62.8%	14.3%	21.8%	36.0%	284,083
	Girls	1.5%	66.1%	14.3%	18.1%	32.4%	272,369
	Both	1.3%	64.4%	14.3%	20.0%	34.2%	556,452
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Warrington 2015/16	Boys	1.3%	67.9%	13.2%	17.6%	30.9%	1,105
	Girls	0.7%	65.8%	13.6%	19.8%	33.4%	1,202
	Both	1.0%	66.8%	13.4%	18.8%	32.2%	2,307
National 2015/16	Boys	1.2%	62.9%	14.3%	21.7%	36.0%	277,877
	Girls	1.5%	66.2%	14.3%	17.9%	32.3%	266,738
	Both	1.3%	64.5%	14.3%	19.8%	34.2%	544,615
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Warrington 2014/15	Boys	1.1%	66.4%	13.6%	18.9%	32.5%	1,129
	Girls	1.4%	68.9%	16.0%	13.6%	29.7%	1,116
	Both	1.2%	67.7%	14.8%	16.3%	31.1%	2,245
National 2014/15	Boys	1.2%	63.9%	14.2%	20.7%	34.9%	271,542
	Girls	1.6%	66.9%	14.1%	17.4%	31.5%	259,681
	Both	1.4%	65.3%	14.2%	19.1%	33.2%	531,223
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Warrington 2013/14	Boys	0.9%	66.5%	14.6%	18.0%	32.5%	1,091
	Girls	1.5%	68.4%	15.6%	14.4%	30.0%	1,049
	Both	1.2%	67.5%	15.1%	16.2%	31.3%	2,140
National 2013/14	Boys	1.2%	63.6%	14.4%	20.8%	35.2%	263,316
	Girls	1.6%	66.7%	14.4%	17.3%	31.7%	250,959
	Both	1.4%	65.1%	14.4%	19.1%	33.5%	514,275
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Warrington 2012/13	Boys	0.8%	66.1%	15.8%	17.3%	33.1%	1,177
	Girls	1.2%	69.1%	13.7%	16.0%	29.8%	1,042
	Both	0.9%	67.5%	14.8%	16.7%	31.5%	2,219
National 2012/13	Boys	1.1%	64.1%	14.4%	20.4%	34.8%	250,725
	Girls	1.5%	66.7%	14.4%	17.4%	31.8%	238,421
	Both	1.3%	65.4%	14.4%	18.9%	33.3%	489,146
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Warrington 2011/12	Boys	1.3%	59.5%	16.2%	23.0%	39.2%	1,102
	Girls	1.3%	66.1%	14.1%	18.5%	32.6%	1,028
	Both	1.3%	62.7%	15.2%	20.8%	36.0%	2,130
National 2011/12	Boys	1.1%	63.6%	14.7%	20.7%	35.4%	251,274
	Girls	1.5%	66.2%	14.7%	17.7%	32.4%	239,844
	Both	1.3%	64.9%	14.7%	19.2%	33.9%	491,118

## TRENDS IN WARRINGTON, NORTH WEST & ENGLAND: RECEPTION

### Reception (aged 4/5)

- Prevalence of obesity and prevalence of overweight/obesity in Warrington fluctuate over time, but have in the past been consistently lower than the North West, and either lower or similar to England.
- However, in 2017/18, prevalence rose sharply in Warrington, and for the first time was significantly higher than England and the North West for both obesity and for overweight/obesity.
- Overweight/obesity prevalence rose significantly in Warrington from 21.9% in 2016/17 to 25.9% in 2017/18. In England it reduced slightly from 22.6% to 22.4%. There was no change in the North West (23.9%).
- Obesity prevalence also rose significantly in Warrington, from 9.3% in 2016/17 to 11.5% in 2017/18 (i.e. approximately 1 in 9 Reception children). In England it reduced slightly from 9.6% to 9.5%. The North West also reduced slightly from 10.3% to 10.2%.

