



**WIRRAL
INTELLIGENCE
SERVICE**

JSNA: Childhood Obesity

Wirral Intelligence Service

December 2018

JSNA: Childhood Obesity

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Background to JSNA – Joint Strategic Needs Assessment

What is a JSNA?

A Joint Strategic Needs Assessment, better known as a JSNA, is intended to be a systematic review of the health and wellbeing needs of the local population, informing local priorities, policies and strategies that in turn informs local commissioning priorities that will improve health and wellbeing outcomes and reduce inequalities throughout the Borough.

Who is involved?

Information from Council, NHS and other partners is collected and collated to inform the JSNA and this reflects the important role that all organisations and sectors have (statutory, voluntary, community and faith) in improving the health and wellbeing of Wirral's residents.

About this document

This JSNA section looks to contain the most relevant information on the topic and provides an overview of those related key aspects

How can you help?

If you have ideas or any suggestions about these issues or topics then please email us at wirralintelligenceservice@wirral.gov.uk or go to <https://www.wirralintelligenceservice.org/>

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1.0	March 2018	Sarah Kinsella – Wirral Intelligence Service Matthew Ray – Wirral Intelligence Service
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1.2	December 2018	Rebecca Mellor – Public Health Matthew Ray – Wirral Intelligence Service John Highton - Wirral Intelligence Service

Content overview

Abstract	Summary of local and national childhood obesity information
Intended or potential audience	External <ul style="list-style-type: none">• Wirral Community Trust 0-19 programme• Wirral Schools Internal <ul style="list-style-type: none">• Public Health and Children and Young People DMT• Wirral Children's Services
Links with other topic areas	Adult Obesity - Childhood Obesity Children & Young People: JSNA 2018 - Child Health Profile (Wirral) - Special Educational Needs and Disability - Maternity and Early Years - Long Term Conditions - Indices of Deprivation - Diabetes - Cardiovascular Disease - Compendium of Statistics

Key findings

- Obesity is a complex issue. The solutions are also likely to be complex and involve multiple partners and components
- Obesity is strongly associated with deprivation; obesity is more prevalent in areas of high deprivation
- Prevention is the most viable approach to tackling obesity because once established, it is a notoriously difficult condition to reverse
- Obese children are highly likely to become obese adults
- Obesity is associated with a wide range of negative emotional and physical consequences and not only affects individuals, obesity also has wider societal effects
- Obesity rates almost double in Wirral school children between reception and year 6 (this is also true nationally and regionally) from 10.8% of children, to 20.6% of children
- This means that at age 4/5, one in ten Wirral children are obese. By the age of 10/11, one in five are obese
- The prevalence of unhealthy weight in both reception and year 6 aged children is (despite some fluctuation) increasing over time
- Of the 5 'clusters' of Wirral schools, Birkenhead South has the highest prevalence of obesity (25% or one in four of year 6 children and 13% or one in eight of reception aged children)
- Birkenhead North and Wallasey Clusters were also above the Wirral averages for the proportion of obese children. Bebington and Deeside were below the Wirral average
- Those schools with obesity prevalence above the Wirral average would be the most appropriate locations for interventions aimed at promoting healthy weight
- Special schools (because their pupil roll contains children with physical and/or learning disability) are nationally acknowledged as having large proportions of obesity and overweight. Wirral follows this national trend
- Wirral mirrors national trends for higher levels of obesity in areas of high deprivation (in both adults and children)
- Broadly speaking, obesity prevalence is decreasing or stable in the most affluent children, but continuing to increase in the most deprived children
- In year 6 children, the prevalence of obesity in the most deprived quintile (20%) of the population is almost double that in the least deprived (or most affluent) quintile
- Trend data shows that the inequalities in obesity prevalence in Wirral are increasing
- Boys in Wirral had higher rates of unhealthy weight than girls in both reception and year 6
- Boys in year 6 have consistently been more likely to be an unhealthy weight compared to girls in year 6 (with the exception in 2016/17 when girls overtook boys briefly) since the NCMP program began in 2006/07
- Boys in reception have also mostly been more likely than girls to be an unhealthy weight (except in 2012/13 and 2016/17 when girls had higher rates)
- Local data mirrors national trends which shows that Black/Black British children are the most likely to be an unhealthy weight at both reception and year 6
- Asian children were the least likely to be obese in reception. Mixed Race children were the least likely to be obese in year 6
- Promoting healthy weight in children, young people and families should be the priority for Wirral Partners
- For Wirral a collaborative, whole systems approach to preventing obesity, is likely to be more effective when promoting healthy weight in children, young people and families rather than single interventions on their own
- Evidence of what works in preventing obesity in the crucial early 0-2 years of age period is currently lacking thus limiting properly understood interventions.
- There appears to be a trend for girls becoming more likely to be an unhealthy weight over time, while unhealthy weight in boys appears to be stabilising or reducing slightly. If this trend continues, girls may overtake boys to have higher rates of overweight in both reception and year 6

Wirral JSNA: Childhood Obesity

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Glossary

Definition of obesity in adults: Adults are classified as obese if they have a body mass index (BMI), of over 30. BMI is a measure of weight status that adjusts for height and is calculated by dividing a person's weight in kilograms, by the square of their height in metres (12).

Definition of obesity in children: Defining obesity in children is slightly more complex and requires the use of reference populations. This allows BMI to be compared against other children of the same age and gender (20). There are several reference populations which can be used to define child obesity, such as those proposed by the WHO (World Health Organisation), IOTF (International Obesity Task Force) and the UK90 (British 1990 Growth Reference) (21). The NCMP programme here in the UK uses UK90. For more information check - [A simple guide to classifying body mass index in children](#)

What do we know?

Obesity is a significant public health problem both in the UK and worldwide which results in long term negative social, psychological and physical consequences. The causes are complex, with many drivers including the environment, culture, behaviour and genetics. At its most basic, obesity is caused by an energy imbalance: taking in more energy through food than we use through activity.

Evidence shows that in western countries such as the UK, obesity is very strongly associated with deprivation and that prevention should be the main focus, given that it is a notoriously difficult condition to reverse once established (1), (2), (3).

National trend data from the [National Child Measurement Programme](#) (NCMP) programme and the Health Survey for England show that rates of childhood obesity are increasing over time (6). Linked to this, recent findings from the NCMP published by Public Health England show that for most children, unhealthy excess weight (≥ 91 st centile) 'tracks' from reception to year 6 (7). This means that children, who are an unhealthy weight in reception, are highly likely to still be an unhealthy weight by year 6 (7).

The NCMP programme shows that obesity doubles between reception and year 6, so that by year 6, one in four children are obese (6). Research also indicates that 4 out of 5 obese teenagers will go on to become obese adults (8) (9).

Why is this important?

In childhood, obesity is associated with many immediate negative effects including respiratory, dental and orthopaedic problems, poor sleep, early puberty, social anxiety, poor quality of life, school absenteeism and low educational attainment (3), (10), (11), (12), (13), (14), (15). Arguably the most serious consequence of obesity in childhood however, is the increased likelihood of obesity in adulthood (16).

In adulthood, obesity increases the risk of developing irreversible, chronic conditions at younger ages (17), such as Type 2 diabetes, cardiovascular disease, liver disease, musculoskeletal disorders, obstructive sleep apnoea, asthma, certain cancers, poor mental health and quality of life and a reduced life expectancy of around eight to ten years compared to those of a healthy weight (12), (18), (19), (20), (21), (22). Several studies have found that obese children as young as 3 already have elevated levels of inflammatory markers linked to heart disease in later life (23), (24).

Negative effects on mental health and quality of life are thought to be related to the fact that obesity amongst children is associated with negative personal attributes by many adults (including teachers) and other children, for example, obese children are seen as the least desirable friends by other children (19), (25). In one study, severely obese children rated their quality of life as low as children undergoing chemotherapy (26).

Research suggests that obesity has the potential to reverse recent gains in life expectancy (27), (28) and reduce healthy life expectancy (years spent free of disability or ill-health) by up to a third over the next 20 years (29). In addition, obesity is not only costly to the individual; it puts significant strain on health services. The 2013 Chief Medical Officers Report for England estimated the medical cost of childhood obesity to the NHS alone to be £588-£686 million per annum (4).

Facts, figures and trends (Wirral and beyond)

All of the data presented below is from the National Child Measurement Programme (NCMP), which measures the height and weight of children in all children in reception class (aged 4 to 5 years) and year 6 (aged 10 to 11 years) in England. NCMP data is objectively gathered each year by trained health professionals in a standardised way. This is worth emphasising, because many studies focusing on obesity commonly rely on self-report data - or in the case of children – parent reported height and weight measurements (61), (62) which are notoriously unreliable, subject to social desirability bias (62), (63) and parents are poor judges of their child's weight status (37), (61), (64).

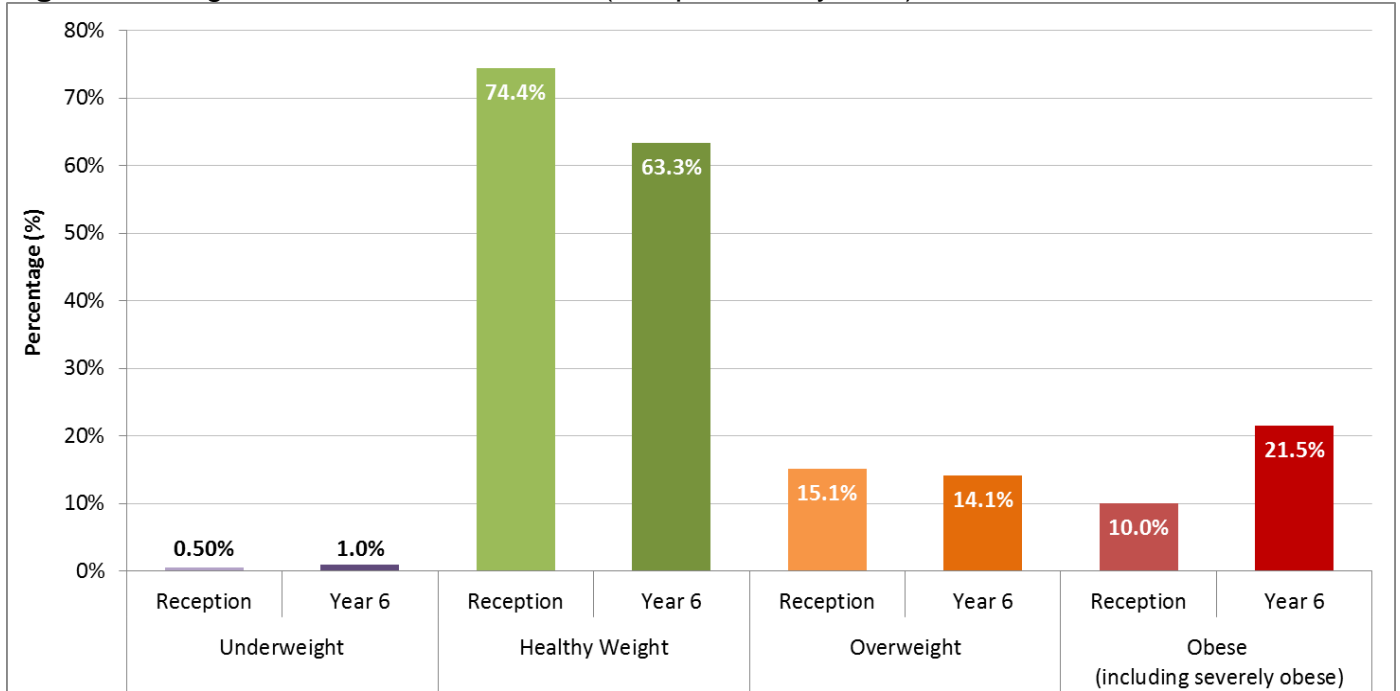
The NCMP shows levels of overweight and obesity in children at two points in primary school. Overweight and obesity together are often referred to as 'unhealthy weight'. Obesity is often now referred to as 'very overweight'. Since 2016/17 the 'severely obese' category has been separated out from the 'obese or very overweight' category and reported. The NCMP is recognised internationally as a world-class source of public health intelligence and holds UK National Statistics status.

