Harrow child weight in 2017/18: National Child Measurement Programme data

Introduction

The National Child Measurement Programme (NCMP) weighs and measures English school pupils in Reception (4–5 years) and Year 6 (10–11 years), calculates their body mass index (BMI), and uses national growth centile charts to categorise children as underweight, healthy weight, overweight or obese. The programme has 12 years of robust data (since 2006/07). The table below shows that Harrow participation rate for 'Reception' at 94.5% was slightly lower than all comparison geographical areas (including Nearest Neighbours - NN, London and England). For Year 6, Harrow participation rate at 94.9% was also lower than NN and London but slightly higher than England.

Indicator	Period	Harrow	Neighbours average	London	England
Participation rate: Total	2017/18	94.70%	96.4%*	95.6%	94.70%
Participation rate: Reception	2017/18	94.50%	96.2%*	95.4%	95.20%
Participation rate: Year 6	2017/18	94.90%	96.6%*	95.9%	94.30%

Key messages for Harrow

• Combined three years data (2015/16 to 2017/18) shows that 18.3% of 4–5 year olds and over one-third (35.7%) of 10–11 year olds were either overweight or obese.

• Obesity levels in 10–11 year olds (at 24.1%) were two and half times (250%) as high as in age 4–5 year olds (at 9.6%).

• Harrow levels of excess weight (overweight plus obese) in 2015/16 to 2017/18 for reception children was significantly lower than London and England, however for Year-6 it was significantly lower than London but compared to England it was significantly higher.

• Five years combined data (2013/14 to 2017/18) shows the prevalence of obesity (including severe obesity) for both reception and Year 6 children in Harrow is significantly lower than London but compared to England it shows the same level for reception but higher rate for Year 6. By breaking down this data by gender, it shows that the Harrow female group both in reception and Year 6 have significantly lower prevalence of obesity than London and England.

• Looking at severe obesity through 2017/18 data, for reception children there has not been significant difference between Harrow, London and England but for Year 6 Harrow had a significantly lower rate than both London and England.

• In 2017/18 Harrow had significantly higher rate of underweight and lower rate of overweight reception children compared to Nearest Neighbour Average (NNA), London and England. The obesity (including sever obesity) rate in reception year was significantly lower than London but the same level as NNA and England.

• In 2017/18 Harrow had significantly higher rate of underweight Year 6 children but the same level of overweight compared to Nearest Neighbour Average (NNA), London and England. The rate of obese (including severe obese) Year 6 children was significantly lower than London but the same level as NNA and England.

• In three year period 2015/16 to 2017/18, levels of 'underweight' did not differ significantly by ward for reception year. However for Year-6 the prevalence for 'Queensbury' ward (at 4.9%) was seven times and significantly higher than the 'Harrow on the Hill' (at 0.7%).

• For reception children in 2017/18 the 'excess weight' rate in the ward with highest level was 65% higher than the ward with the lowest level and the obesity level in the highest-obesity ward were more than twice as high as in the lowest-obesity ward. For Year 6 children the 'excess weight' rate in the ward with highest level was 60% higher than the ward with the lowest level and the obesity level in the highest-obesity ward were more than 41% as high as in the lowest-obesity ward.

• Looking at 5-years (2013/14 - 17/18) data combined, ten to 11 year olds in the most deprived areas had 40% higher the obesity level of those in the least deprived areas; for 4–5 year olds levels were not significantly different.

• Three years combined data (2015/16 – 2017/18) shows that there has been a significant higher underweight prevalence for Asian children both in Reception and Year-6 compared to all other ethnic groups and Harrow average. Also underweight level for White reception children was significantly lower than all other ethnic groups and Harrow average.

• Five-years (2013/14 - 17/18) data combined shows White and Black reception children had significantly higher levels of obesity (including sever obesity) than Asian; for Year 6 children the obesity rate in Black children is significantly higher than both White and Asian.

• The proportion of 4–5 year old children who are underweight has not changed since 20007/08; for the same period of time there has been slight decrease of underweight rate but not significant for Year 6.

• Data doesn't suggest any significant changes in the prevalence of 'overweight' and 'obese' children from 2007/08 to 2017/18.

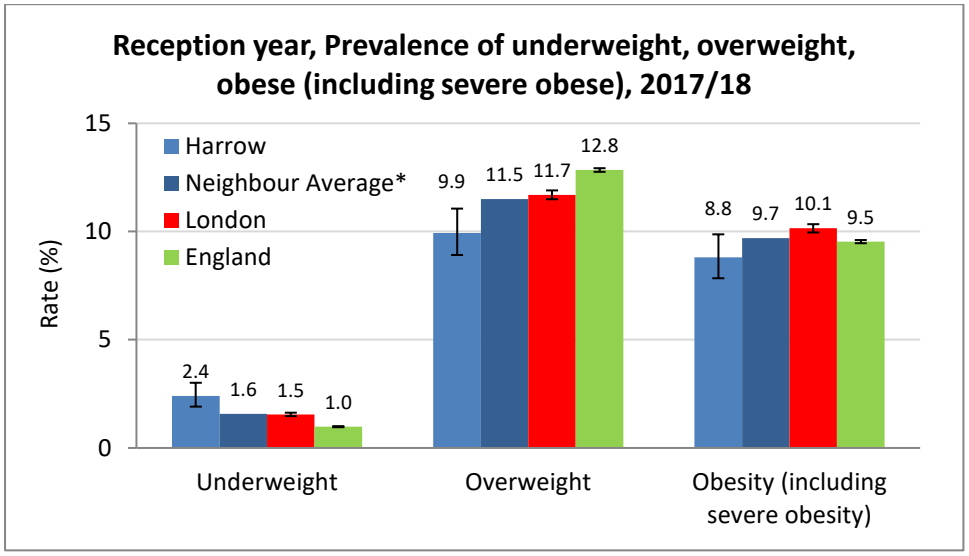
Unhealthy weight overall

• In 2017/18, 2.4% of Harrow 4–5 year olds were underweight, 9.9% overweight and 8.8% were obese, while 3% of Harrow 10–11 year olds were underweight, 14.4% overweight and 20% were obese (Fig. 1a and b).

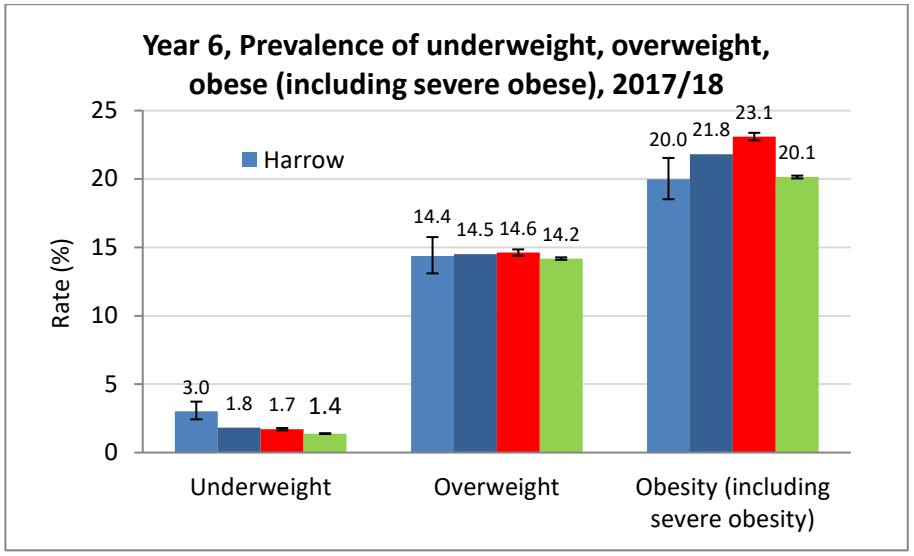
• In 2017/18 Harrow had significantly higher rate of underweight and lower rate of overweight reception children compared to Nearest Neighbour Average (NNA), London and England. The obesity (including sever obesity) rate in reception year was significantly lower than London but the same level as NNA and England.