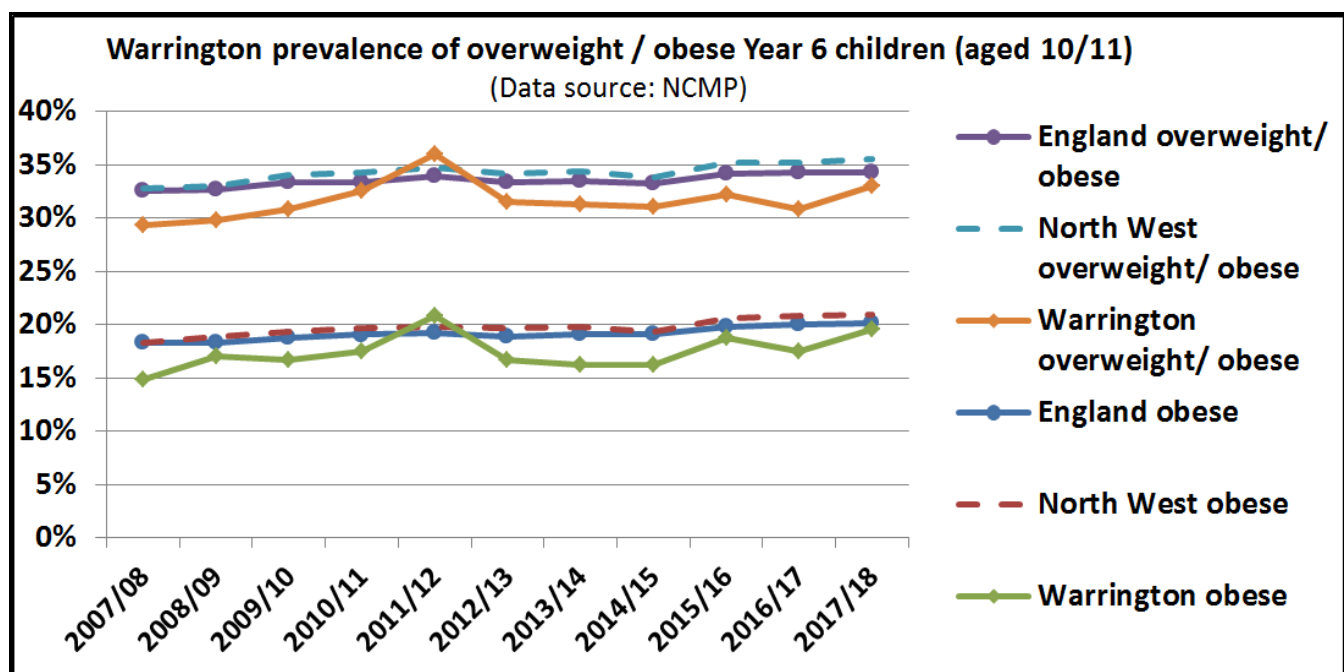




## TRENDS IN WARRINGTON, NORTH WEST & ENGLAND: YEAR 6

### Year 6 (aged 10/11)

- Prevalence of obesity, and prevalence of overweight/obesity in Warrington fluctuate over time, but have consistently been lower (except in 2011/12) than the North West and England.
- From 2016/17 to 2017/18 there has been a substantial rise in Warrington in both obesity prevalence and overweight/obesity prevalence, although they are still lower than England.
- Overweight/obesity prevalence increased in Warrington from 30.8% in 2016/17 to 33.0% in 2017/18. England rose slightly from 34.2% to 34.3%, and the North West rose from 35.2% to 35.5%.
- Obesity prevalence in Warrington rose substantially from 17.5% in 2016/17 to 19.5% in 2017/18. England rose slightly from 20.0% to 20.1%, and the North West rose from 20.8% to 21.0%.
- Approximately 1 in 5 children in Year 6 are obese, and 1 in 3 are overweight/obese.



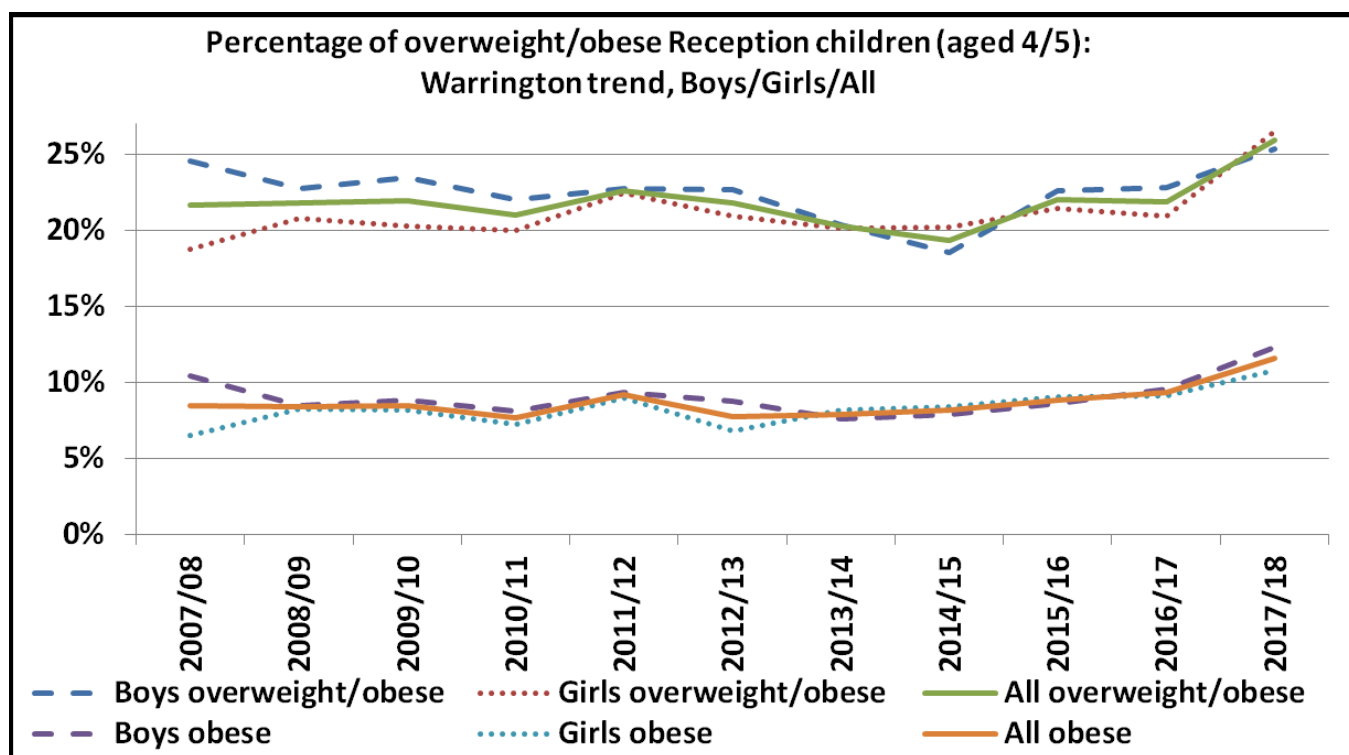
## TRENDS IN WARRINGTON, GIRLS AND BOYS, RECEPTION

### Reception (aged 4/5): overweight/obesity

- As the chart shows, in Warrington there is substantial fluctuation from year to year, mostly between 18% and 23%, until there was a sharp rise in 2017/18.
- Generally, prevalence is often slightly higher in boys than girls (a pattern also seen nationally).
- From 2016/17 to 2017/18, prevalence of overweight/obesity increased in girls (from 20.9% to 26.5%), and in boys (from 22.8% to 25.3%). There was a slight reduction in England in both girls and boys.
- In the past, Warrington prevalence has generally been lower than England in both girls and boys, but for the first time it is higher.

### Reception (aged 4/5): Obesity

- In Warrington obesity prevalence fluctuates from year to year, and in previous years has mostly been between 7% and 10%. However, in 2017/18, prevalence rose sharply in Warrington, and for the first time was significantly higher than England and the North West.
- In the past few years, prevalence has been quite similar in boys and girls, with a slight upward trend.
- There has been a large rise in boys from 9.6% in 2016/17 to 12.3% in 2017/18, and a rise in girls from 9.1% in 2016/17 to 10.8% in 2017/18. There was a very slight reduction in Reception nationally in both girls (from 9.2% to 9.1%) and boys (from 10.0% to 9.9%).