Wirral has been in the top 5% in terms of coverage and data quality since 2006/07, with around 98% of children in the borough weighed and measured annually.

Children's heights and weights are measured and used to calculate a Body Mass Index (BMI) centile. Assigning a BMI classification is slightly different (and more complex) in children compared to adults. For further information see: [A simple guide to classifying body mass index in children](#) produced by Public Health England (66).

Weight status by age

Figure 1: Weight status of Wirral children (reception and year 6) in 2017/18



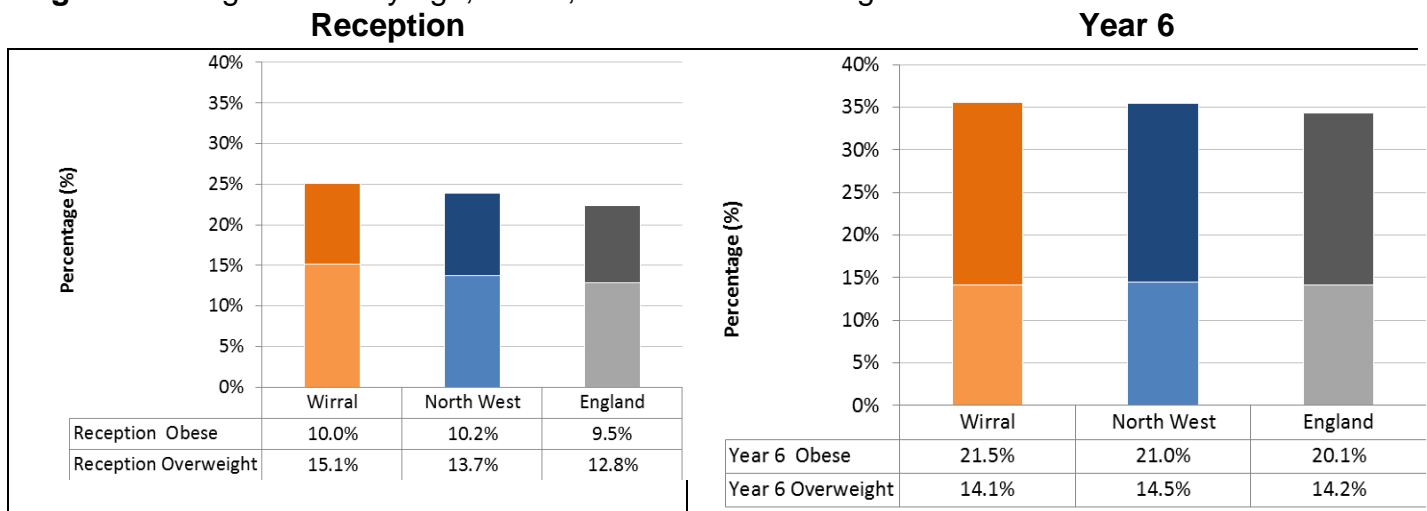
Source: [NCMP, 2018](#)

Note: Overweight and obesity together are often referred to as 'unhealthy weight'. Obesity is often now referred to as 'very overweight'. Severely obese is now reported as a subset from the obese/very overweight category.

Figure 1 above shows the breakdown of the results for reception and year 6 children for 2017/18. The large majority of children were recorded as being healthy weight, but this proportion decreased substantially between reception and year 6 (by over 10%). By age (10/11) year 6, one in five Wirral children were obese (very overweight) in 2017/18, compared to one in ten reception age children (age 4/5). In short, between reception and year 6, healthy weight decreases and obesity doubles in Wirral school children.

The charts below (Figure 2) show how Wirral compares to the North West and England on both components of unhealthy weight (overweight and obese) in reception and year 6.

Figure 2: Weight status by age, Wirral, North-West and England in 2017/18



Source: [NCMP, 2018](#)

Note: Overweight and obesity together are often referred to as 'unhealthy weight'. Obesity is often now referred to as 'very overweight'. Severely obese is now reported as a subset from the obese/very overweight category.

In reception children, Wirral had a higher proportion of overweight (15.1%) compared to the North West and England. Wirral (10.0%) recorded higher than England for the obese category but lower than the North West region.

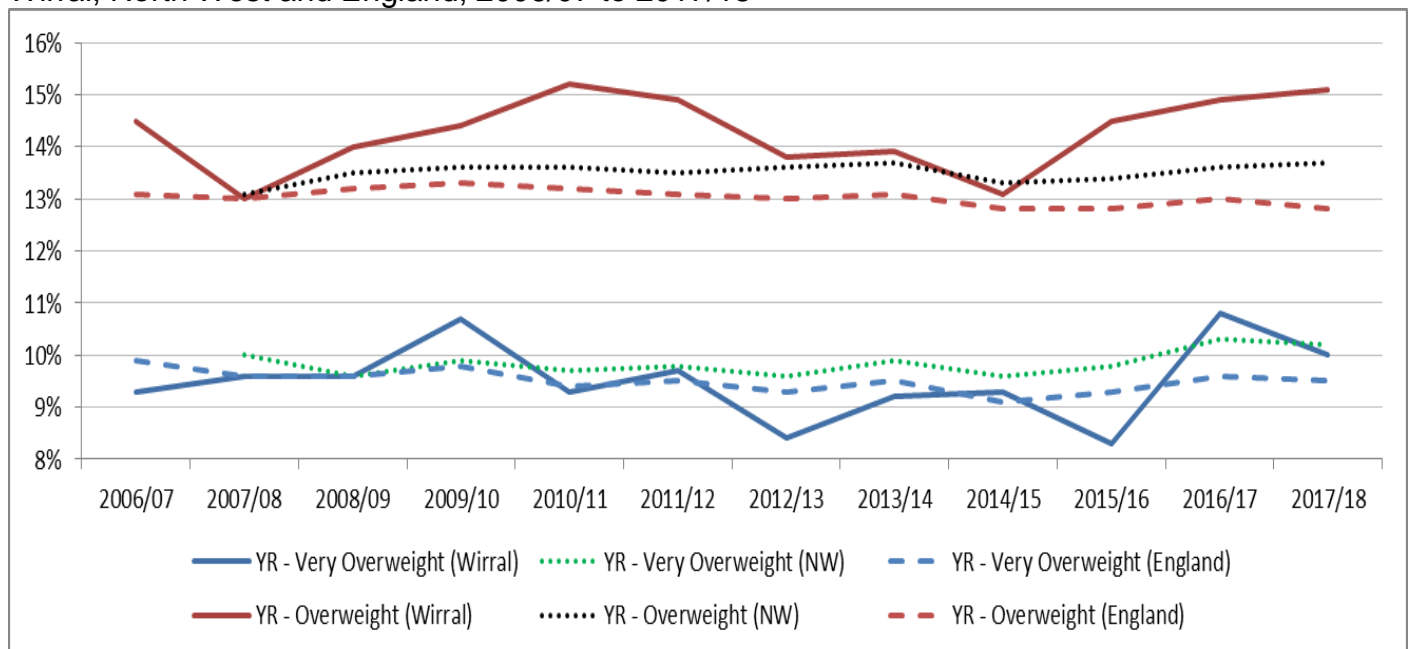
Overweight made the largest contribution to the overall proportion of children in the reception year group who were of an unhealthy weight both locally, regionally and nationally.

In year 6 aged children, it is obesity that makes the largest contribution to the proportion of unhealthy weight children – and this is also true regionally and nationally.

Trend in weight status by age

The NCMP has been collecting data since 2006/07. The quality of the data has grown year on year and this enables us to look back over that 12 year period with a high degree of confidence in the results. Figure 3 below shows the trend over that 12 year period in Wirral compared to national and regional trends over time.

Figure 3: Trend in prevalence of overweight and very overweight in reception year children, Wirral, North West and England, 2006/07 to 2017/18



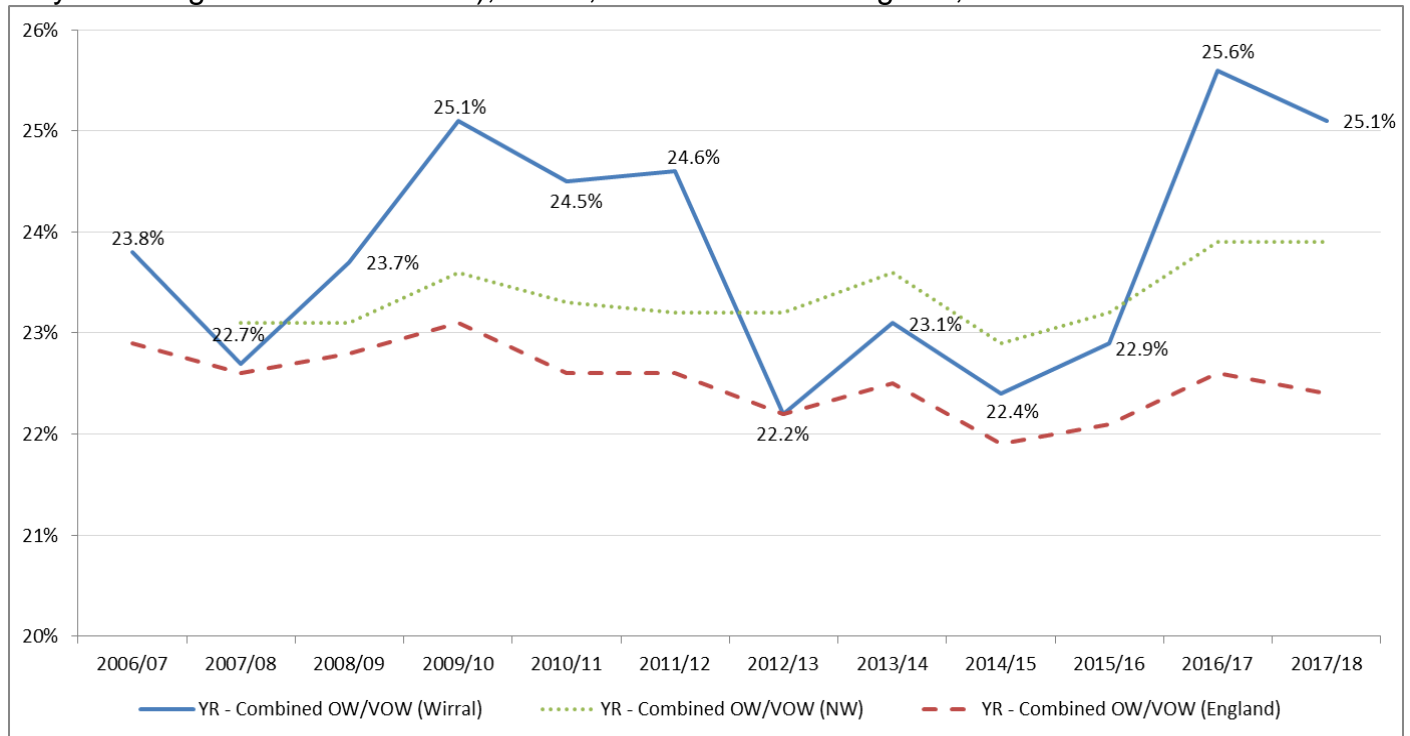
Source: [NCMP, 2018](#)

Note: Overweight and obesity together are often referred to as 'unhealthy weight'. Obesity is often now referred to as 'very overweight'. Severely obese is now reported as a subset from the obese/very overweight category.