• In 2017/18 Harrow had significantly higher rate of underweight Year 6 children but the same level of overweight compared to NNA, London and England. The rate of Year-6 obese (including severe obese) children was significantly lower than London but the same level as NNA and England.

Fig. 1 Prevalence of underweight, overweight, obesity (including sever obesity) in 'Reception' (a) and 'Year 6' (b) resident in Harrow, Nearest Neighbours (NN) ^, London and England in 2017/18



(a)



(b)

* Confidence interval value for Nearest Neighbours average is not available

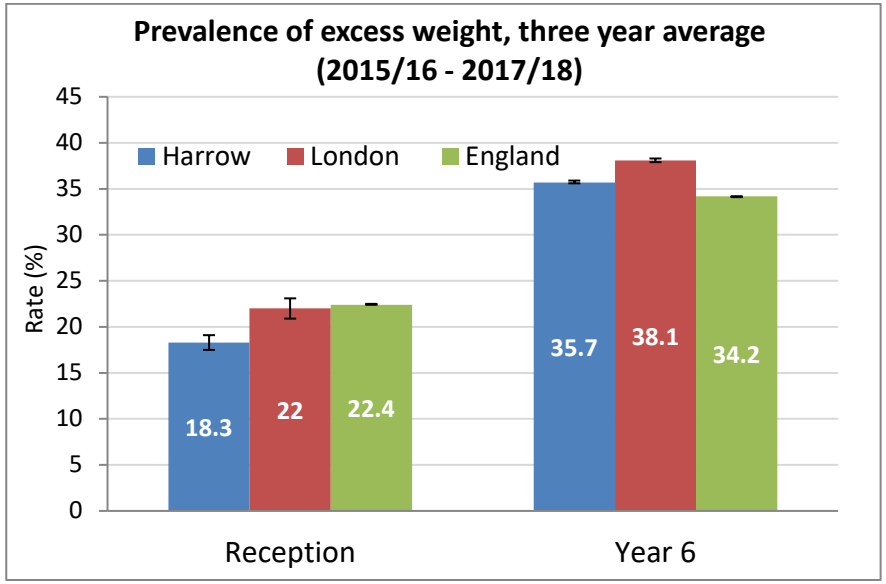
Source: Public Health Outcome Framework -Fingertips (National Child Measurement Programme Pupil Enhanced Dataset)

^CIPFA's (Chartered Institute of Public Finance and Accountancy) Nearest Neighbours (2018): Barnet, Bexley, Brent, Bromley, Croydon, Ealing, Enfield, Harrow, Hillingdon, Hounslow, Kingston upon

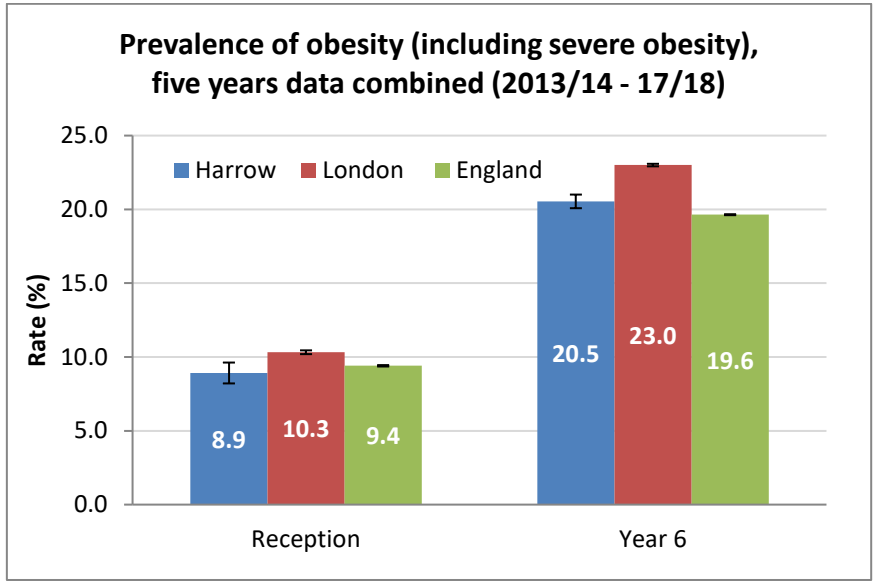
• Harrow levels of excess weight in 2015/16 to 2017/18 for reception children was significantly lower than London and England (Fig. 2a), however for Year-6 it was significantly lower than London but compared to England it was significantly higher (Fig.2b).

• Five years combined data (2013/14 to 2017/18) shows the prevalence of obesity (including sever obesity) for both reception and Year 6 children in Harrow is significantly lower than London but compared to England it shows the same level for reception but higher rate for Year 6. By breaking down this data by gender, it shows that the Harrow female group both in reception and Year 6 have significantly lower prevalence of obesity than London and England.

Figure 2 Prevalence of excess weight (a) and obesity (b), Reception and Year-6 children a) Prevalence of Excess weight (3 years average), b) Prevalence of obesity including severe obesity (5 years average)



(a)



(b)

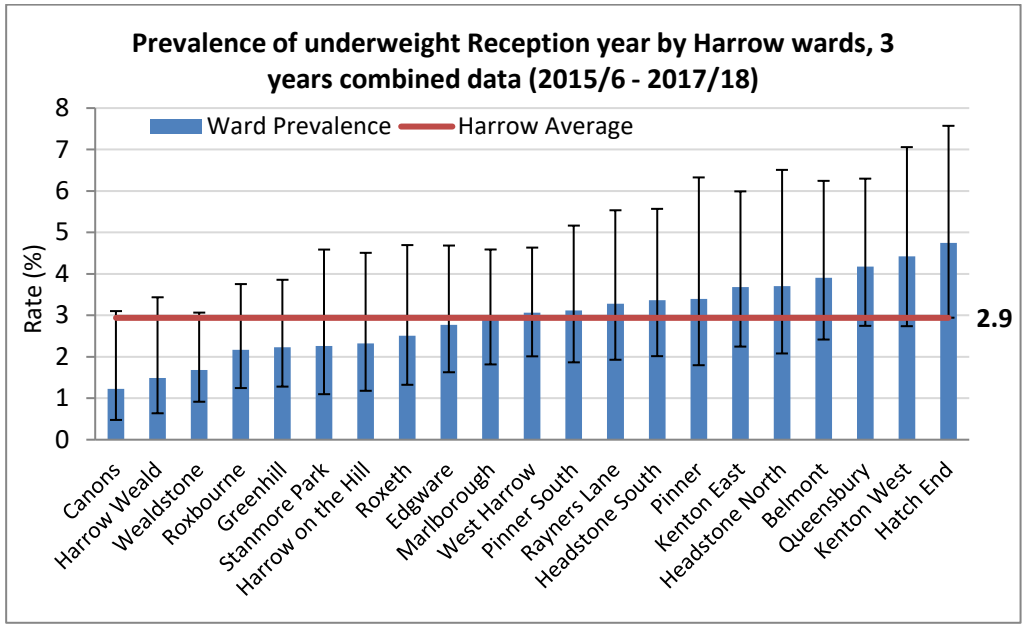
Source: Public Health Outcome Framework -Fingertips (National Child Measurement Programme Pupil Enhanced Dataset)