Detailed trend analysis of national data is available in the Public Health England report *Changes in children's body mass index between 2006/07 and 2015/16*

<http://www.gov.uk/government/publications/national-child-measurement-programme-ncmp-trends-in-child-bmi>

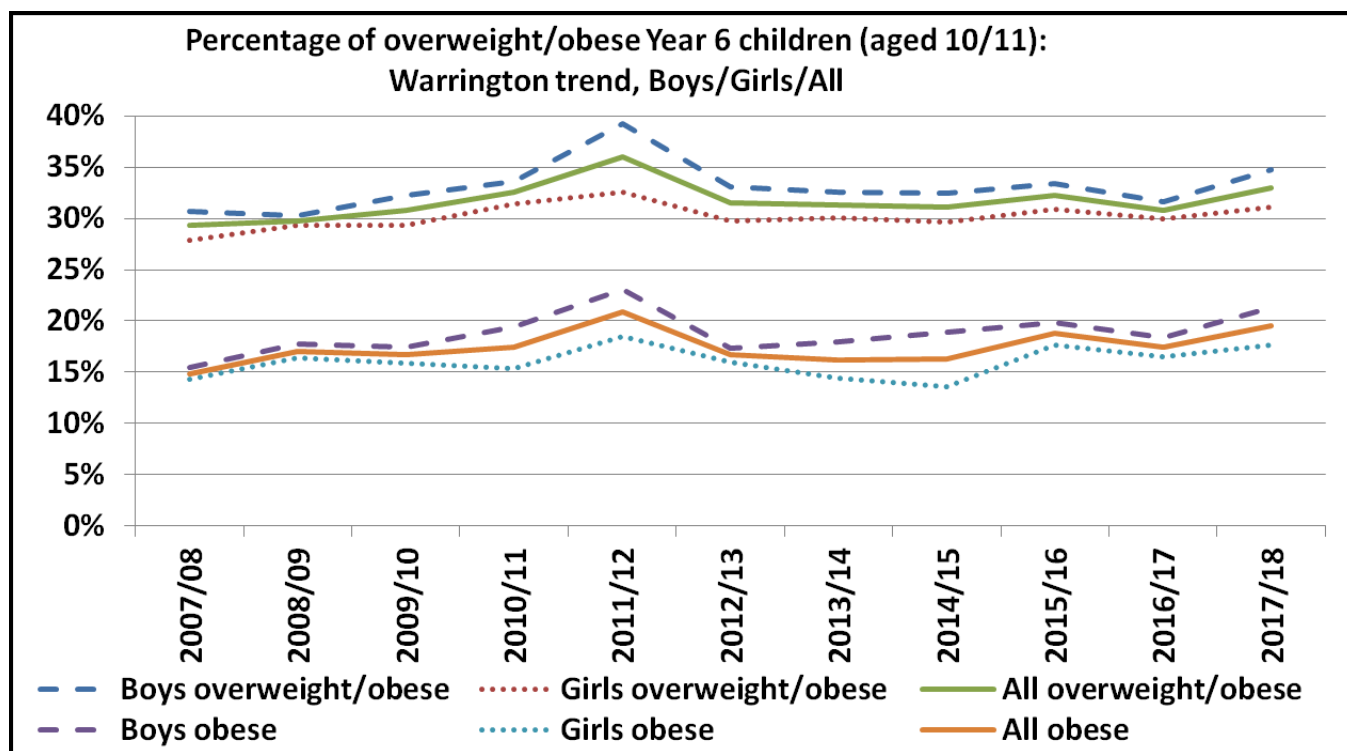
## TRENDS IN WARRINGTON, GIRLS AND BOYS, YEAR 6

### Year 6 (aged 10/11): Overweight/obesity

- Warrington prevalence is consistently and substantially lower than England for both boys and girls, despite Warrington's substantial rise in 2017/18.
- Since 2012/13 prevalence of overweight/obesity had been relatively stable, but it increased substantially in Warrington from 2016/17 to 2017/18: from 30.0% to 31.1% in girls, and a larger increase from 31.6% to 34.8% in boys.
- Prevalence is consistently higher in boys than in girls (a pattern also seen nationally). In 2017/18, prevalence in England was 36.4% in boys and 32.2% in girls.

### Year 6 (aged 10/11): Obese

- Warrington prevalence is consistently lower than England for both boys and girls, despite Warrington's substantial rise in 2017/18.
- In both boys and girls in Warrington, there has been an increase in obesity prevalence since 2016/17, from 16.5% to 17.6% in girls, and a larger increase in boys from 18.4% to 21.3%.
- In England, prevalence reduced very slightly in girls (from 18.1% to 18.0%) but increased in boys (from 21.8% to 22.2%).
- Prevalence is consistently higher in boys than in girls (a pattern also seen nationally).



## **CHILD OBESITY PREVALENCE AND ETHNICITY**

Nationally, significant differences in obesity prevalence are found in different ethnic groups. (More information is contained in the NHS Digital publication *National Child Measurement Programme - England, 2017-18* at <http://digital.nhs.uk/data-and-information/publications/statistical/national-child-measurement-programme/2017-18-school-year>)

Across England, in Reception in 2016/17, obesity prevalence was highest (15.8%) in Black African children and lowest (6.9%) in Indian children. In Year 6, obesity prevalence was highest (29.6%) in Black African children and lowest (16.9%) in Mixed White/Asian children. (NB There is debate over the validity of using the 1990 growth charts to categorise some ethnic groups).

In Warrington, there are so few children in most ethnic groups (other than White British) that no significant differences can be seen, and the small number of children in most ethnic groups does not produce a robust statistical analysis.

In 2017/18, 2,175 out of 2,470 (88%) measured Reception children, and 2,192 out of 2,418 (91%) measured Year 6, had their ethnicity recorded as White (this includes 'White British', 'White Irish', 'White Irish Traveller', 'White Romany' or 'Other White'). The next biggest NCMP ethnic category in Reception was 'Asian' (100), then 'Mixed' (95), and in Year 6 it was 'Asian' (53), then 'Mixed' (46).

## CHILD OBESITY PREVALENCE AND SOCIO-ECONOMIC DEPRIVATION - ENGLAND<sup>3</sup>

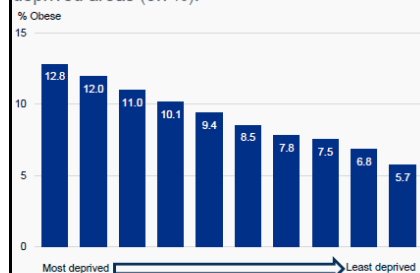
Nationally, there is a strong correlation between socio-economic deprivation<sup>4</sup> and obesity prevalence. The following two charts show obesity prevalence, and prevalence of severe obesity, in deprivation deciles across England. In both age groups, the slope of inequality between more and less deprived areas can clearly be seen, with higher obesity prevalence in the most deprived areas.