The proportion of children in reception in Wirral who are overweight has been consistently higher than both the North West and England for the last 12 years. The proportion of very overweight (obese) children has shown more fluctuation however, and has been both above and below England rates over the same period.

The two weight categories have been combined (over the same time period) in Figure 4 below.

Figure 4: Trend in prevalence of unhealthy weight in reception year children (overweight and very overweight/obese combined), Wirral, North West and England, 2006/07 to 2017/18

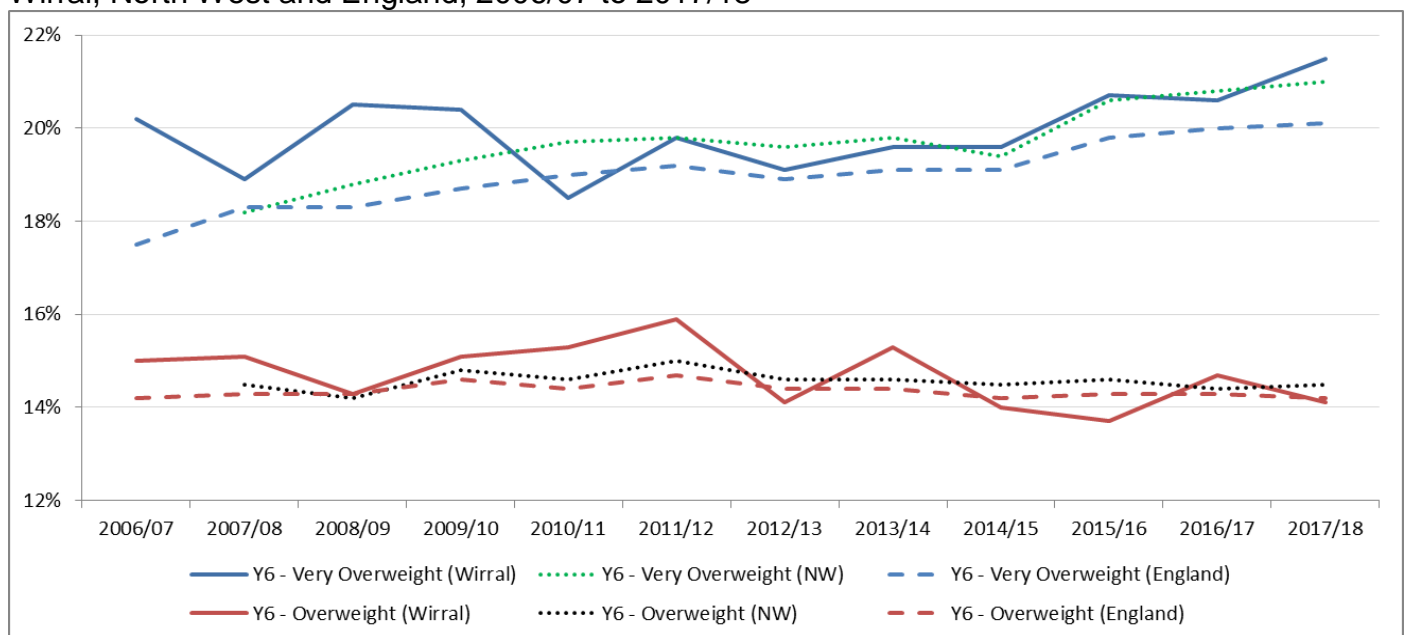


Source: [NCMP, 2018](#)

Note: Overweight and obesity together are often referred to as ‘unhealthy weight’. Obesity is often now referred to as ‘very overweight’. Severely obese is now reported as a subset from the obese/very overweight category..

The prevalence of unhealthy weight in reception age children in Wirral (combination of overweight and obese or very overweight) was recorded as the highest since the programme started at 25.6% in 2016/17. The lowest recorded figure was in 2012/13 being 22.2%. The year 6 age group show a similar pattern over the last 12 years as shown is Figure 6.

Figure 5: Trend in prevalence of overweight and obese (or very overweight) in year 6 children, Wirral, North West and England, 2006/07 to 2017/18



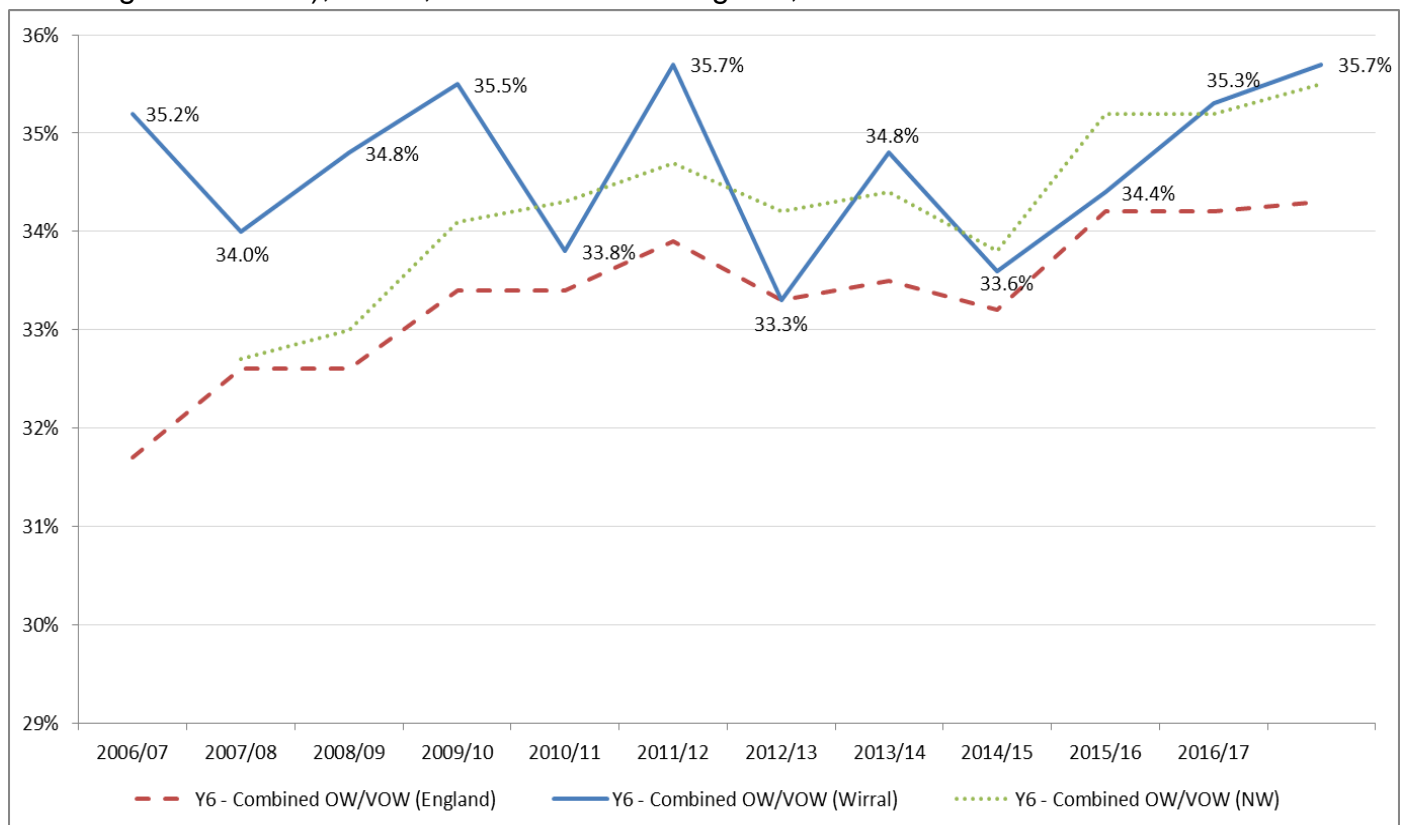
Source: [NCMP, 2018](#)

Note: Overweight and obesity together are often referred to as ‘unhealthy weight’. Obesity is often now referred to as ‘very overweight’. Severely obese is now reported as a subset from the obese/very overweight category..

The number of children in the very overweight (obese) category as shown above in Figure 5 has slowly been increasing each year for both the North West and England. Nationally figures have rose from 17% to 21%, whereas Wirral figures have slowly been increasing consistently since 2012/13 and continue to rise above the North West and England. Very overweight for the North West and England have remained fairly similar over the last 12 years between 14% and 15% whereas Wirral has fluctuated above and below both the North West and England for the same time period.

When looking at unhealthy weight (combined overweight and obese or very overweight) for the year 6 age group, it becomes more apparent that both nationally and regionally, the trend has been increasing since 2006/07. Wirral shows more fluctuation, which is to be expected as it is a smaller dataset (Figure 6 below).

Figure 6: Trend in prevalence of overall unhealthy weight in year 6 children (overweight and very overweight combined), Wirral, North West and England, 2006/07 to 2017/18



Source: [NCMP, 2018](#)

Note: Overweight and obesity together are often referred to as 'unhealthy weight'. Obesity is often now referred to as 'very overweight'. Severely obese is now reported as a subset from the obese/very overweight category.

Key messages about weight status by age

- Obesity doubles in Wirral school children between reception and year 6 (this is also true nationally and regionally) from 10.8% of children, to 20.6% of children
- This means that at age 4/5, one in ten Wirral children are obese. By the age of 10/11, one in five are obese
- The prevalence of unhealthy weight in both reception and year 6 aged children is (despite some fluctuation) increasing over time

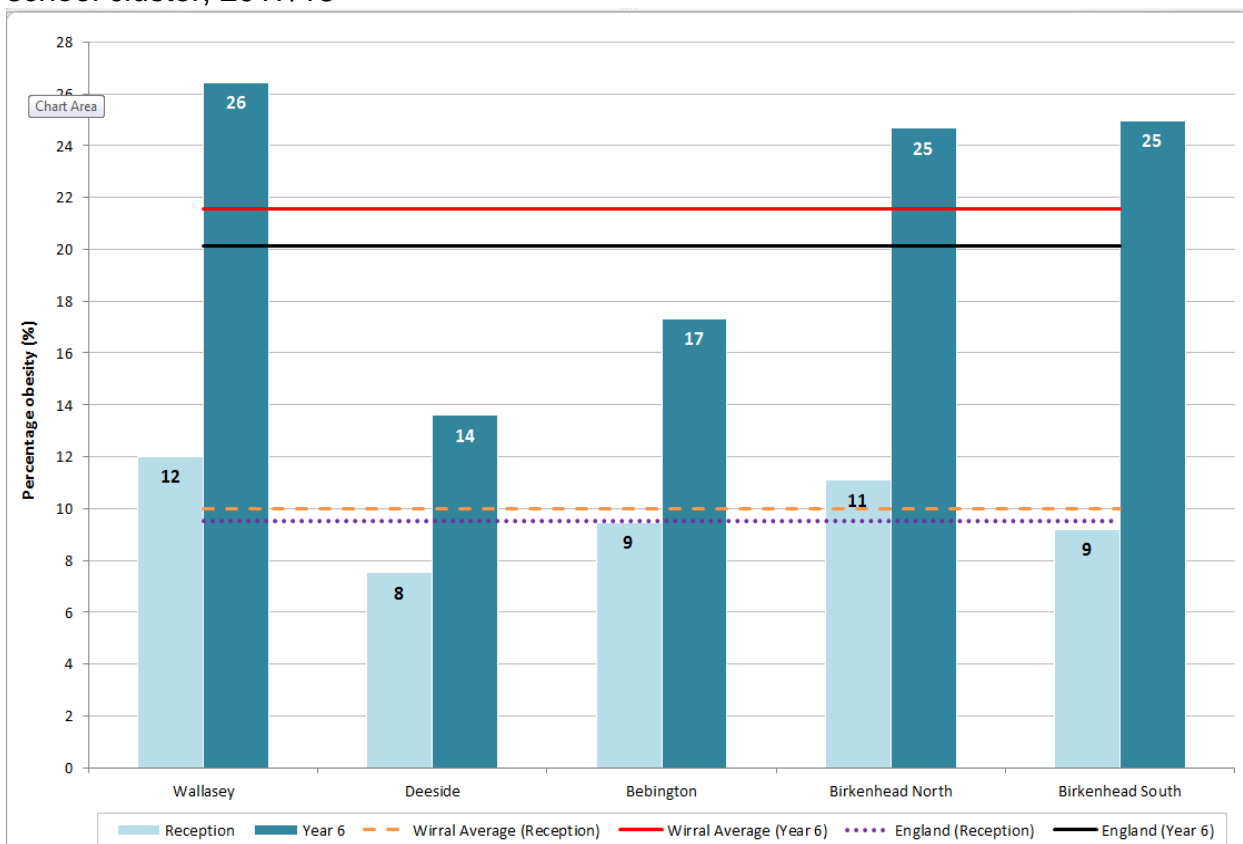
Weight status by school cluster and type