Unhealthy weight by ward

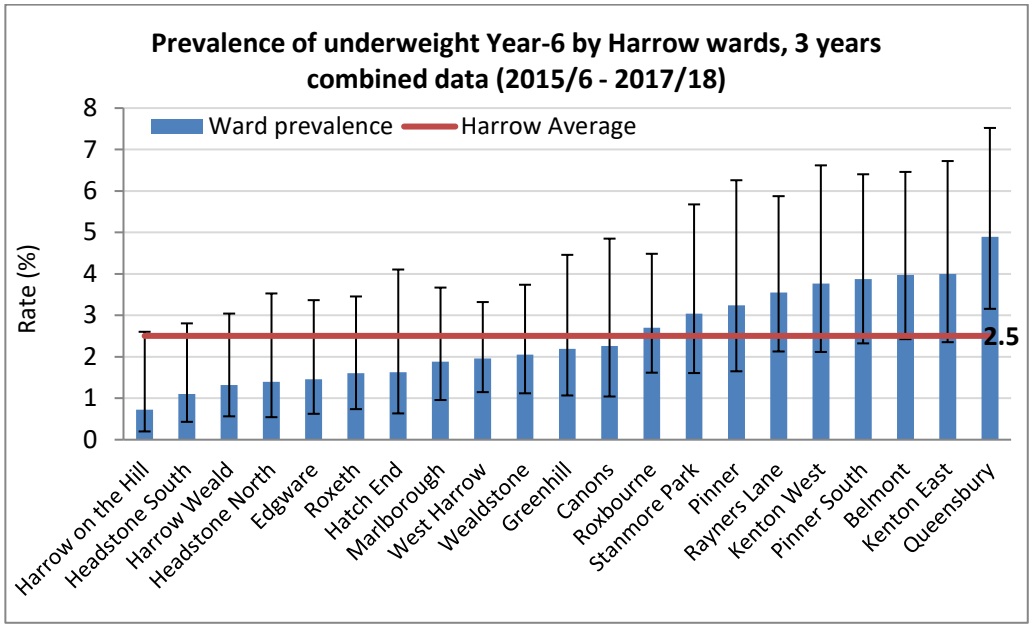
Underweight by ward

• In three year period 2015/16 to 2017/18, levels of 'underweight' did not differ significantly by ward for reception year (Fig. 3a). However for Year-6 the prevalence for 'Queensbury' ward (at 4.9%) was seven times and significantly higher than the 'Harrow on the Hill' (at 0.7%)(Fig.3b). By increasing the sample size and adding up more data (e.g. 5 years combined data); the inequality between more wards can be identified.

Fig. 3 Prevalence of underweight for Harrow residents; Reception year (a) and Year-6 (b) by ward, three years combined data (2014/15 to 2016/17)



(a)



(b)

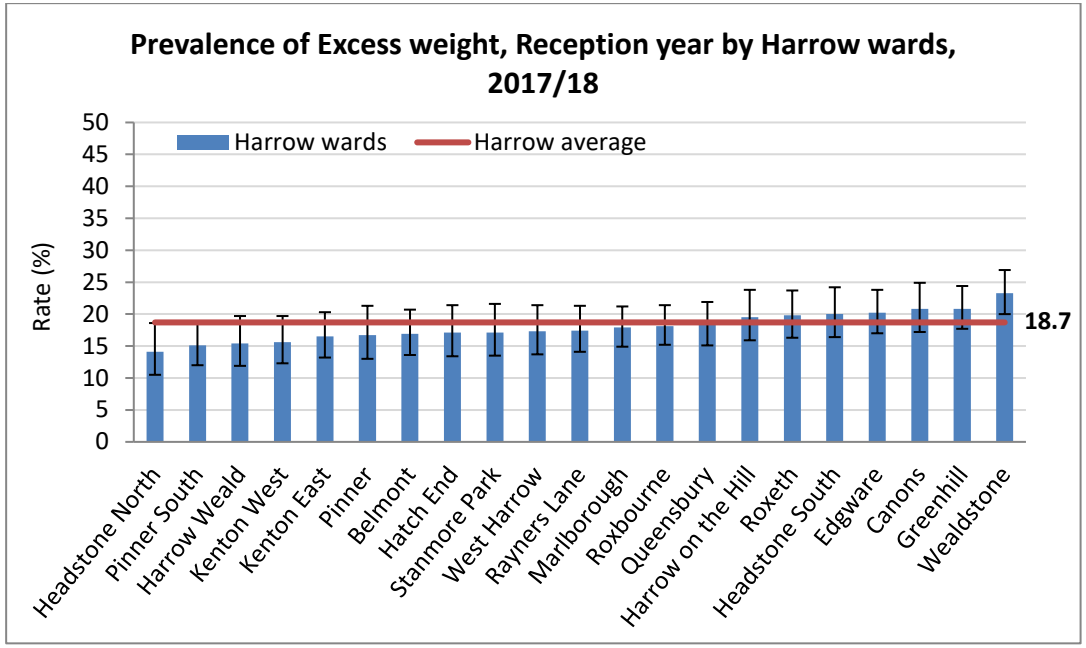
Sources: Public Health England (National Child Measurement Programme Pupil Enhanced Dataset); Office for National Statistics (ward codes)

Excess weight by ward

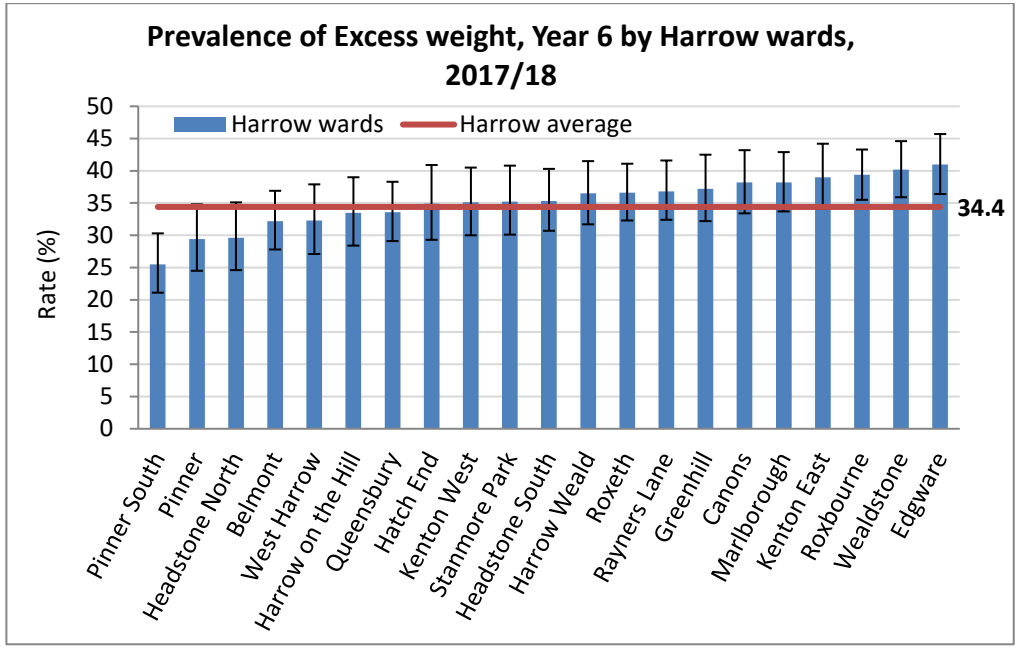
• For reception children in 2017/18 the 'excess weight' rate in the ward with the highest level was 65% higher than the ward with the lowest level. 'Wealdstone' ward with 23.3% had the highest and 'Headstone North' with 14.1% had the lowest Excess weight rate. There has not been any significant difference between other wards compared to the Harrow average (Fig 4a).

• For Year 6 children the 'excess weight' rate in the ward with the highest level (Edgware, 41%) was 60% higher than the ward with the lowest level (Pinner south, 25.5%). Edgware, Wealdstone and Roxbourne wards had significantly higher level of excess weight compared to Harrow average and it was significantly lower for Pinner south. There has not been any significance between all other wards and Harrow average (Fig 4b).