### Reception: obesity prevalence by socio-economic deprivation (IMD2015), England 2017/18

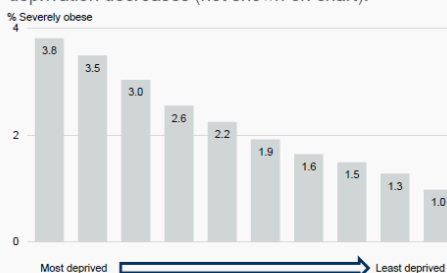
#### Deprivation – Reception

There is a strong relationship between deprivation<sup>1</sup> and obesity.

Obesity prevalence was over twice as high in the most deprived areas (12.8%) than the least deprived areas (5.7%).



Severe obesity prevalence was almost four times as high in the most deprived areas (3.8%) than the least deprived areas (1.0%). In general underweight prevalence decreases as deprivation decreases (not shown on chart).



1. Deprivation has been defined by the deprivation decile of the local super output area in which the child lives. For more information: Table 6a (deprivation based on postcode of the child), National Child Measurement Programme, England, 2017/18 school year.

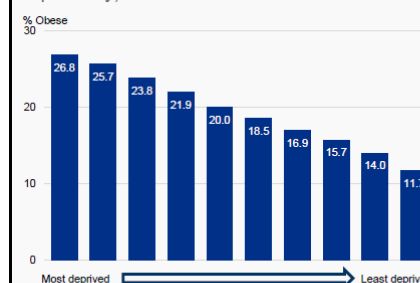
Reception, England:

- Obesity prevalence in the most deprived areas (12.8%) was more than double that in the least deprived areas (5.7%).
- Severe obesity prevalence in the most deprived areas (3.8%) was almost 4 times that in the least deprived areas (1.0%).

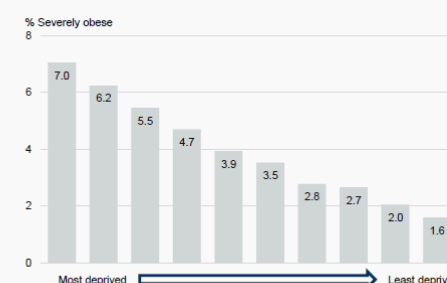
### Year 6: obesity prevalence by socio-economic deprivation (IMD2015), England 2017/18

#### Deprivation – Year 6

Obesity prevalence was over twice as high in the most deprived areas (26.8%) than the least deprived areas (11.7%). Severe obesity prevalence was over four times as high (7.0% and 1.6% respectively)



Combined overweight and obesity prevalence ranged from 41.4% in the most deprived areas to 24.5% in the least deprived areas (not shown on chart).



1. Deprivation has been defined by the deprivation decile of the local super output area in which the child lives. For more information: Table 6a (deprivation based on postcode of the child), National Child Measurement Programme, England, 2017/18 school year.

Year 6, England:

- Obesity prevalence in the most deprived areas (26.8%) was more than double that in the least deprived areas (11.7%).
- Severe obesity prevalence in the most deprived areas (7.0%) was over 4 times that in the least deprived areas (1.6%).

Nationally, the gap between the most and least deprived areas has gradually widened over time. In Reception, this is due to obesity prevalence remaining fairly static in the most deprived areas and reducing in the least deprived. In Year 6, it is due to obesity prevalence increasing in the most deprived areas and remaining fairly static in the least deprived.

<sup>3</sup> National obesity/deprivation data source: *NHS Digital publication: National Child Measurement Programme England, 2017/18 school year*. Copyright © 2018, re-used with the permission of The Health and Social Care Information Centre. All rights reserved. NHS Digital is the trading name of the Health and Social Care Information Centre

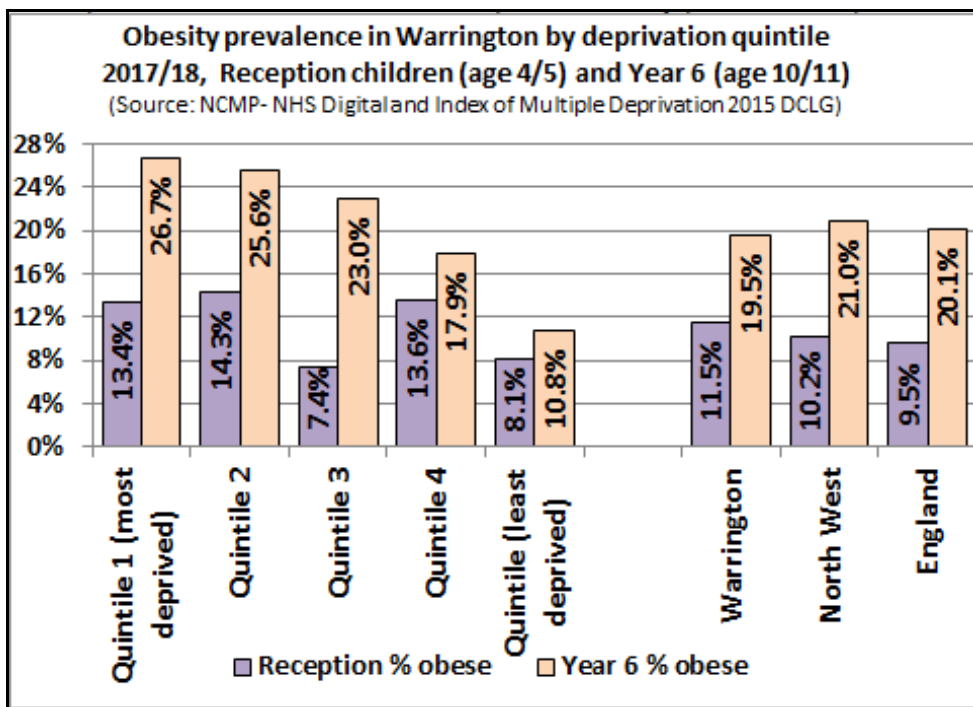
<sup>4</sup> The Index of Multiple Deprivation (IMD) 2015 is the official measure of relative deprivation for small geographical areas (lower super output areas) in England. IMD deciles are calculated by ranking the 32,844 small areas in England from most deprived to least deprived and dividing them into 10 equal groups. These range from the *most* deprived 10 percent of small areas nationally (Decile 1) to the *least* deprived 10 percent (Decile 10). Children's records were allocated to a decile based on their home postcode. Further are available at: <https://www.gov.uk/government/statistics/english-indices-of-deprivation-2015>

## CHILD OBESITY PREVALENCE AND SOCIO-ECONOMIC DEPRIVATION - WARRINGTON

The correlation with deprivation can also be seen in Warrington, with generally higher prevalence in more deprived areas. Analysis of Warrington data uses deprivation quintile, where areas have been split into 5 groups (rather than the 10 groups used in national analysis); Quintile 1 being the most deprived and Quintile 5 the least deprived. Children’s records were allocated to a quintile based on their home postcode. Map 1 shows the spread of deprivation across Warrington.