National Child Measurement Programme (NCMP) is completed in all state schools in Wirral. There are also several special and independent schools who take part in the programme (despite not being obliged to take part), who do so because they are interested in the results and aims of the NCMP. Results from special and independent schools however, are not included in overall Wirral results (this is also the case nationally). This is for primarily two reasons, firstly not *all* special/independent schools take part, and so low participation rates mean that the data is unlikely to be representative. Secondly the results could be incorrect as some children with physical and/or learning disabilities can be less likely to be able to stand on weighing scales and height measures unaided. Schools information in Wirral is broken in to five discrete school cluster areas:

- 1 – Wallasey
- 2 – Deeside
- 3 – Bebington
- 4 – Birkenhead North
- 5 – Birkenhead South

The largest area has 21 schools (Wallasey) and the smallest is Deeside (14). These are based on geographical locations of the schools. The figure below shows the percentage of obese (very overweight) children for each cluster. Four trend lines are also shown (Wirral, and England averages for both reception and year 6 aged children) to highlight which clusters are above average.

Figure 7: Percentage of reception and year 6 children who are very overweight (obese) by Wirral school cluster, 2017/18



Source: [NCMP, 2018](#)

Note: Overweight and obesity together are often referred to as 'unhealthy weight'. Obesity is often now referred to as 'very overweight'. Severely obese is now reported as a subset from the obese/very overweight category.

The Wirral average for reception is 9.99% and for England 9.53% whereas for year 6 the Wirral average 21.55% and for England 20.14%.

Figure 7 above shows that in reception age children, three of the five areas were under the Wirral and England average (Deeside, Bebington and Birkenhead South) in 2017/18, whilst the other two (Wallasey and Birkenhead North) were above the Wirral and England average. The same pattern is apparent for year 6 children, with two clusters (Deeside and Bebington) being below the England and Wirral average respectively.

Weight status by school type

As mentioned previously, although special and independent schools are not obliged to take part in the National Child Measurement Programme, some in Wirral choose to. Their results are not included in overall Wirral results for reasons already outlined above, but also because both nationally and regionally it is recognised that children with disabilities struggle with their weight. In special and independent schools in Wirral, the proportion of children classified as very overweight (obese) ranged from 14% to 31% in special schools and from 6% to 17% in independent schools.

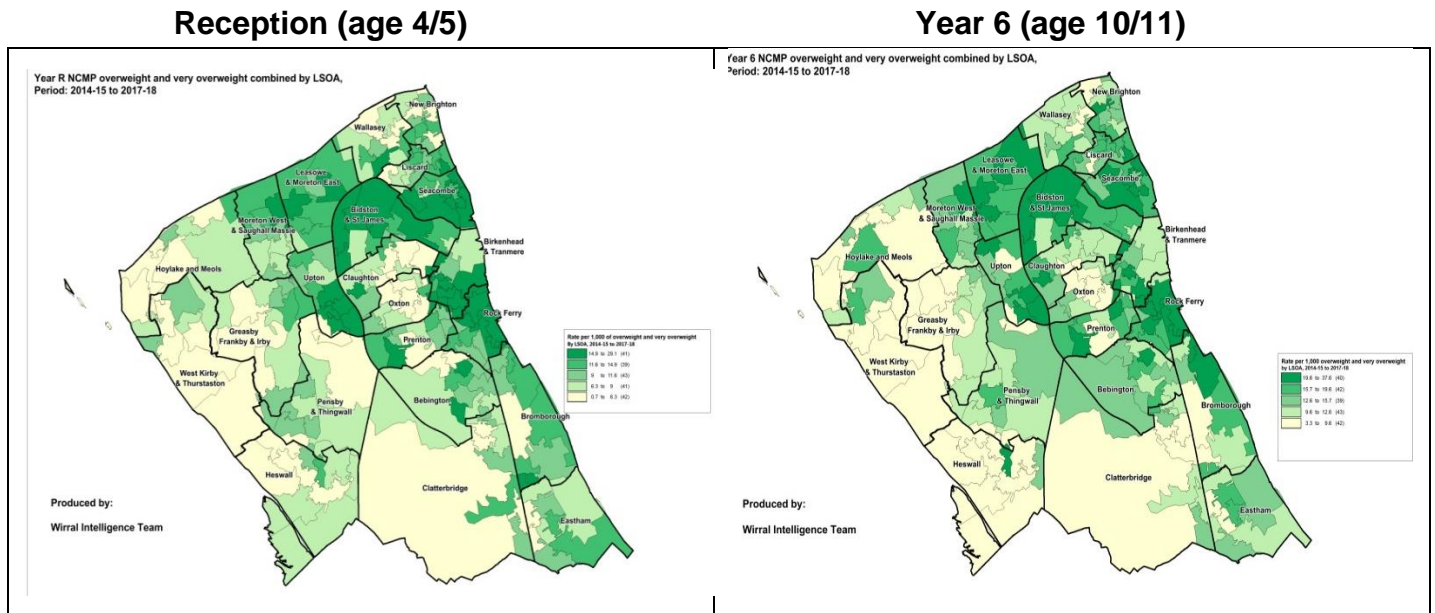
Key messages about weight status by school cluster and type

- Of the 5 'clusters' of Wirral schools, Wallasey has the highest prevalence of obesity (26% or one in four of year 6 children, and 12% or one in eight of reception aged children)
- Birkenhead North and Birkenhead South were also above the Wirral averages for the proportion of obese children. Bebington and Deeside were below the Wirral average
- Special schools (because their pupil roll contains children with physical and/or learning disability) are nationally acknowledged as having large proportions of obesity and overweight. Wirral follows this national trend.

Weight status by deprivation

When looking at the results of the National Child Measurement Programme geographically (by Lower Super Output Areas or LSOA) data has been combined for four years as the numbers are too small to report for one year only. The following maps have pooled data from 2014/15 to 2017/18. The maps show unhealthy weight (combined measure of overweight and very overweight), which again, makes the data more robust.

Map 1a & 1b: Distribution of unhealthy weight by age and Lower Super Output Area, 2014/15–2017/18



Source: [NCMP, 2018](#)

Note: Overweight and obesity together are often referred to as 'unhealthy weight'. Obesity is often now referred to as 'very overweight'. Severely obese is now reported as a subset from the obese/very overweight category.

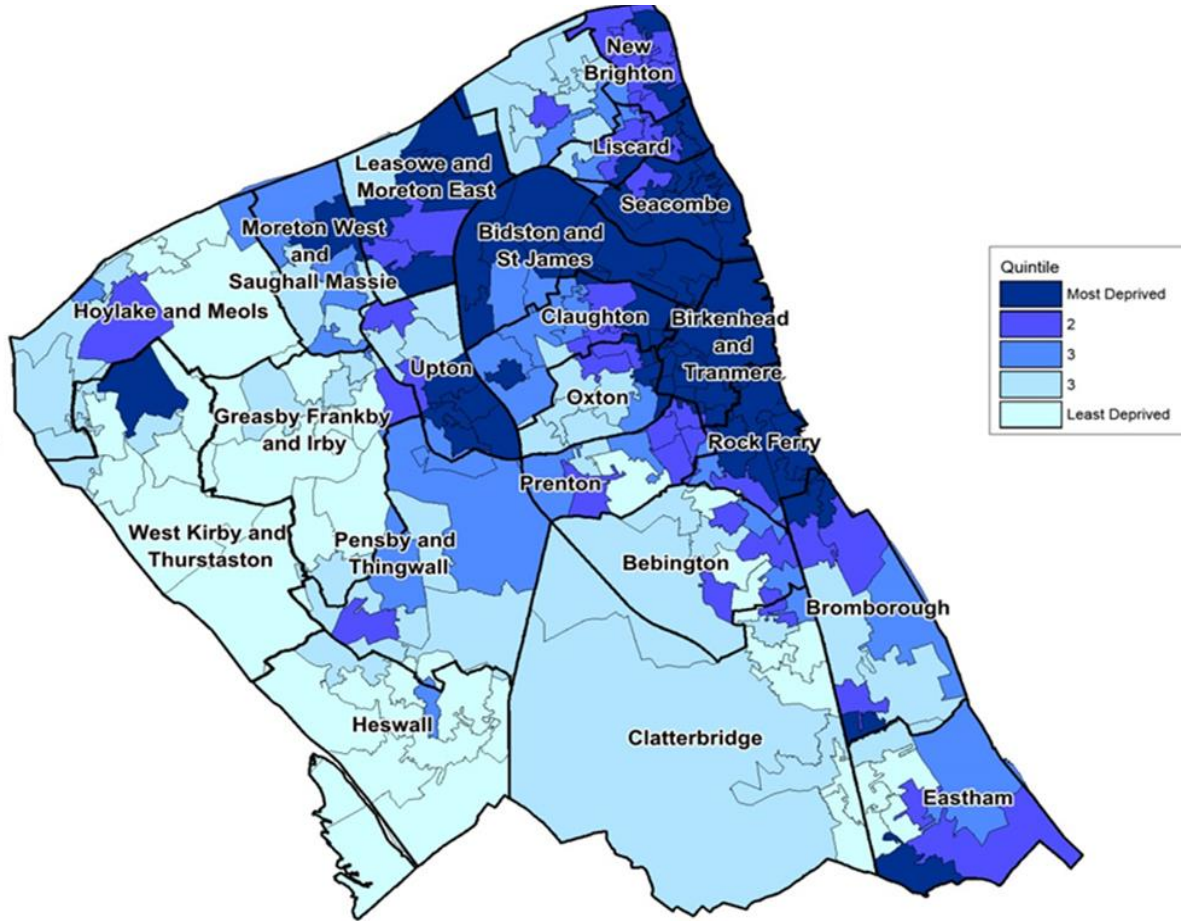
Note: LSOA is 206 geographies made up of an average population of 1,500 people.

The link between obesity and deprivation is well documented and the maps above reflect this.