Fig. 4 Prevalence of Excess weight for Harrow residents; Reception year (a) and Year-6 (b), by ward, 2017/18



(a)



(b)

Source: Public Health Outcome Framework -Fingertips (National Child Measurement Programme Pupil Enhanced Dataset)

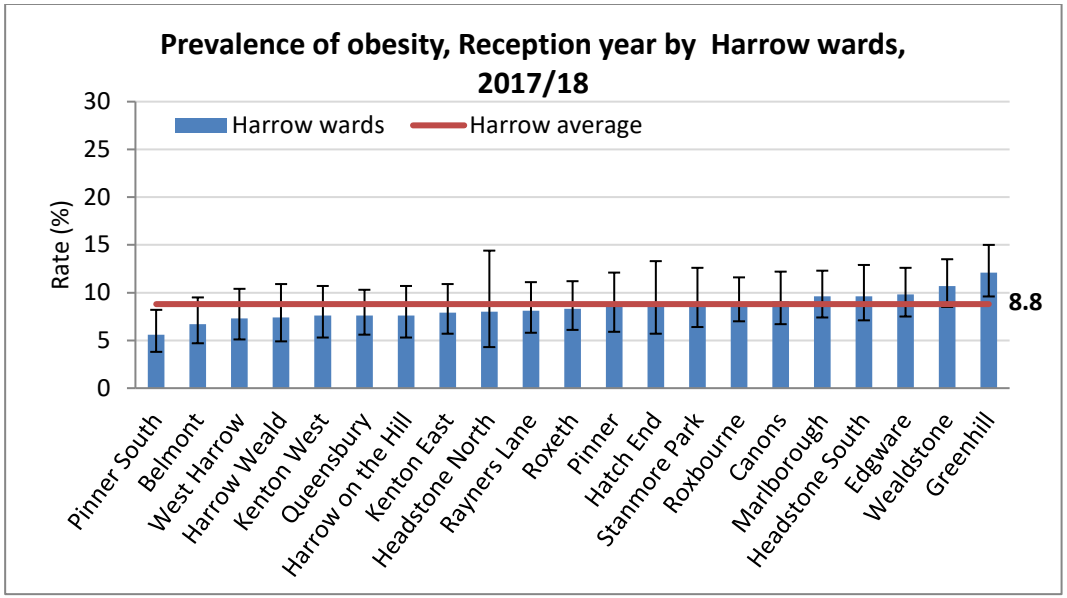
Obesity by ward

• In 2017/18, obesity levels in 4–5 year olds in Greenhill (12.1%) and Wealdstone (10.7%) were significantly higher than those in Pinner South (5.6%). Greenhill had significantly higher and Pinner South had lower rate of obesity compared to Harrow average but for all other wards there have not been any significant difference (Fig. 5a). Obesity levels in 10–11 year olds in Kenton East (24.3%), Roxbourne and Marlborough (both 23.6%) were significantly higher than in Pinner South (14.3%). Roxbourne had significantly higher and Pinner South had lower rate of obesity compared to Harrow average but for all other wards there have not been any significant difference (Fig. 5b).

• For reception children in 2017/18 the 'excess weight' rate in the ward with highest level was 65% higher than the ward with the lowest level and the obesity level in the highest-obesity ward were more than twice as high as in the ward with the lowest-obesity rate. For Year 6 children the 'excess weight' rate in the ward with highest level was 60% higher than the ward with the lowest level and the obesity level in the highest-obesity ward were more than 41% as high as in the lowest-obesity ward.

• For all local wards except for Headstone North, obesity levels in Year-6 were significantly higher than in Reception; the proportional difference (Year-6 versus Reception) ranged from over two and half times higher in Pinner South (14.3% versus 5.6%) to over three times higher in Kenton East (24.1% versus 7.9%).

Fig. 5 Prevalence of obesity for Harrow residents; Reception year (a) and Year-6 (b) by ward, 2017/18



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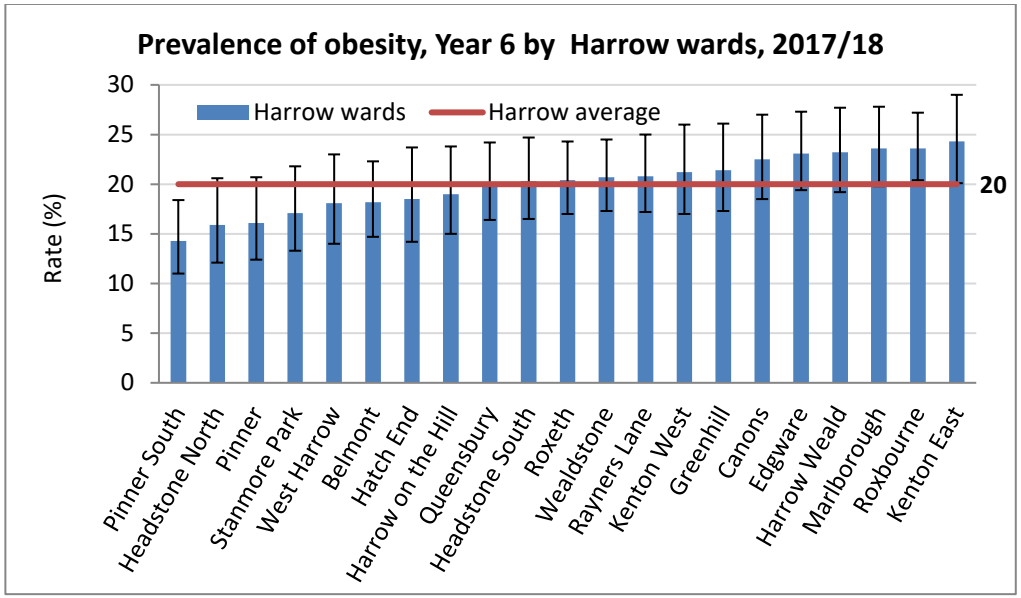


(b)

Source: Public Health Outcome Framework -Fingertips (National Child Measurement Programme Pupil Enhanced Dataset)

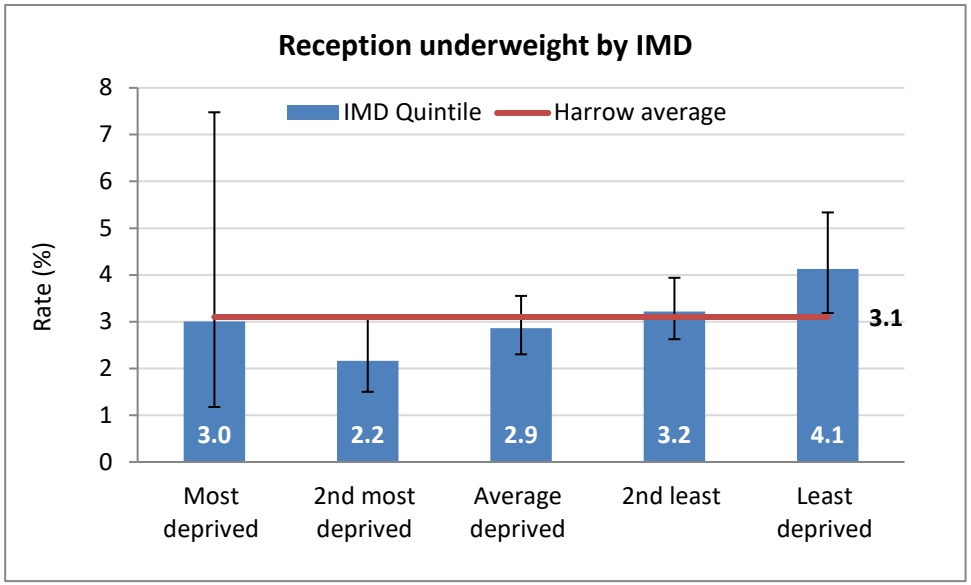
Unhealthy weight by deprivation level

Underweight by deprivation level (Index of Multiple Deprivation 2015-IMD)