### Obesity prevalence in Warrington Reception and Year 6 (2017/18), by socio-economic deprivation

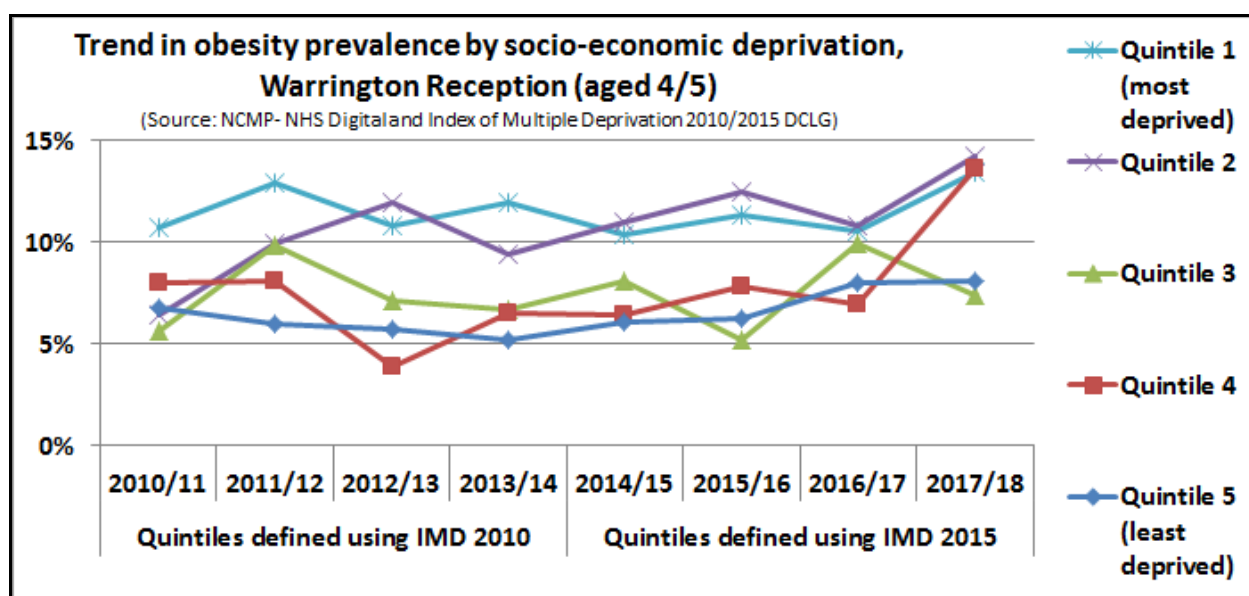
- In Year 6, a clear slope of inequality exists; obesity prevalence is highest (26.7%) in Quintile 1 (most deprived) and gradually reduces to 10.8% in Quintile 5 (least deprived).
- In Reception, there is not such an obvious pattern; obesity prevalence is quite similar in Quintiles 1 2 and 4, which have higher prevalence than quintiles 3 and 5.
- In quintiles 1, 2 and 3, obesity prevalence in Year 6 is almost, or more than, double the prevalence in Reception.



## CHILD OBESITY AND SOCIO-ECONOMIC DEPRIVATION – WARRINGTON TREND

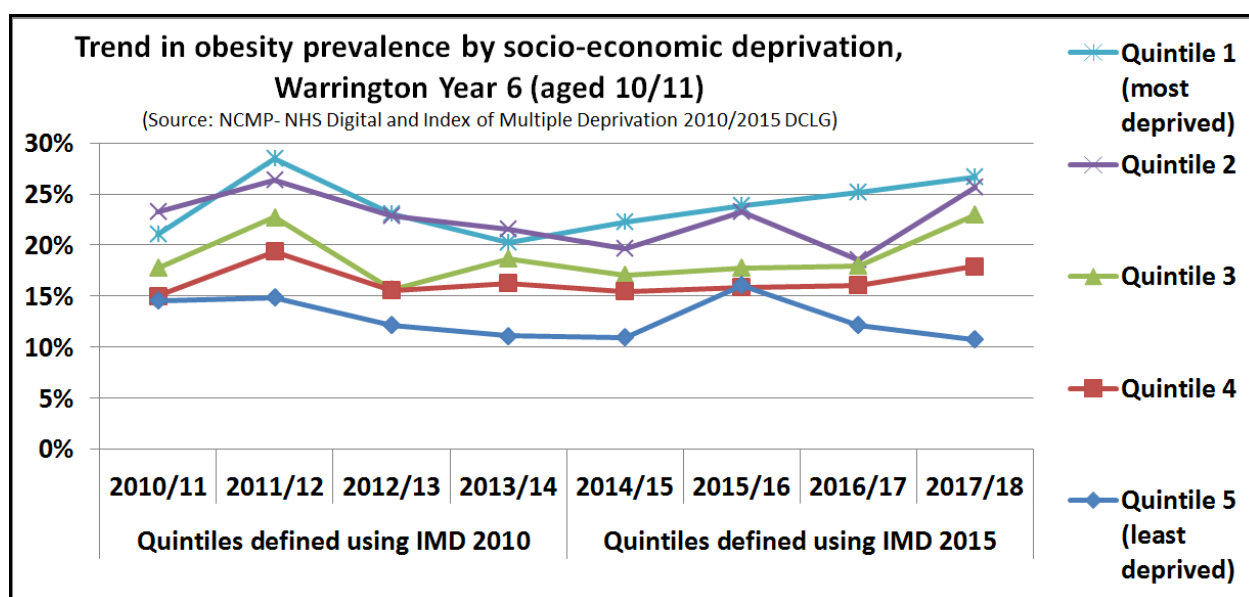
### Reception: Trend in obesity prevalence by socio-economic deprivation

- The most deprived 2 quintiles (Quintile 1 & Quintile 2) in Warrington have consistently higher obesity prevalence; and Quintiles 3, 4 and 5 have lower prevalence (apart from Q4 being unusually high in 2017/18).
- In 2017/18, obesity prevalence in Reception increased substantially in quintiles 1, 2 and 4, didn't change in Quintile 5, and reduced in Quintile 3.
- There is so much fluctuation in each quintile from year to year that it is difficult to determine whether the gap between most and least deprived areas is widening, or narrowing, or is stable.