There are some pockets of deprivation in Birkenhead and Tranmere and some areas of Heswall (generally affluent) which appear not to follow this general trend, but broadly speaking, unhealthy weight in Wirral in both Reception and Year 6 appears to be associated with deprivation (higher levels of overweight and very overweight shaded in dark green mostly fall into the 20% most deprived areas in Wirral).

The map below (Map 2) shows Wirral's level of deprivation according to the Index of Multiple Deprivation in 2015 for comparison. It shows that areas where unhealthy weight is prevalent correspond very well to the most deprived areas of Wirral.

Map 2: Index of Multiple Deprivation (IMD), 2015, by Wirral LSOA



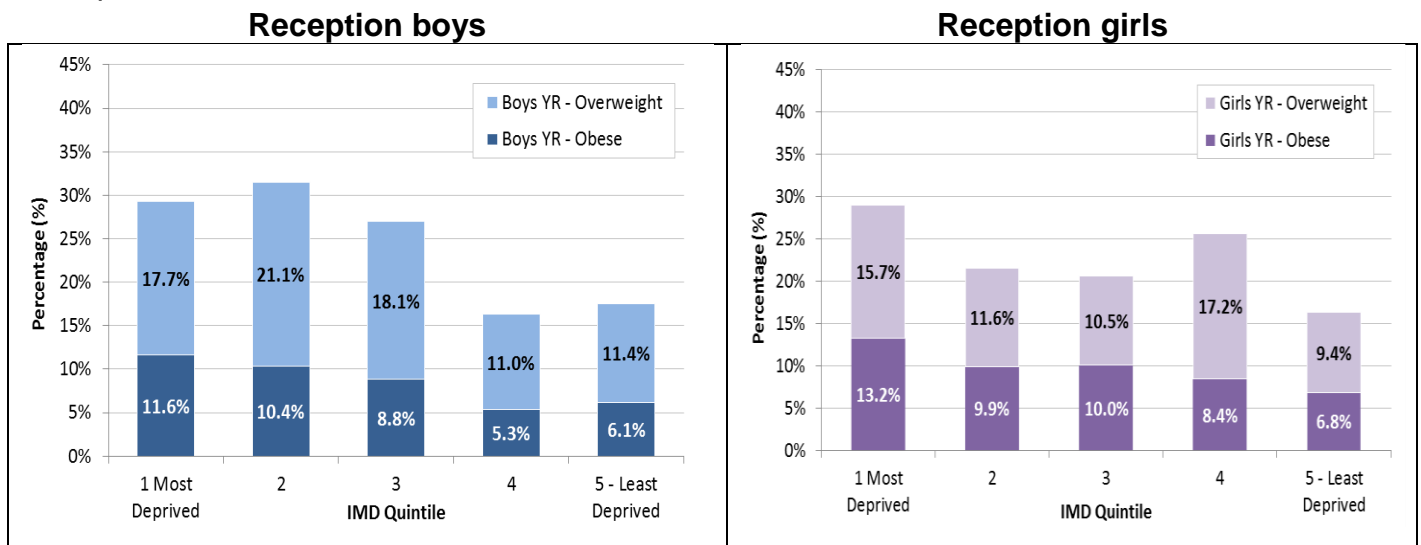
Source: [NCMP, 2018](#)

Note: Overweight and obesity together are often referred to as 'unhealthy weight'. Obesity is often now referred to as 'very overweight'. Severely obese is now reported as a subset from the obese/very overweight category.

Note: LSOA is 206 geographies made up of 1500 average populations.

In figures in 8a and 8b below they show the breakdown of overweight and obesity (which together make up unhealthy weight) by deprivation quintile, age and gender in Wirral in 2017/18.

Figure 8a and 8b: Prevalence of unhealthy weight by deprivation quintile and gender, Reception, Wirral, 2017/18



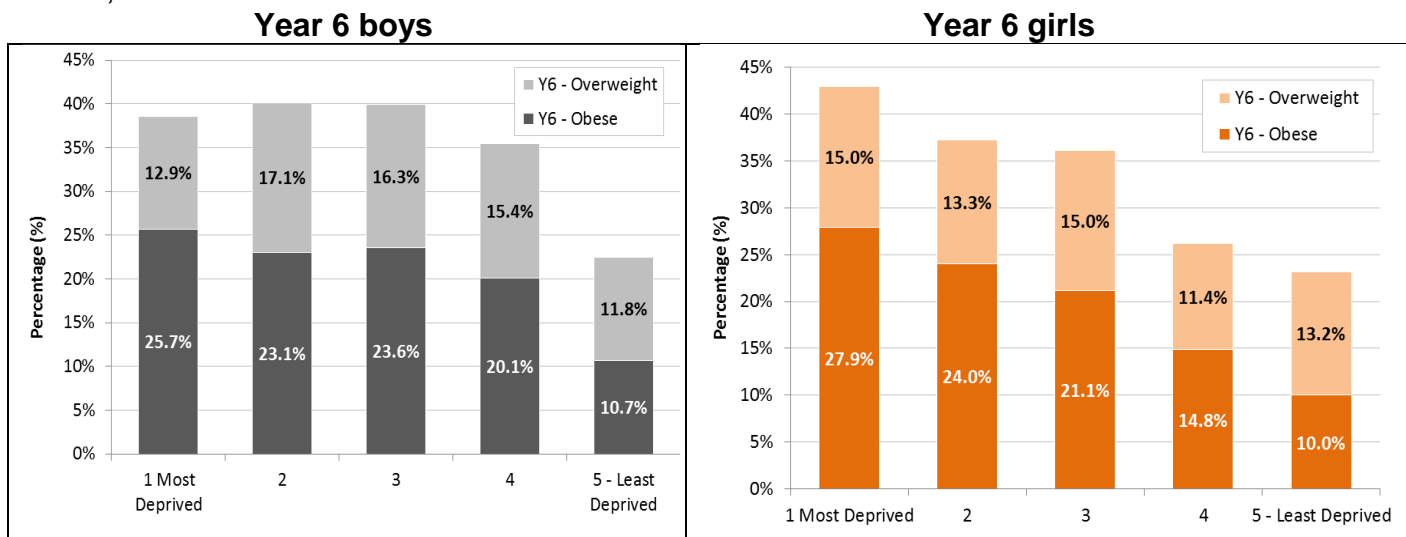
Source: [NCMP, 2018](#)

Note: Overweight and obesity together are often referred to as 'unhealthy weight'. Obesity is often now referred to as 'very overweight'. Severely Obese is now reported as a subset from the Obese/Very overweight category.

As the figures above show, at reception year, there appears to be a relationship between deprivation and unhealthy weight for boys, while for girls it's more of a mixed picture. In both boys and girls however, the lowest prevalence of obesity is observed in the two least deprived (or most affluent) quintiles of the population. Overall, obesity appears to be more associated with deprivation than overweight.

As was the case for reception aged children in Wirral, it appears that obesity is associated with deprivation in year 6 children locally, while overweight shows a more mixed picture. See figures 9a and 9b below.

Figure 9a & 9b: Prevalence of unhealthy weight by deprivation quintile and gender, year 6, Wirral, 2017/18



Source: [NCMP, 2018](#)

Note: Overweight and obesity together are often referred to as 'unhealthy weight'. Obesity is often now referred to as 'very overweight'. Severely obese is now reported as a subset from the obese/very overweight category.

As the charts show clearly, the prevalence of obesity in the most deprived quintile (20%) of the population is almost double that in the least deprived (or most affluent) quintile.

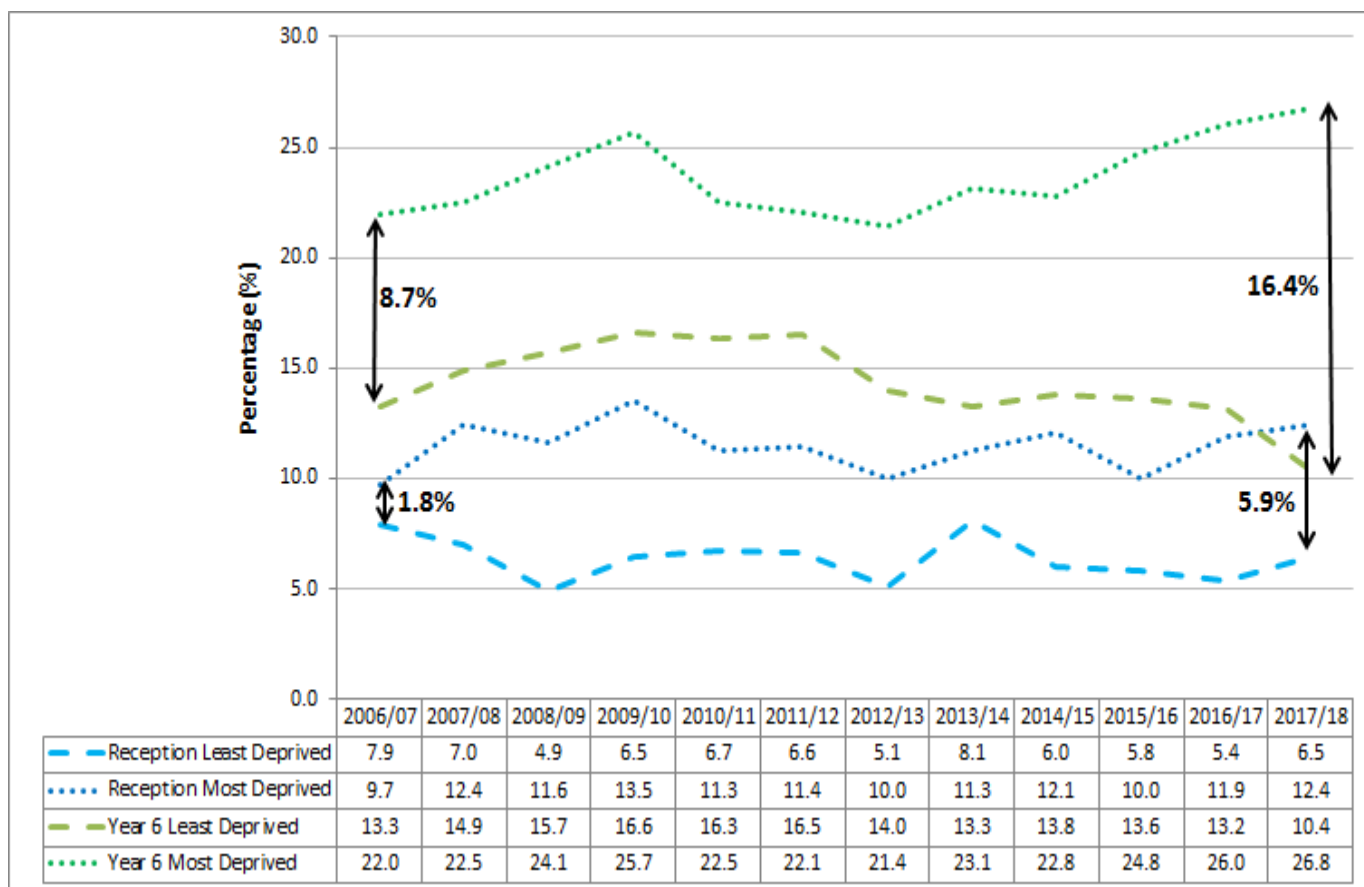
The figures are most stark among girls, where in the most deprived quintile; more than one in four girls are obese (27.9%). In the least deprived quintile, the figure is one in ten (10.0%). In boys, the figures range from one in four (25.7%) to one in nine (10.7%).

Trend in obesity by deprivation

Figure 10 shows obesity in the most and least deprived quintiles (20%) of the population in Wirral (both for Reception and Year 6), between 2006/07 and 2017/18.