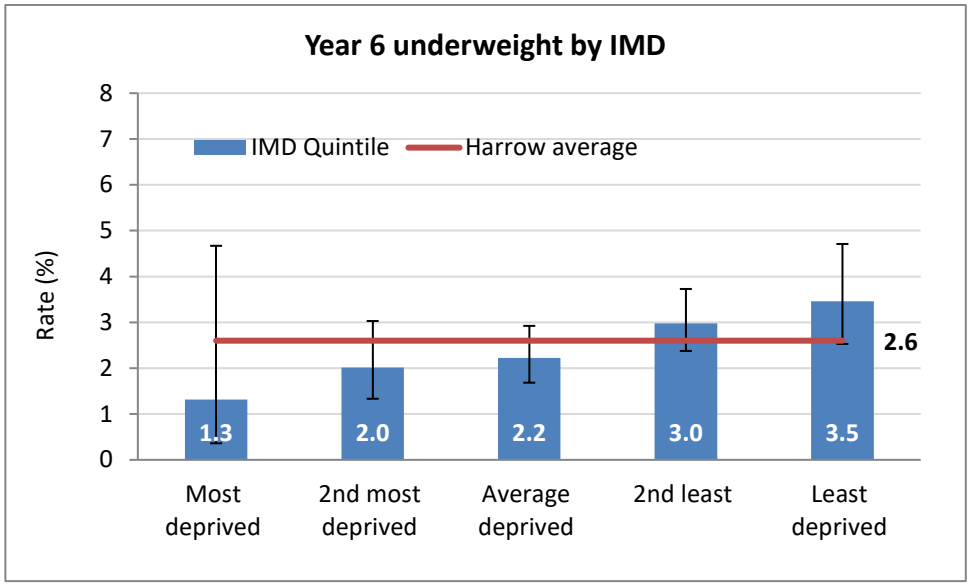
• Combined three years NCMP data (2015/16 – 2017/18) shows for reception children in Harrow those leaving in the 'Least deprived' quintile had significantly higher rate of underweight compared to the' 2nd most' deprived quintile but it does not show any significant difference between other quintiles. For Year-6 children it doesn't show any significant difference between different quintile areas (Fig. 6a and b).

• The level of underweight reception children at 'Least deprived' quintile was significantly higher than those Year-6 children from 2nd most and average deprived quintiles.

Fig. 6 Prevalence of underweight for Harrow residents; Reception year (a) and Year-6 (b) by ward, three years combined data (2015/16 to 2017/18)



(a)



(b)

Sources: Public Health England (National Child Measurement Programme Pupil Enhanced Dataset); Office for National Statistics (ward codes)

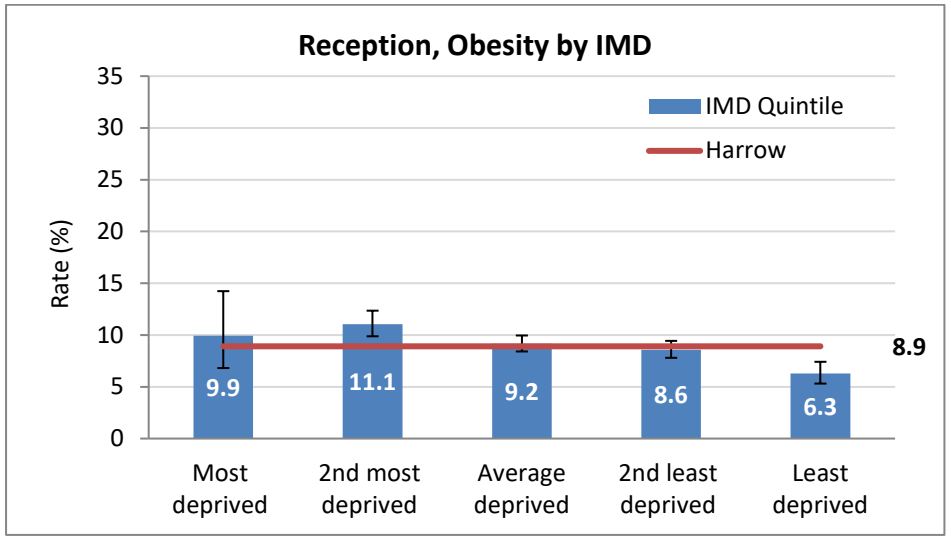
Obesity by deprivation level

Obesity by IMD

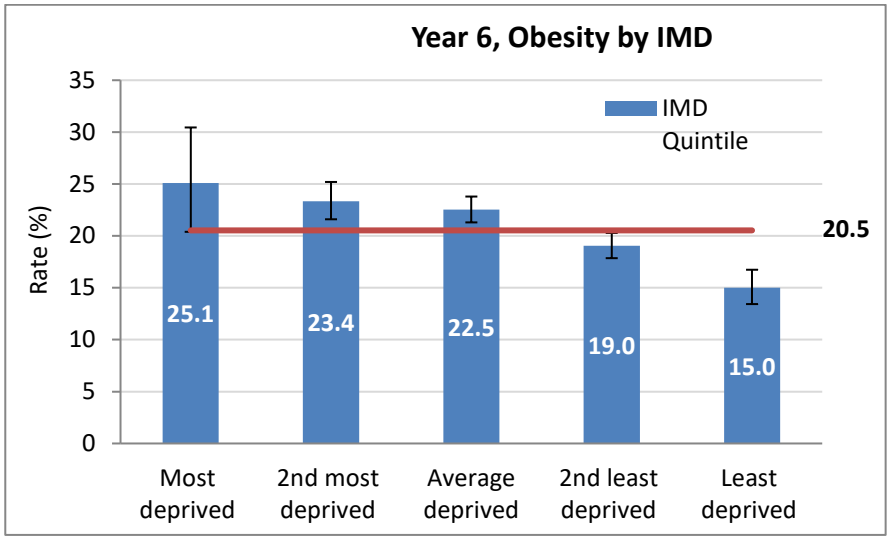
• Harrow five years combined NCMP data (2013/14 - 17/18) doesn't show any significant difference of obesity level for Reception children living in the most and least deprived area (possible the sample size is too small). However, it shows a significant difference between the 2nd most deprived area and the Least, 2nd least and average deprived areas. Also the Least deprived area had significantly lower obesity rate (6.3%) and the 2nd most deprived had significantly higher obesity level (11.1%) than the Harrow average (8.9%). The obesity rate for those in the 2nd most deprived quintile is 76% higher than those living in the least deprived area (Fig. 7a).

• Year-6 Harrow school pupils living in the most, 2nd most and average deprived area had significantly higher obesity levels than those in the least and 2nd least deprived areas. Obesity rate for those in the most deprived (25.1%) is 67% higher than those in the least deprived quintile (15%). The least deprived quintile (15%) has significantly lower obesity rate than Harrow average (20.5%); the 2nd most and average deprived areas (23.4% and 22.5% respectively) have significantly higher obesity rate than Harrow average (20.5%) (Fig.7b).

Fig. 7 Prevalence of obesity (including severe obesity), 5-years (2013/14 - 17/18) data combined by deprivation quintiles in England (IMD2015); Reception year (a) and Year-6 (b)



(a)



(b)

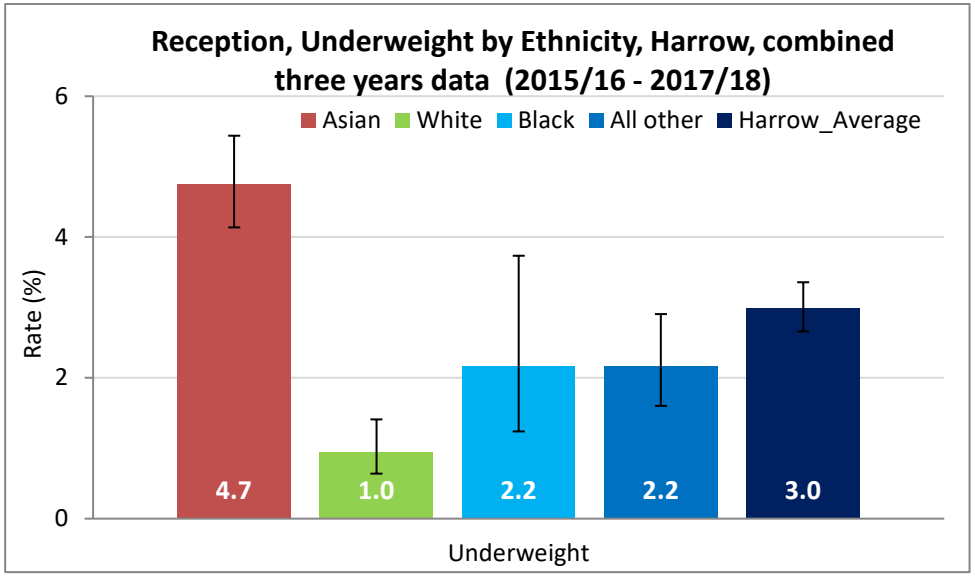
Source: Public Health Outcome Framework -Fingertips (National Child Measurement Programme Pupil Enhanced Dataset)