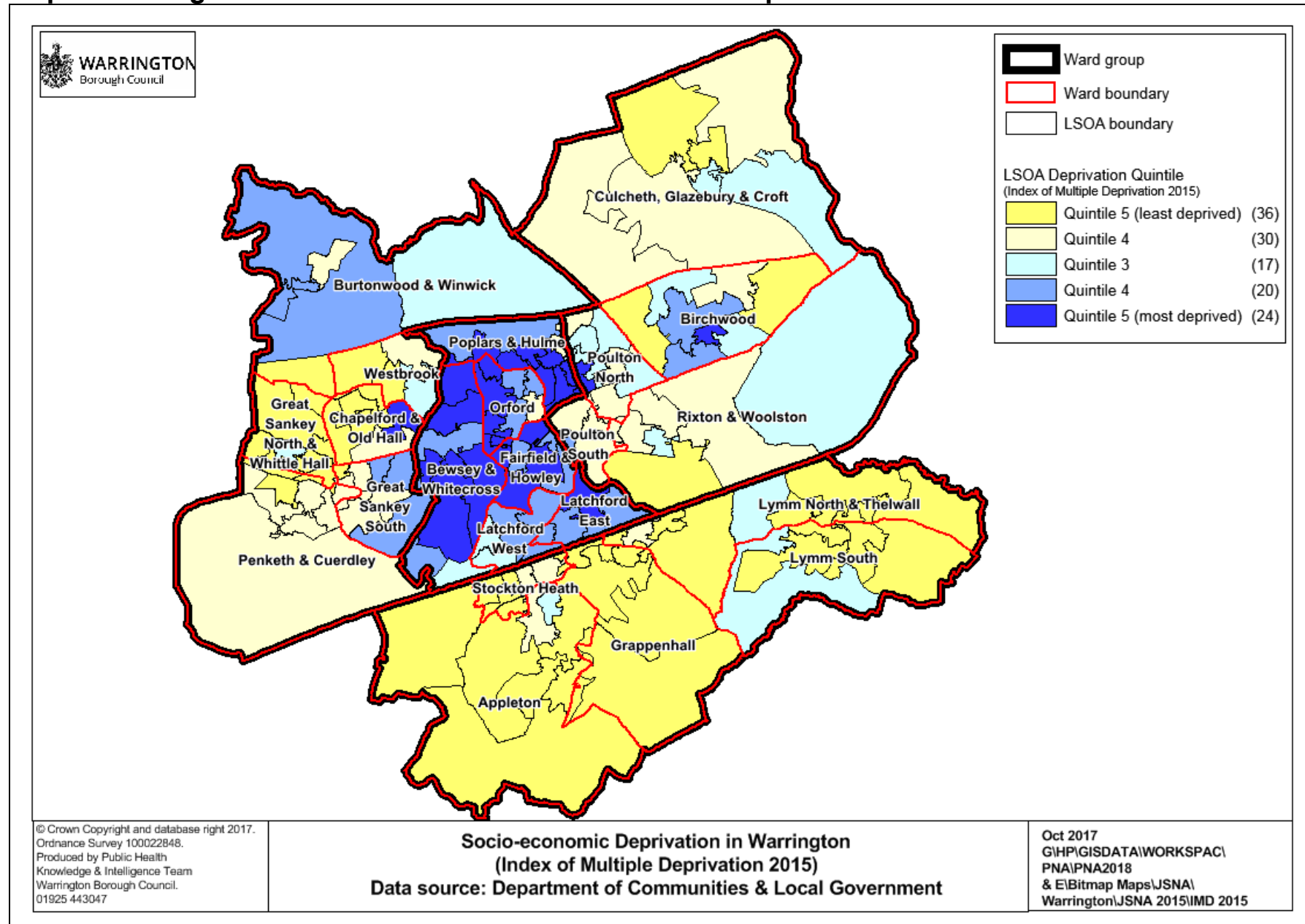


### Year 6: Trend in obesity prevalence by socio-economic deprivation

- The 5 trend lines are almost separate, and in order, with Quintile 1 (most deprived) generally having highest prevalence, down to Quintile 5 (least deprived) generally having lowest prevalence.
- There is so much fluctuation in each quintile from year to year that it is difficult to determine whether the gap between most and least deprived areas is widening, or narrowing, or is stable.



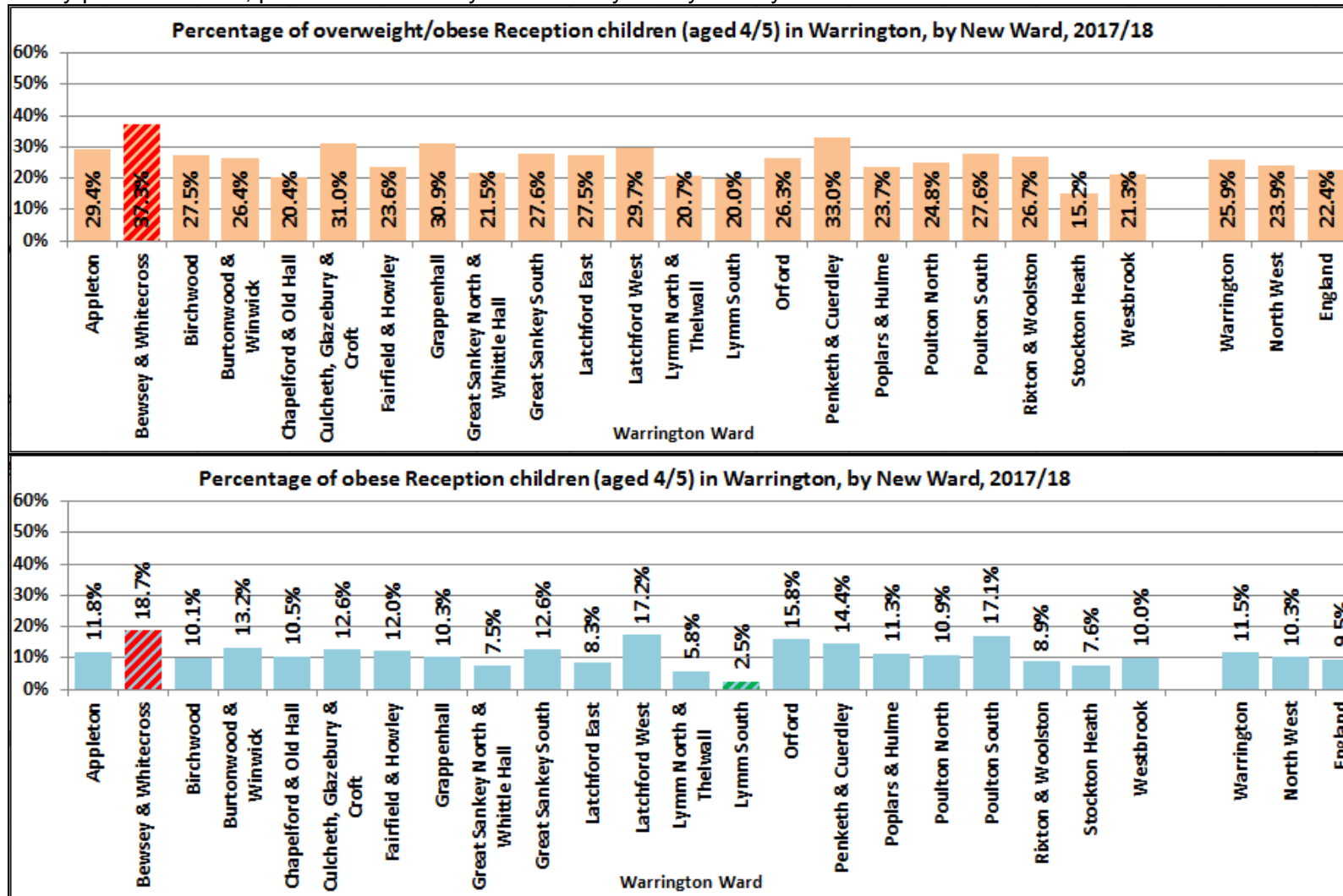
**Map 1: Warrington electoral wards and socio-economic deprivation**