It shows that while there has always been an inequalities gap in the proportion of children who are obese in Wirral, this gap is increasing over time. In other words, inequalities in child obesity are widening in Wirral. See Figure 10.

Figure 10: Trend in gap between obesity in the most and least deprived quintiles in Wirral: 2006/07 to 2017/18



Source: NCMP, 2018

Note: Overweight and obesity together are often referred to as 'unhealthy weight'. Obesity is often now referred to as 'very overweight'. Severely obese is now reported as a subset from the obese/very overweight category.

The chart shows that in 2006/07, the difference between the most and least deprived quintiles in Wirral in terms of obesity in reception children was just 1.8% (9.7% versus 7.9%). By 2017/18, this gap had more than tripled to 5.9% (10.4% versus 6.5%).

For year 6 the gap increased from 8.7% in 2006/07, to 16.4% in 2017/18 – this is the largest the gap has ever been recorded for Wirral. This is a very similar picture nationally, where the gap also increased; by 4.5% to 5.5% in reception and from 8.5% to 13.5% in year 6 (over the same time period).

Broadly speaking, the statistics point to obesity prevalence decreasing or stabilising in the most affluent children, but continuing to increase in the most deprived children.

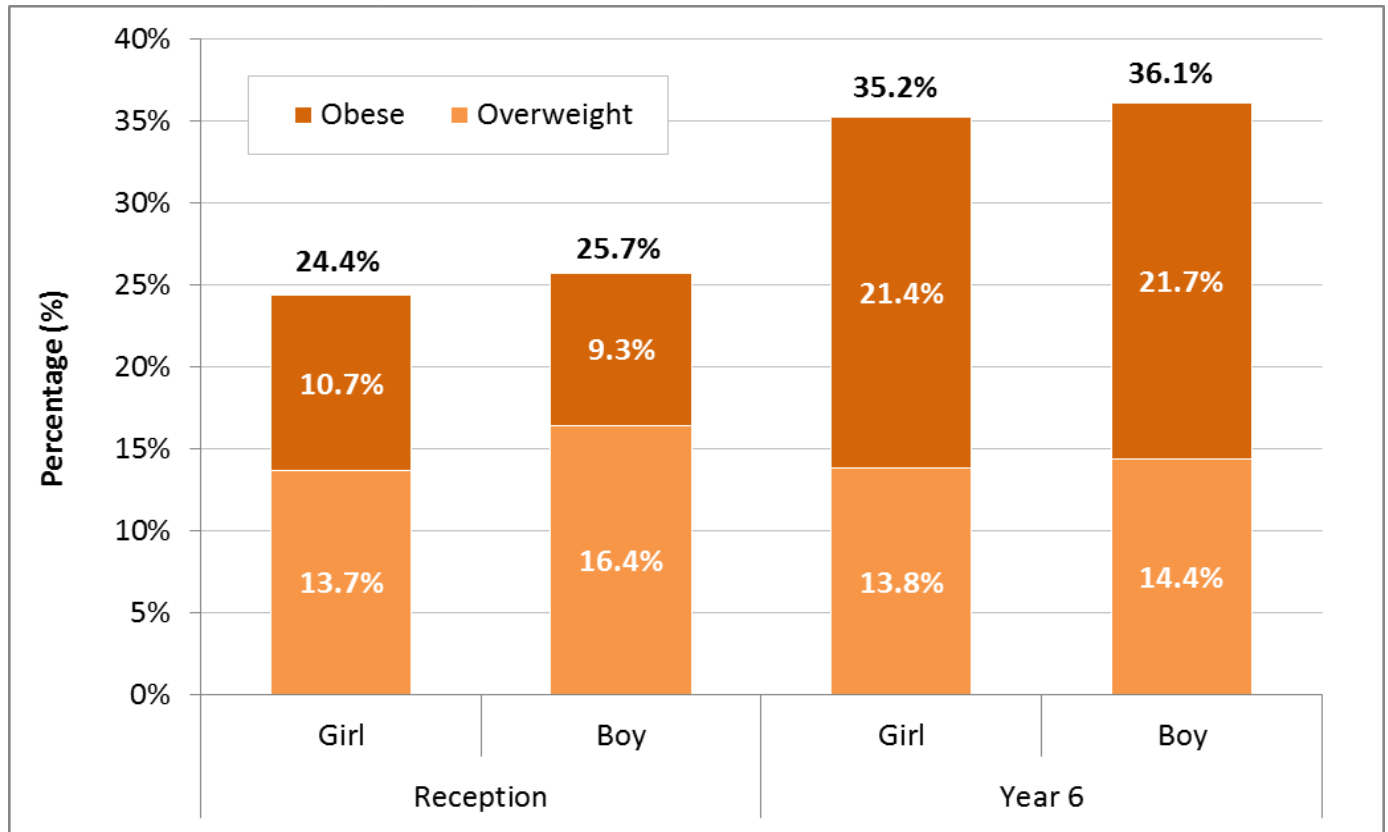
Key messages about weight status by deprivation

- The association between deprivation and obesity (in both adults and children) is well documented and Wirral mirrors national trends which show higher levels of obesity in areas of high deprivation
- In year 6 children, the prevalence of obesity in the most deprived quintile (20%) of the population is almost double that in the least deprived (or most affluent) quintile
- Trend data shows that the inequalities in obesity prevalence in Wirral are increasing
- Broadly speaking, obesity prevalence is decreasing or stable in the most affluent children, but continuing to increase in the most deprived children

Weight status by gender

In figure 11 and 12 below highlight both overweight and obesity rates by gender in 2017/18 for reception and year 6 children. Males appear to have higher levels of overweight and obesity than females in year 6 (and higher levels of overweight, but not obesity in reception year). Unhealthy weight (the two combined) is higher in males in both age groups (percentage for total unhealthy weight above each bar in black text). See Figure 11 below.

Figure 11: Unhealthy weight by gender for reception & year 6 in Wirral in 2017/18



Source: [NCMP, 2018](#)

Note: Overweight and obesity together are often referred to as 'unhealthy weight'. Obesity is often now referred to as 'very overweight'. Severely obese is now reported as a subset from the obese/very overweight category.

Trend in weight status by gender

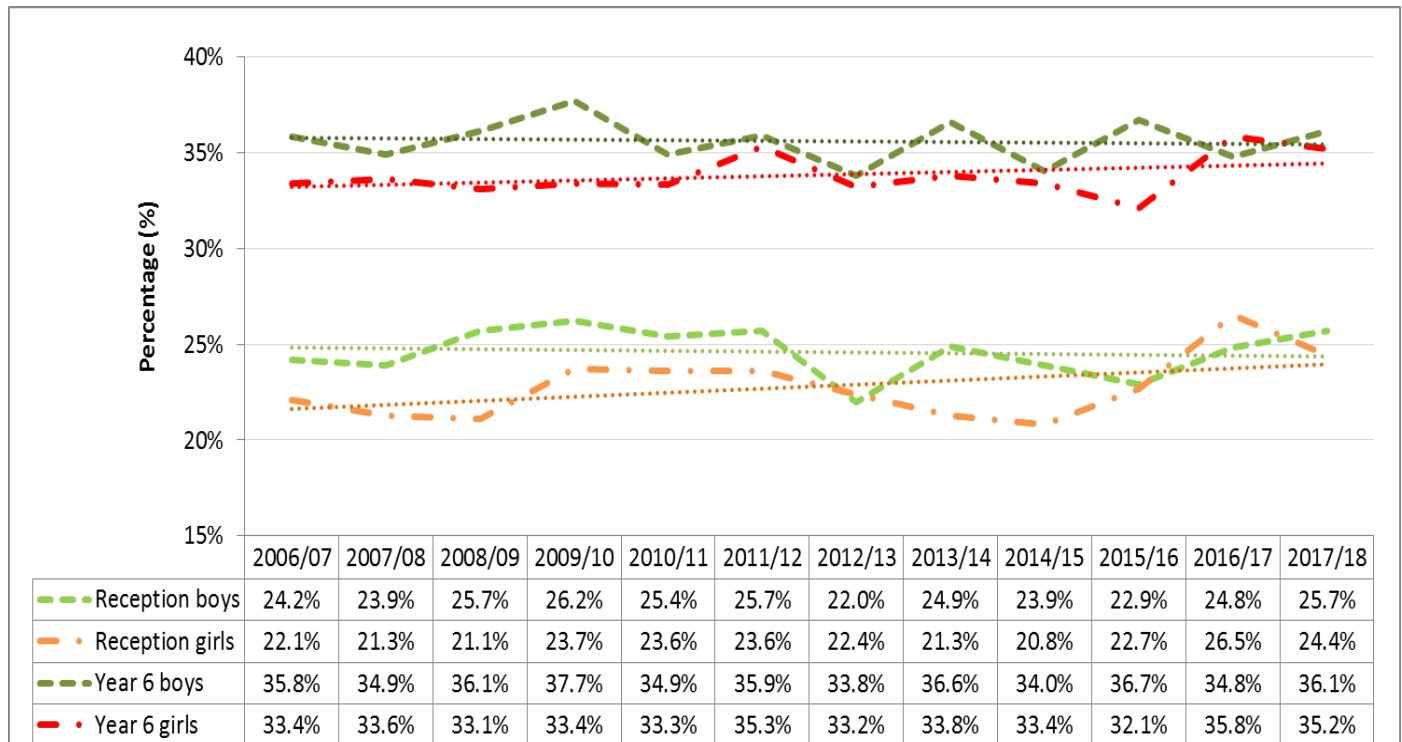
Figure 12 below shows the trend in unhealthy weight by gender, in Wirral from 2006/07 to 2017/18. There is a tendency for fluctuations over time, so trend lines have been added (these are the faint, dotted lines) to show overall direction over time.

For all time periods except 2016/17, boys in Wirral remain more likely to be an unhealthy weight than girls (there has only been one other time period where unhealthy weight was more prevalent in girls than boys and that was only in reception age children in 2012/13). This changed in 2016/17, when girls overtook boys in both reception and year 6, but for the most recent time period (2017/18), the usual situation of boys being more likely to be an unhealthy weight than girls has reinstated itself.

The chart (and in particular the trend lines), show a diverging picture for boys and girls however. While in both reception and year 6, there appears to be a trend for girls becoming *more* likely to be an unhealthy weight over time, while unhealthy weight in boys appears to be stabilising or reducing slightly.

If this diverging trend continues (girls unhealthy weight increasing, while boys decreases or stay the same), it seems likely that over time, girls will overtake boys to have higher rates of overweight in both reception and year 6.

Figure 12: Trend in unhealthy weight by gender in reception and year 6 children in Wirral 2006/07 to 2017/18



Source: [NCMP, 2018](#)

Note: Overweight and obesity together are often referred to as 'unhealthy weight'. Obesity is often now referred to as 'very overweight'. Severely obese is now reported as a subset from the obese/very overweight category.