Unhealthy weight by ethnic group

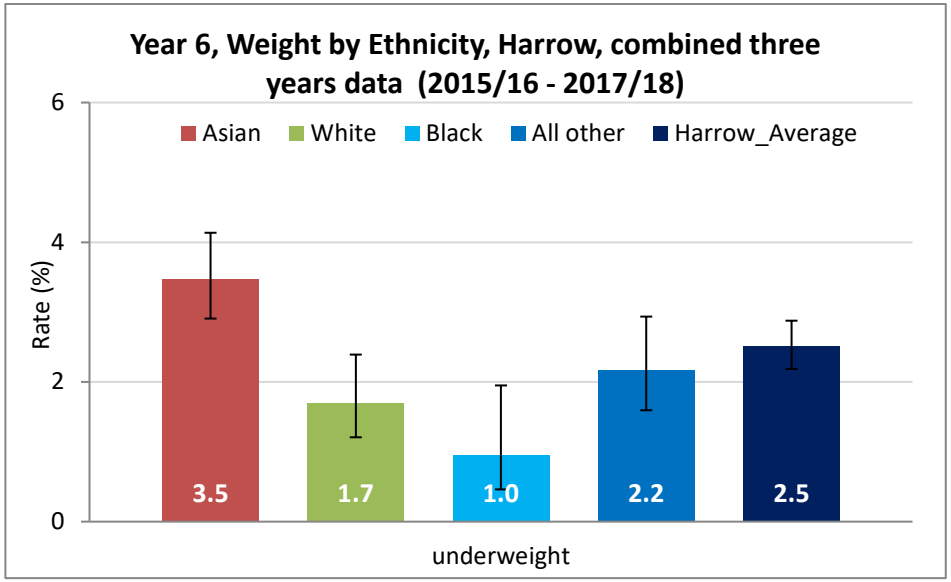
Underweight by ethnic group

- Three years combined data (2015/16 – 2017/18) shows that there has been a significant higher underweight prevalence for Asian children both in Reception and Year-6 compared to all other ethnic groups (White, Black and all others merged) and Harrow average.
- Underweight level for White reception children was significantly lower than all other ethnic groups and Harrow average (Fig. 8).

Fig. 8 Prevalence of underweight for Harrow residents; Reception year (a) and Year-6 (b) by ward, three years combined data (2014/15 to 2016/17)



(a)



(b)

Sources: Public Health England (National Child Measurement Programme Pupil Enhanced Dataset); Office for National Statistics (ward codes)

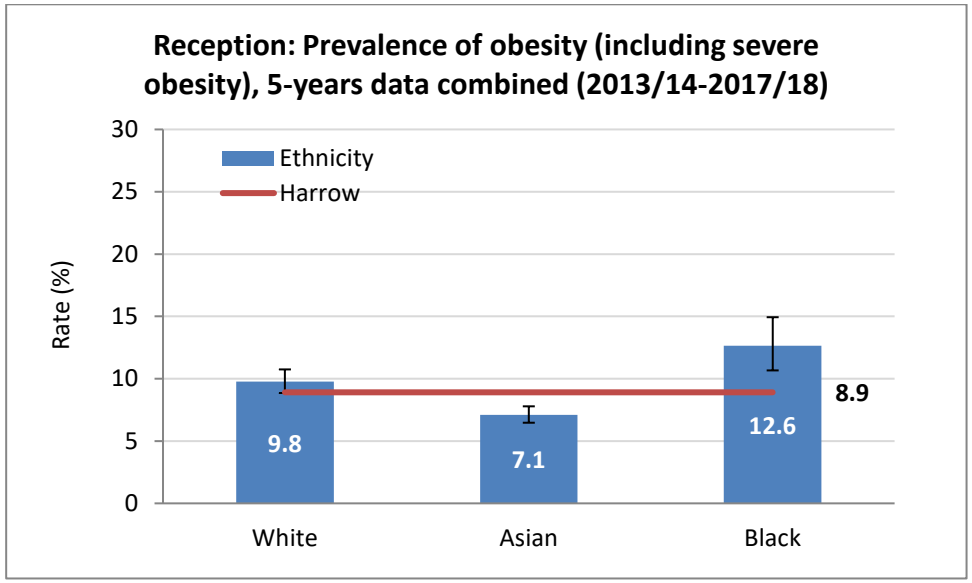
Obesity (including sever obesity) by ethnic group

• 5-years combined NCMP data (2013/14-2017/18) shows the obesity level for Reception children were significantly higher for Black and White pupil (at 12.6% and 9.8% respectively) than Asian (at 7.1%). The obesity rate for Asian children was significantly lower and for Black children it was significantly higher compared to Harrow average (Fig. 9a).

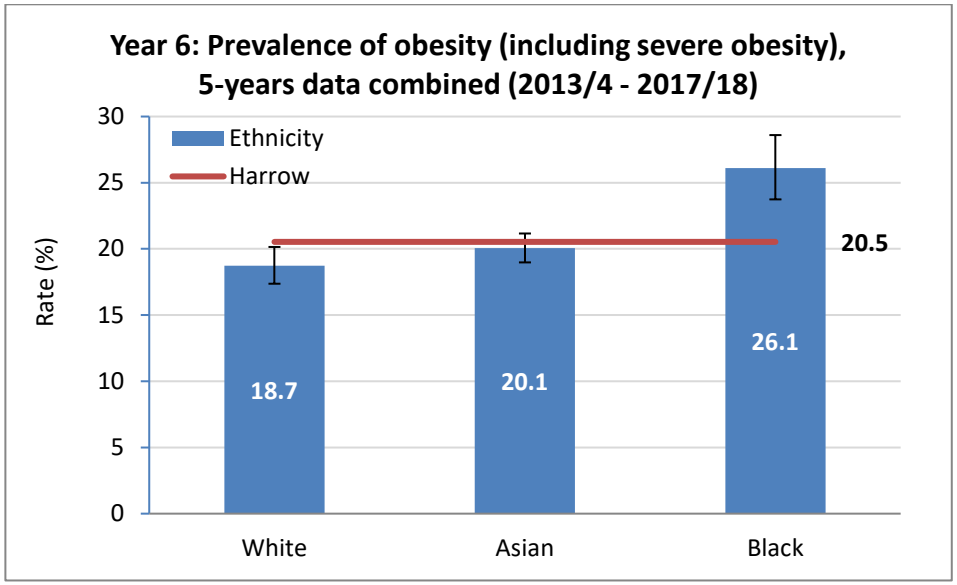
• Obesity levels for Year-6 children were significantly higher in Black children (at 20.5%) than White children (at 18.7%). Compared to Harrow average (20.5%), White pupils had significantly lower and Black pupils had significantly higher obesity rate (Fig. 9b).

• Obesity levels were significantly higher in 10–11 year olds than in 4–5 year olds. It was 2.8 times higher for Asian, 2.1 times higher for black and 1.9 times for white children.