## RECEPTION CHILDREN 2017/18 BY ELECTORAL WARD

In any particular ward, prevalence can vary substantially from year to year.



**Overweight/obesity** (top chart)  
Bewsey & Whitecross was significantly higher than Warrington. No ward was significantly lower.

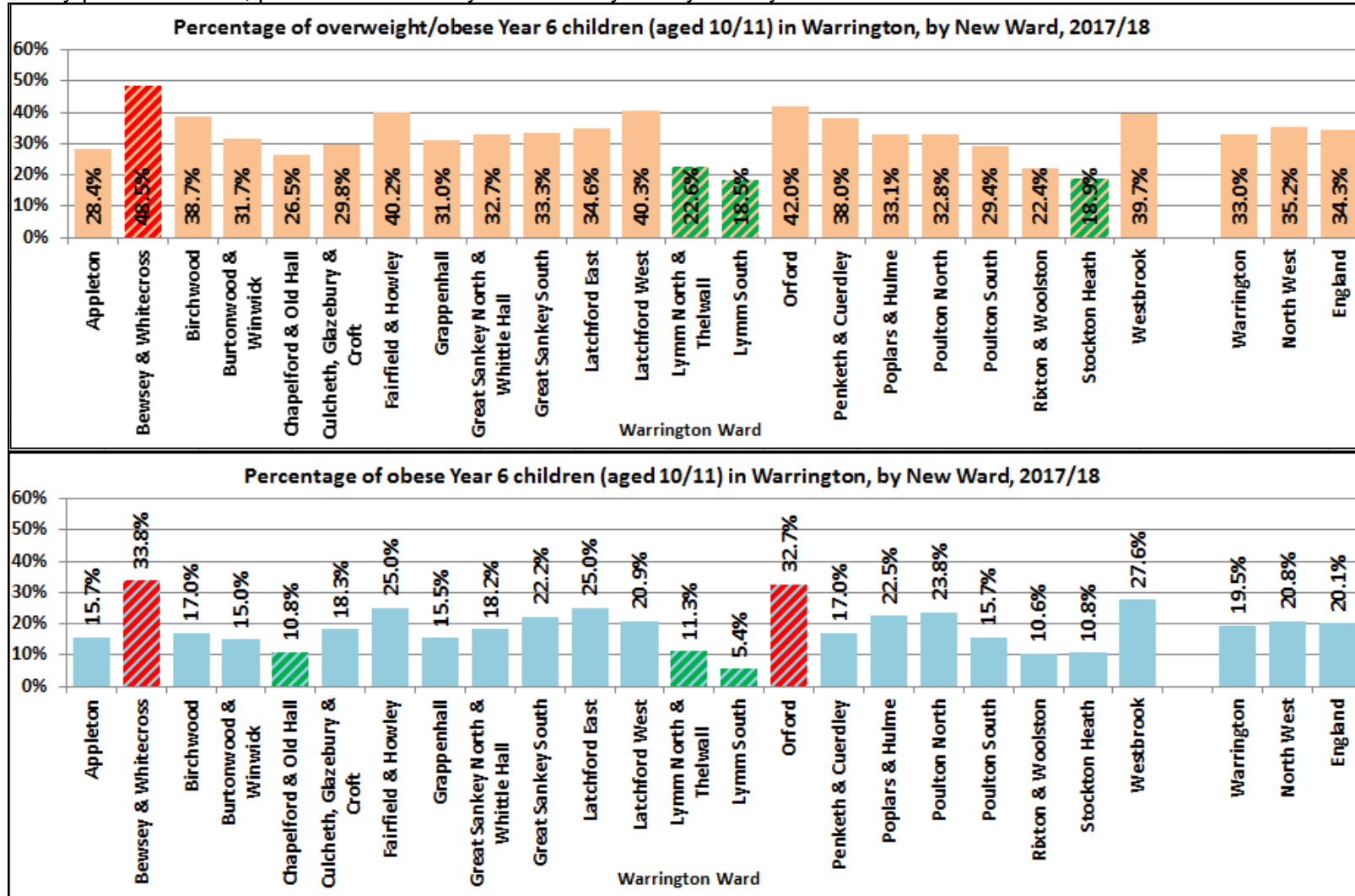
**Obesity** (bottom chart)  
Bewsey & Whitecross was significantly higher than Warrington. Lymm South was significantly lower.

**Severely obese** (no chart)  
Bewsey & Whitecross (6.0%) and Latchford West (7.8%) had significantly higher prevalence than Warrington (2.4%).

- Bars with red stripes denote wards that are significantly higher than Warrington overall; green stripes denote significantly lower than Warrington.
- Most ward boundaries were changed in May 2016, and some new wards were created. Therefore ward data in these charts is only comparable to 2015/16 (but not 2014/15 or older).
- Data excludes pupils who live outside the Warrington boundary and therefore can't be allocated to a ward.

## YEAR 6 CHILDREN 2017/18 BY ELECTORAL WARD

In any particular ward, prevalence can vary substantially from year to year.