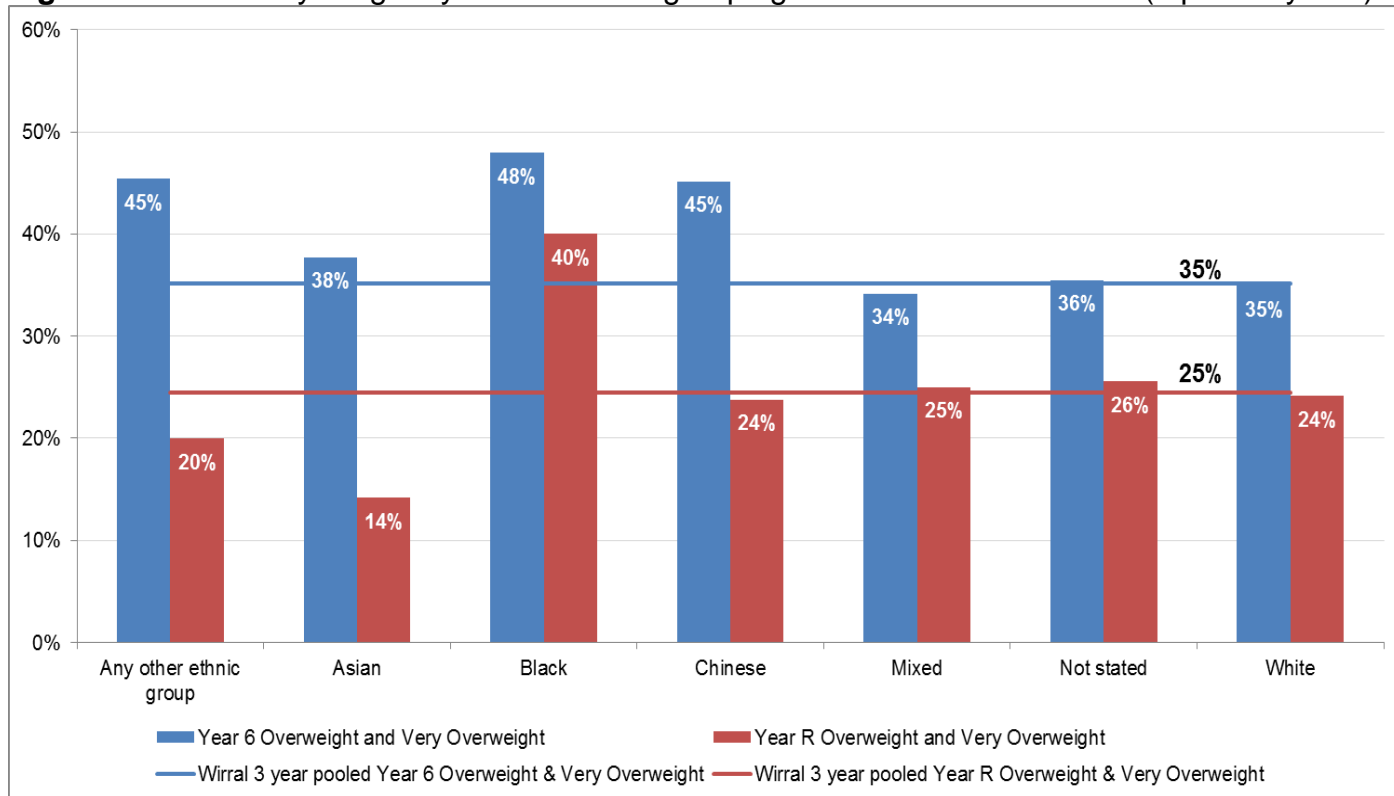
Key messages about weight status by gender

- Boys in Wirral had higher rates of unhealthy weight than girls in both reception and year 6 in 2017/18
- Boys in year 6 have consistently been of an unhealthy weight more than girls in year 6 with the exception in 2016/17 when girls overtook boys for unhealthy weight since the NCMP program began in 2006/07
- Boys in reception have also been consistently higher than girls for unhealthy weight (except in 2012/13 and 2016/17 when girls had higher rates of unhealthy weight)
- There appears to be a trend for girls becoming more likely to be an unhealthy weight over time, while unhealthy weight in boys appears to be stabilising or reducing slightly. If this trend continues, girls may overtake boys to have higher rates of overweight in both reception and year 6

Weight status by ethnicity

Ethnicity data for BAME (Black and Ethnic Minority) children in Wirral has been pooled for the latest three years, due to numbers being too small to report for one year only. Figure 13 below shows unhealthy weight by National Child Measurement Programme ethnic groupings for 2015/16 to 2017/18.

Figure 13: Unhealthy weight by NCMP ethnic groupings for 2015/16 to 2017/18 (3 pooled years)



Source: [NCMP, 2018](#)

Note: Overweight and obesity together are often referred to as 'unhealthy weight'. Obesity is often now referred to as 'very overweight'. Severely obese is now reported as a subset from the obese/very overweight category.

The classifications used are NCMP ethnicity classifications. The Office for National Statistics (ONS) standard classifications have not been used as due to very small numbers/rounding issues.

As Figure 13 shows, the Black ethnic group has the highest percentage of unhealthy weight children of any group (for both age groups 48% in year 6 and 40% for reception).

The ethnic groups with the lowest percentage of unhealthy weight children were Asian in the reception (14%) and Mixed Ethnicity in year 6 (34%). This broad trend is also apparent in national data.

Key messages about weight status by ethnicity

- Local data mirrors national trends which shows that Black/Black British children are the most likely to be an unhealthy weight at both reception and year 6
- Asian children were the least likely to be obese in reception. Mixed children were the least likely to be obese in year 6

Local, Community and Stakeholder views

Following completion of the 6 month children's weight management programme (provided via [Wirral Community Foundation Trust 0-19 Health and Wellbeing Service](#)); all participants are asked for feedback via the patient experience questionnaire.

The 0-19 Health & Wellbeing Service has completed a survey of Year 6 pupils following the weighing and measuring process of the [NCMP](#), including their views of:

- The experience of being weighed and measured
- The healthy eating talk given by 0-19 service school health team
- Number of portions of fruit and vegetables eaten each day
- How many times a week they are physically active for at least 60 minutes
- Whether they would like to be more active
- Whether they would they like information on any of the following: Healthy eating; Portion sizes; Sugar swaps or Exercise/physical activity

42 questionnaires were returned, results indicated that 68% would like to be more active and 90% want information on exercise and physical activity. These initial results indicate the need for increased physical activity sessions for children and young people across Wirral.

The 0-19 Health & Wellbeing Service FIT Club has been successful in accessing Wirral Community NHS Foundation Trust innovation funding to provide additional fitness activities for young people on the FIT club weight management programme. This funding is for 2 x 1 hour sessions a week, with an 'underground training station' for 12 months (this is a closed session for children and young people being supported with weight, health and emotional well-being).

From September 2018, the FIT club has incorporated a 2 minute step test, monitoring heart rate recovery for 1 minute, a sit and reach test to assess flexibility and an assessment of emotional well-being. These assessments will be completed at the initial assessment and at the 3 months and 6 month review.

[A client journey with the 0-19 service has been illustrated below 'A Day in the Life...Michael Bennett'](#).

What are we expecting to achieve? (Targets)

The national target is to halve childhood obesity by 2030 and significantly reduce the gap in obesity between children from the most and least deprived areas. Locally Wirral does not have a target for childhood obesity.

Wirral NHS Community Foundation Trust, commissioned to deliver the 0-19 contract, has to achieve the following outputs:

Indicator 1

- Percentage of 4-19s identified as overweight/obese taking up a recommended intervention.

Indicator 2

- Percentage of those undergoing a weight management intervention that has reduced BMI at 3 months.

Indicator 3

- Percentage of those undergoing weight management interventions that have reduced BMI at 6 months.

What are we achieving? (Performance)

Wirral NHS Community Foundation Trust has provided the children's weight management programme since 2016 and reports the following for the indicators for end of year 2017/2018 below:

Indicator 1

- Percentage of 4-19s identified as overweight/obese taking up a recommended intervention
- Achieved = **18% (no target set for this indicator)**

Indicator 2

- Percentage of those undergoing a weight management intervention who reduced their BMI at 3 months
- Achieved = **52% (target of 60% achieved)**

Indicator 3

- Percentage of those undergoing a weight management intervention who reduced their BMI at 6 months
- Achieved = **86% (target of 50% achieved)**

What is this telling us?

The data and related information suggests that Wirral has issues and challenges to overcome in terms of childhood obesity.

Levels of obesity double for Wirral school children between reception year and year 6.

The data suggests that at age 4/5 years, one in ten Wirral children are obese.

By the age of 10/11, one in five are obese.

Inequalities are increasing between the most and least affluent children.

Girls are becoming more likely to be an unhealthy weight over time, while unhealthy weight in boys appears to be stabilising or reducing slightly. If this trend continues, girls may overtake boys to have higher rates of overweight in both reception and year 6

Promoting healthy weight and physical activity in children, young people and families has to be a priority. However due to complexities of obesity, whether childhood or for adults, it needs a local whole systems approach to support healthy weight across a person's life course.

This will need a change of mindset, a different way of working and an articulated collective, strategic direction across the local authority and its partners.

Culture and Behaviours

Adults tend to underestimate their own weight and half of parents do not recognise their children are overweight or obese. If an adult does not recognise they are obese they are less likely to prioritise tackling it themselves.

Social and Environmental Pressures

The point has also been made that given that adults find many of the forces which drive obesity overwhelming, children are even more vulnerable to social and environmental pressures such as advertising and this is a huge challenge (55).

Principles of eating well

Eating well is fundamental to good health and well-being, but it should also be an enjoyable social experience. For children, eating and drinking well in childhood is essential for proper growth and development, but also for developing a love of good food and the development of social skills. Acquiring healthy eating and drinking patterns in childhood can promote good health and well-being in later life. The focus of eating well for children and young people should always be on the range of interesting and tasty food that can make up a healthy diet, rather than a focus on denying them certain foods and drinks (84).

True Levels of Inactivity in Women

A further challenge is the fact that women are much less active than men, at all ages throughout the life course (77). Research carried out by Sport England found that millions of women and girls are afraid to exercise because of fear of judgement (77). The majority of women however (75%), do say they want to be more active, so a key challenge is for commissioners and providers of sport and exercise to use insight (such as that from Sport England), along with local research to better understand the barriers, motivations and triggers of their target audience (77). Interestingly, this disparity in activity levels between men and women does not exist in some other European countries (77), indicating that it is not an immovable situation, but something which *could* be changed in the UK with the right approach.

Difficulty in Reversing Effects of Obesity

Obesity will continue to be a significant public health issue in the coming years, as research has shown that once established, overweight and obesity are difficult to reverse in both adults and children (1), (2), (3). Children who are obese now, are highly likely to be obese adults, putting them at higher risk of developing a range of chronic diseases. These include Type 2 diabetes, cardiovascular disease, liver disease, musculoskeletal disorders, obstructive sleep apnoea, asthma, certain cancers, poor mental health, reduced quality of life and a reduction in life expectancy of around eight to ten years compared to those of a healthy weight (12), (18), (19), (20), (21), (22).

Workforce

A collaborative whole systems approach is likely to be more effective to promote healthy weight in children, young people and families rather than single interventions on their own (82). Local partnerships, voluntary sector, local communities and local businesses need to work together. Organisations need to identify actions to keep people healthier for longer through service improvements and outcomes as part of their plans to deliver the Five Year Forward View (5YFV) (83). As part of the 5YFV, NHS England has committed the NHS to promote workplace health through the NHS Healthy Workforce programme and the NHS staff health and wellbeing commissioning for payments framework.

What are we doing and why?

Following extensive consultation and scrutiny, the Department of Health and Social Care published Chapter 2 of its Childhood Obesity Plan (79) on 24 June 2018.

Duncan Selbie, Chief Exec of Public Health England, welcomed the measures proposed to help government achieve its ambition of halving childhood obesity by 2030 and significantly reduce the gap in obesity between children from the most and least deprived areas.

Local action requires a sustained collaborative approach across the borough that will focus on making healthier decisions easier, providing healthier options and creating healthier environments.