Fig. 9 Prevalence of obesity for Reception (a) and Year-6 (b), Harrow school pupils by ethnic group, 5-years combined NCMP data (2013/14 - 2017/18)



(a)



(b)

Source: Public Health Outcome Framework -Fingertips (National Child Measurement Programme Pupil Enhanced Dataset)

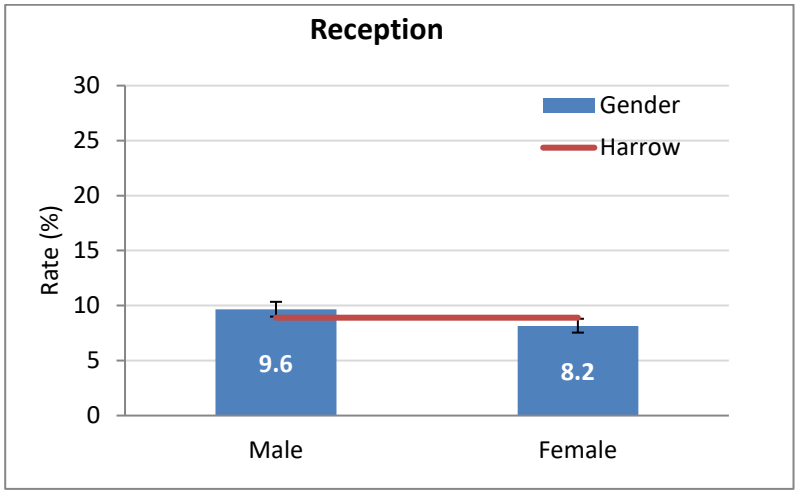
Obesity (including severe obesity) by Gender

• 5-years combined NCMP data (2013/14-2017/18) shows the obesity level for Reception children were significantly higher for male (at 9.6%) than female (at 8.2%) (Fig.10a). Also for Year-6 children it was significantly higher for male (at 24.1%) than female (at 16.7) (Fig.10b).

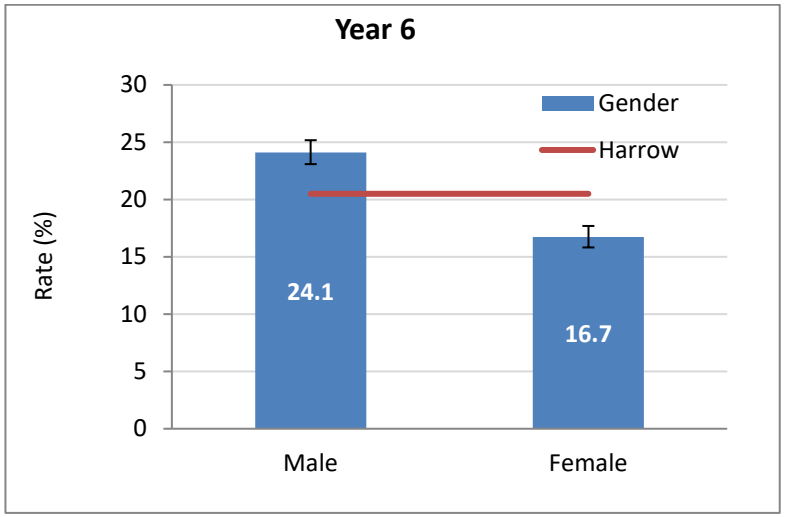
• Obesity levels were significantly higher in Year-6 than in Reception year. It was 2.5 times higher for boys and twice higher for girls.

• The graph below shows the gap between male and female is much wider for Year-6. For reception children the obesity level for male was less than 1.2 times but for Year-6 children, obesity level for male shows 1.45 times higher.

Fig. 10 Prevalence of obesity for Reception (a) and Year-6 (b), Harrow school pupils by Gender, 5-years combined NCMP data (2013/14 - 2017/18)



(a)



(b)

Source: Public Health Outcome Framework -Fingertips (National Child Measurement Programme Pupil Enhanced Dataset)

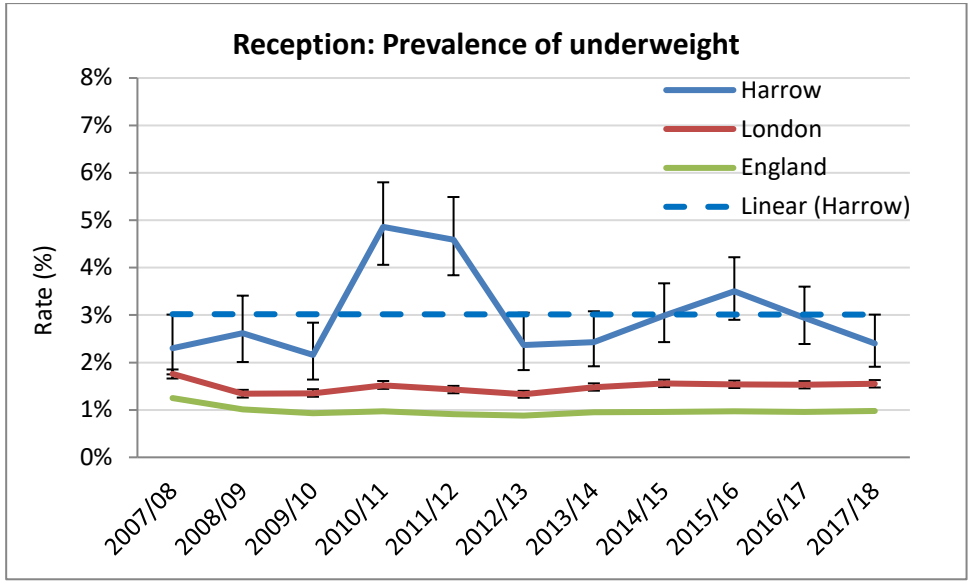
Unhealthy weight time trends

Underweight time trend

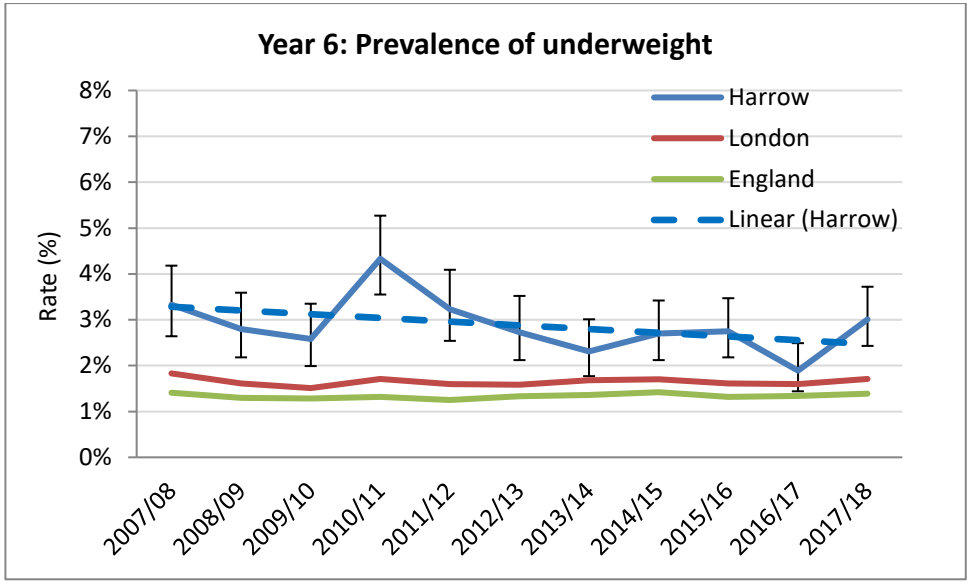
• The dashed linear trend line in the graphs below show the underweight levels in 2017/18 did not differ significantly from those in 2007/08 for Reception or Year-6 (Fig.11a and b), however it shows a downward trend (not significant) for Year-6 (Fig 11b).

• The trend at region and national level has also stayed steady (Fig 11).