### Overweight/Obesity (top chart)

- Bewsey & Whitecross was significantly higher than Warrington.
- Lymm North & Thelwall, Lymm South, and Stockton Heath were significantly lower than Warrington.

### Obesity (bottom chart)

- Orford and Bewsey & Whitecross were significantly higher than Warrington.
- Chapelford & Old Hall, Lymm North & Thelwall, and Lymm South were significantly lower than Warrington.

**Severely obese** (no chart). Orford had significantly higher prevalence (11.3%) compared to Warrington (4.4%).

- Bars with red stripes denote wards that are significantly higher than Warrington overall; green stripes denote significantly lower than Warrington.
- Most ward boundaries were changed in May 2016, and some new wards were created. Therefore ward data in these charts is only comparable to 2015/16 (but not 2014/15 or older).
- Data excludes pupils who live outside the Warrington boundary and therefore can't be allocated to a ward.

## SEVERE OBESITY

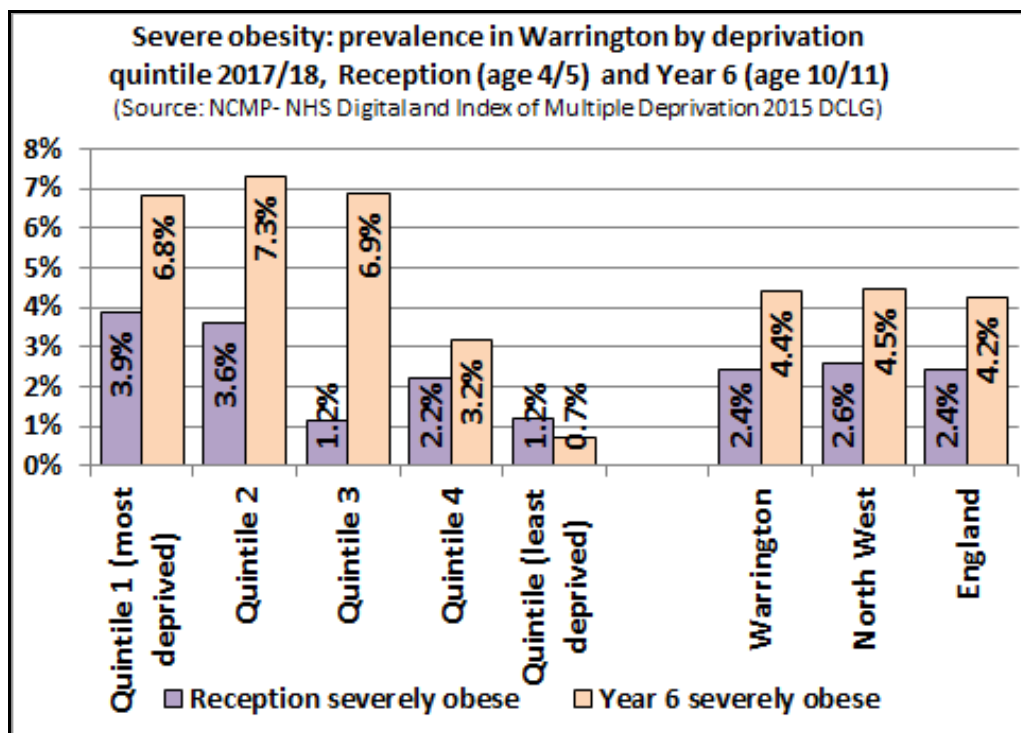
In 2017/18, for the first time figures have been published by NHS Digital on the prevalence of 'severely obese', defined as above the 99.6<sup>th</sup> centile<sup>5</sup>

### Reception:

- In Warrington, 2.4% of Reception children were severely obese, the same as England and slightly lower than the North West (2.6%).
- A higher proportion of boys (2.8%) than girls (2.0%) were severely obese, although this difference was not statistically significant.
- There was a step change between the two more deprived quintiles (3.9% in Q1 and 3.6% in Q2), and the other three quintiles (between 1.2% and 2.2% in Q3, Q4 and Q5).

### Year 6:

- In Warrington, 4.4% of Year 6 children were severely obese, slightly higher than England (4.2%) but slightly lower than the North West (4.5%).
- A higher proportion of boys (5.4%) than girls (3.4%) were severely obese, although this difference was not statistically significant.
- There was a very stark difference between deprivation quintiles; in Quintiles 1, 2 and 3 approximately 7% of children were severely obese compared to 3.2% in Quintile 4 and 0.7% in Quintile 5 (least deprived).
- In the Central group of wards of Warrington<sup>6</sup> severe obesity prevalence was significantly higher at 7.7%, i.e. 1 in every 13 children.



<sup>5</sup> The 99.6<sup>th</sup> centile line on the 1990 growth charts is the line above which only 0.4% of the children measured to develop the charts lay (i.e. only 4 children in every 1000 were classified as severely obese).

<sup>6</sup> The 6 Central wards are: Bewsey & Whitecross, Fairfield & Howley, Latchford East, Latchford West, Orford, and Poplars & Hulme.

## REFERENCES AND USEFUL LINKS

NHS Digital webpage for the National Child Measurement Programme  
<http://digital.nhs.uk/services/national-child-measurement-programme/>

NHS Digital, *National Child Measurement Programme - England, 2017-18* (2018)  
<http://digital.nhs.uk/data-and-information/publications/statistical/national-child-measurement-programme/2017-18-school-year>

Public Health England (2017) *National Child Measurement Programme: Changes in children's body mass index between 2006/07 and 2015/16*  
<http://www.gov.uk/government/publications/national-child-measurement-programme-ncmp-trends-in-child-bmi>

Public Health England (2017) *Child obesity and excess weight: small area level data (MSOA)*  
<http://www.gov.uk/government/statistics/child-obesity-and-excess-weight-small-area-level-data>

Public Health England *NCMP Local Authority Profile*.  
<http://fingertips.phe.org.uk/profile/national-child-measurement-programme>

Warrington Joint Strategic Needs Assessment, Children & Young People Healthy Weight Chapter.  
<http://www.warrington.gov.uk/jsna>

Public Health England *Our Healthy Year*  
<http://campaignresources.phe.gov.uk/schools/topics/our-healthy-year/overview>

Royal College of Paediatrics and Child Health (RCPCH) *UK-World Health Organisation growth charts, 2-18 years* <http://www.rcpch.ac.uk/resources/uk-world-health-organisation-growth-charts-2-18-years>