Current activity and services

Wirral Community Foundation Trust 0-19 Health and Wellbeing service

The 0-19 Health and Wellbeing Service will enable children and young people in Wirral to access a range of services quickly to ensure they achieve their full potential as adults. The service offers advice and support around sexual health and emotional wellbeing, birth and infant feeding support, as well as wider health and wellbeing concerns, such as stop smoking, alcohol/drug misuse, mental health, internet safety, aspirations and goals, confidence and self-esteem.

Fit Club

This is provided by the 0-19 Health and Wellbeing Service and is the weight management service for children and young people aged 5-19 years (25 years with SEND - Special Educational Needs and Disability). The service offers a free confidential tailored, 1 to 1, personalised or group support plan for children who are above a healthy weight.

[Fit Club Children's Weight Management Pathway](#)

[Fit Club Public Leaflet](#)

[Fit Club Professionals Leaflet](#)

Wirral Children's Centres

Children's Centres bring together a range of services for families and children from pre-birth to five. Although every child will have a named Children's Centre allocated to them, parents can access any children's centre in Wirral. Each Children's Centre offers a range of activities via the ['What's on Guide'](#) that can be found via the website.

Pregnancy presents an ideal opportunity to promote healthy eating and a healthier lifestyle, both for the woman her family. Midwives in Wirral will provide some support to pregnant women around diet and exercise but for pregnant women who are overweight or obese additional support is available.

Midwives can refer women for in-house specialist dietetic support at Arrowe Park Hospital, or alternatively (depending on their BMI) can refer them to Slimming World or Wirral NHS Community Trust.

Weight-loss dieting during pregnancy is not recommended so the focus of these interventions is weight maintenance by supporting pregnant women through healthy eating advice and promoting physical activity as well as encouraging positive lifestyle behaviours post pregnancy.

Invigor8 Junior and Teen

Wirral Council operates eight Leisure Centres across Wirral, all of which offer a range of facilities, including:

- Leisure and competition pools
- Multi-purpose indoor sports halls
- State-of-the-art health and fitness suites
- Athletics facilities
- Grass and synthetic sports pitches

There are activities at the Leisure Centres which are specifically for young people. These are mainly run by qualified coaches through the Sports Development Team.

[Invigor8 Memberships – Wirral Leisure Services](#)

The HIVE, Wirral Youth Zone

Named by young people as 'The Hive', this is a purpose built facility for the borough's young people. It is a purpose-built facility for the city's young people aged 8 – 19, and up to 25 for those with disabilities. The Youth Zone is located next to the new fire station on Brighton Street, in the centre of Birkenhead.

Check out the full range of activities on offer at The Hive from sports and arts, to music, drama and employability workshops. <https://www.thehiveyouthzone.org/young-people/whats-on/>

What are the challenges?

Key gaps in knowledge and services

- The National Child Measurement Programme (NCMP) is currently not able track individual children. Even though children are measured twice (at reception and year 6), their measurements do not have a unique identifier. This means we do not know exactly how weight status changes over that time (although this is due to change from 2018/19)
- We will be able to track children from the 2018/2019 school cohort (using their NHS number that became a mandatory field in 2014/2015), which may provide evidence and insight about whether children offered interventions following being weighed and measured has any impact
- Analysis of Wirral's 3 year pooled NCMP data (2015-2018) shows that in a number of schools there is more than 23% difference between the percentage of children in reception who are very overweight (VOW) and the percentage of children in year 6 who are very overweight (VOW). We do not have the local insight to tell us what has happened in the 6 year gap
- Evidence of what works in preventing obesity in the crucial early (0-2 years) period is currently lacking. Starting at this point will enable a life course approach to be developed from early years through to primary age informed by an understanding as to what families perceive to the boundaries for example, knowledge, facilities, motivation etc.
- Evidence on success or otherwise of community based approaches (given that many approaches are school-based) is currently lacking
- Evidence on issues related to low incomes, e.g. availability of cooking facilities and white goods in rented properties, food deserts, access to shops selling fresh produce, use of foodbanks and more, is currently lacking

- Information on whether Children Looked After and fostered children have higher, lower or average levels of obesity is currently unavailable
- Working patterns of parents, e.g. shift work, siblings acting as carers and how this might impact on family obesity is currently unclear
- LGBT status and how this may link to mental health and/or body image and ultimately, unhealthy weight
- There is a lack of standard national guidance about energy drinks, e.g. there are some schools that recognise the problems caused by energy drinks and do not allow consumption during school hours, while others do not
- Ultra-processed foods and the close relation to obesity rates (76) is not well understood
- Implementing a Whole Systems Approach to Obesity (WSO) programme, which aims will help to deliver coordinated actions, to tackle obesity and will involve stakeholders across the whole local system.

What is coming on the horizon?

Sugar reduction programme: Taking out 20% of sugar in products

This programme led and run by Public Health England (PHE) applies to all sectors of industry – retailers, manufacturers and the out of home sector (for example, restaurants, takeaways and cafés) – and to all foods and drinks that contribute to children’s sugar intakes, including those aimed at very young children.

At the heart of the Government’s plan (78) was the ambition to make the food that children eat healthier. Reducing sugar content in the food children eat most was a key part of that. The Soft Drinks Industry Levy (SDIL) was introduced to incentivise industry to reduce the sugar content of soft drinks, and has delivered strong results, with the majority of the soft drink industry reducing the sugar content before the Levy came into force on 6th April 2018. Tesco and Asda have both reformulated their own brand soft drinks to be below the Levy rates.

Government has also challenged industry to take 20% of sugar out of the food most commonly eaten by children by 2020, with a 5% reduction target for the first year. This has already led to many parts of the food and drink industry removing sugar from their most popular products. For example, Kellogg’s have cut between 20%-40% of sugar from their cereals most popular with children; Yoplait have reduced the amount of sugar by 13.2%, and Waitrose have taken 5.5% of sugar out of their confectionery.

Importantly, there has been an increase in consumer demand for healthier food and drink as a result of these programmes. Large parts of the food and drink industry have taken this seriously, with many parts of the sector leading the way and there is more reformulation in the pipeline. However, despite some sections of industry meeting the 5% one year progress target, overall the 5% goal has not been achieved. (81)

What does the research suggest as further actions?

Engagement of schools, communities, families and individuals

Obesity is a complex issue – the solutions are likely to be similarly complex and involve multiple partners and components. According to the Governments latest strategy for child obesity (5),

“Long-term, sustainable change will only be achieved through the active engagement of schools, communities, families and individuals”.

Prevention is best

Most people regain weight lost through dieting (2) and whilst bariatric surgery is effective in reducing weight, it is risky, invasive and costly (2). It is also an individual level solution to what is a population issue (56) and like pharmaceutical methods, is likely to be an unaffordable solution to deal with obesity levels which are currently around 30% or one in three of the adult population of the UK. It is also an unsuitable option for children and young people who are still developing physically and who are not usually in control of household shopping, food preparation or cooking methods.

Prevention of childhood obesity starts in pregnancy

It is important the message that pregnancy and the first 2 years of a child's life are the most critical to the development of overweight and obesity is made widely known to both the public and professionals alike (67). Targeting healthy pre-conception weight and gestational weight gain, tobacco avoidance, and healthy infant weight gain with adherence to current infancy nutrition and sleep recommendations shows promise for childhood obesity prevention (67).

Pre-school interventions

Several studies indicate that a crucial time in the development of obesity (23), (47), (57), (58), (59) is the pre-school period. Several studies identify the pre-school period as crucial, suggesting that, “the die is largely cast by the age of 5” (59, 60). Therefore interventions to prevent chronic overweight or obesity developing early in life, instead of attempting (with little success) to reverse it once it has become established; appear to offer the best chance of success.

Making it easier for children to be physically active, particularly girls

Physical activity is associated with numerous health benefits for children. As well as maintenance of a healthy weight, it improves muscle and bone strength, health and fitness and results in improved quality of sleep (5). Children who live in an environment perceived as unsafe by their parents are far more likely to be inactive (8).

There is also evidence that physical activity and participating in organised sports and after school clubs is linked to improved academic performance (5). Structured activities in a safe environment remove the concerns parents may have about children playing out in areas considered unsafe. Recent research does however, not support school-based programmes alone for tackling obesity (75). The WAVES study (a 12 month school based programme which included over 1,200 children in the West Midlands) did not result in any meaningful effects on adiposity (fatness), dietary intake, or physical activity after 15 or 30 months.

This was despite a comprehensive programme which encouraged healthy eating and physical activity, including a daily additional 30 minute school time physical activity opportunity, a 6-week interactive skill based programme in conjunction with Aston Villa football club, signposting of local family physical activity opportunities through mailouts every six months, and termly school led family workshops on healthy cooking skills.

The authors concluded that interventions based only in the school environment, while useful, are not enough to tackle obesity and those wider efforts are required (75). In addition, on the basis of other research detailed here on the importance of the first 2 years of life and pre-conception factors, starting interventions at the point at which children reach school may already have missed the best opportunities to reduce childhood obesity (67).

Key content

Links

Public Health Outcome Framework

- Reception: Prevalence of overweight (including obese)
- Year 6: Prevalence of overweight (including obese)
<https://fingertips.phe.org.uk/search/children#pat/6/ati/102/par/E12000002>

What Works in Schools and Colleges to Increase Physical Activity? A briefing for head teachers, college principals, staff working in education settings, directors of public health and wider partners

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/469703/What_works_in_schools_and_colleges_to_increas_physical_activity.pdf

NHS Digital published data/reports:

<https://digital.nhs.uk/services/national-child-measurement-programme/>

Change4Life

www.nhs.uk/change4life/about-change4life

Action for Children (2017) Eat Better Start Better. Voluntary food and drink guidelines for Early Years settings in England.

<https://www.actionforchildren.org.uk/resources-and-publications/information-guides/eat-better-start-better/>

Public Health England Regional child obesity slide sets

<https://app.box.com/s/og3q86aqejc99okxe9xyvpfvo21xai21/folder/45752850527>

Childhood obesity: applying All Our Health

<https://www.gov.uk/government/publications/childhood-obesity-applying-all-our-health/childhood-obesity-applying-all-our-health>

Eating well for 5-11 year olds Practical guide

<http://www.thecarolinewalkertrust.org.uk/pdfs/CHEW-5-11Years-PracticalGuide.pdf>

Relevant and related National and local strategies

Wirral 2020 Plan pledges

- *'Children are ready for school' includes the NCMP target ' % of children aged 4-5 years old classified as overweight or obese '.*
<http://democracy.wirral.gov.uk/documents/s50028707/Delivery%20Plan%20Phase%20One%20Appendix.pdf>
- *'Wirral residents live healthier lives' includes a coordinated approach to addressing early years food culture*
<https://www.wirral.gov.uk/sites/default/files/all/About%20the%20council/Wirral%20Plan/Residents%20Live%20Healthier%20Lives%20Strategy.pdf>

Sports England: Towards an Active Nation Strategy 2016-2021 (2016)

<https://www.sportengland.org/media/10629/sport-england-towards-an-active-nation.pdf>

Childhood Obesity: A Plan for Action. HM Government (2016):

<https://www.gov.uk/government/publications/childhood-obesity-a-plan-for-action>

Better Births: Improving outcomes of maternity services in England. A Five year forward view for maternity care. (2016)

<https://www.england.nhs.uk/wp-content/uploads/2016/02/national-maternity-review-report.pdf>

Feeding in the First Year of Life (2018)

<https://www.gov.uk/government/publications/sacn-report-on-feeding-in-the-first-year-of-life>

Childhood obesity: a plan for action, chapter 2 (2018)

<https://www.gov.uk/government/publications/childhood-obesity-a-plan-for-action-chapter-2>

References

[Childhood Obesity JSNA References](#)

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