Fig. 11 Underweight prevalence time trend in Reception (a) and Year-6 (b) attending Harrow schools, 2007/08 to 2017/18



(a)



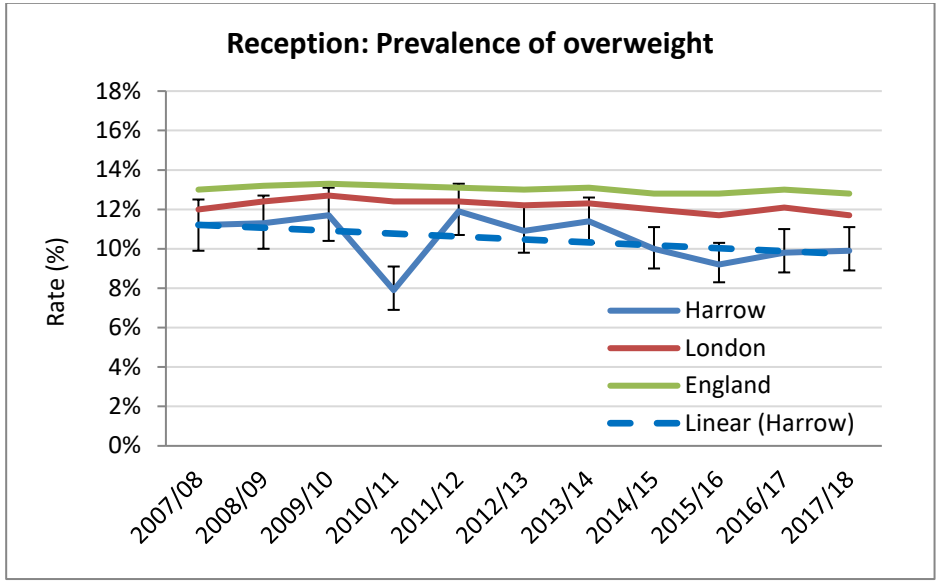
(b)

Source: Public Health Outcome Framework -Fingertips (National Child Measurement Programme Pupil Enhanced Dataset)

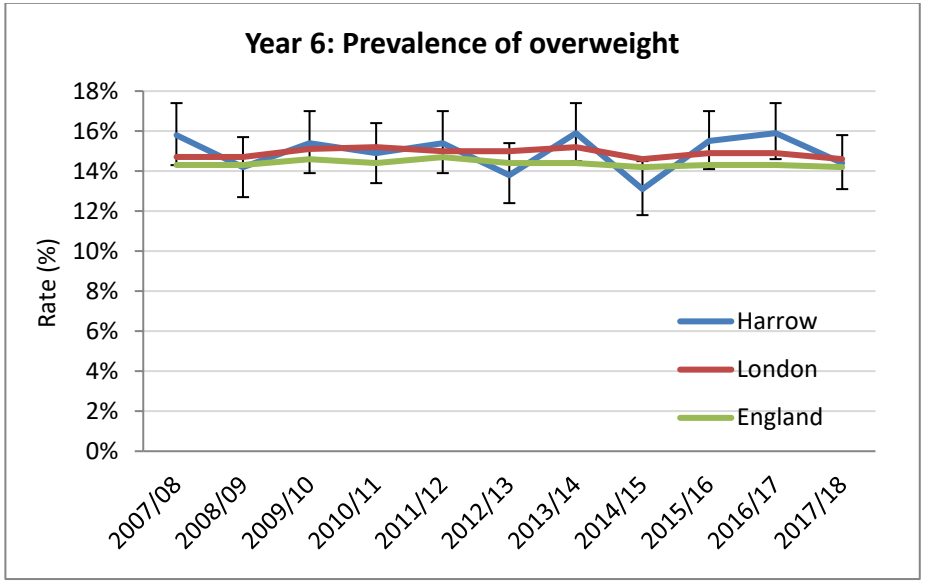
Overweight time trend

- The graphs below show the overweight levels in 2017/18 did not differ significantly from those in 2007/08 for Reception or Year-6, however it shows a downward trend (not significant) for Reception (Fig 12).
- The trend at region and national level has also stayed steady (Fig 12).

Fig. 12 Overweight prevalence time trend in Reception (a) and Year-6 (b) attending Harrow schools, 2007/08 to 2017/18



(a)



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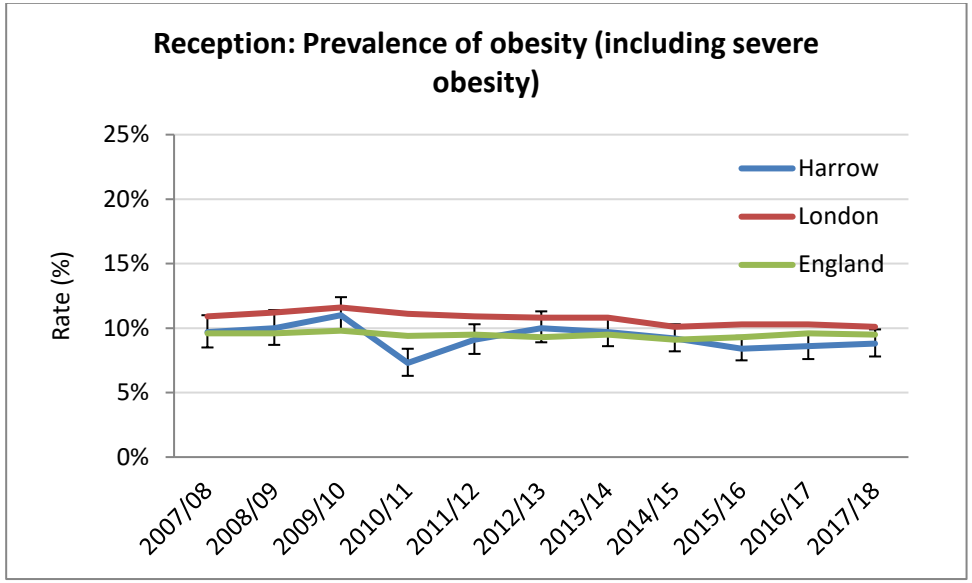
Source: Public Health Outcome Framework -Fingertips (National Child Measurement Programme Pupil Enhanced Dataset)

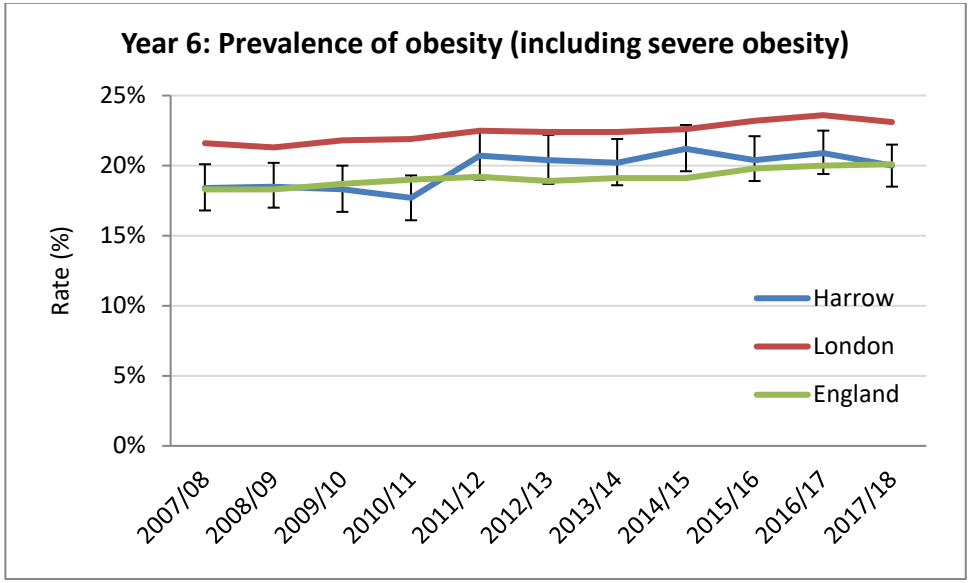
Obesity time trend

- The graphs below show the obesity levels in 2017/18 did not differ significantly from those in 2007/08 for Reception or Year-6 (Fig.13a and b), however it shows an upward trend (not significant) for Year-6 (Fig 13b).
- The trend for Year-6 at region and national level has also shows a slight increase (Fig 13b).

Fig. 13 Obesity (including severe obesity) prevalence time trend in Reception (a) and Year-6 (b) attending Harrow schools, 2007/08 to 2017/18



(a)

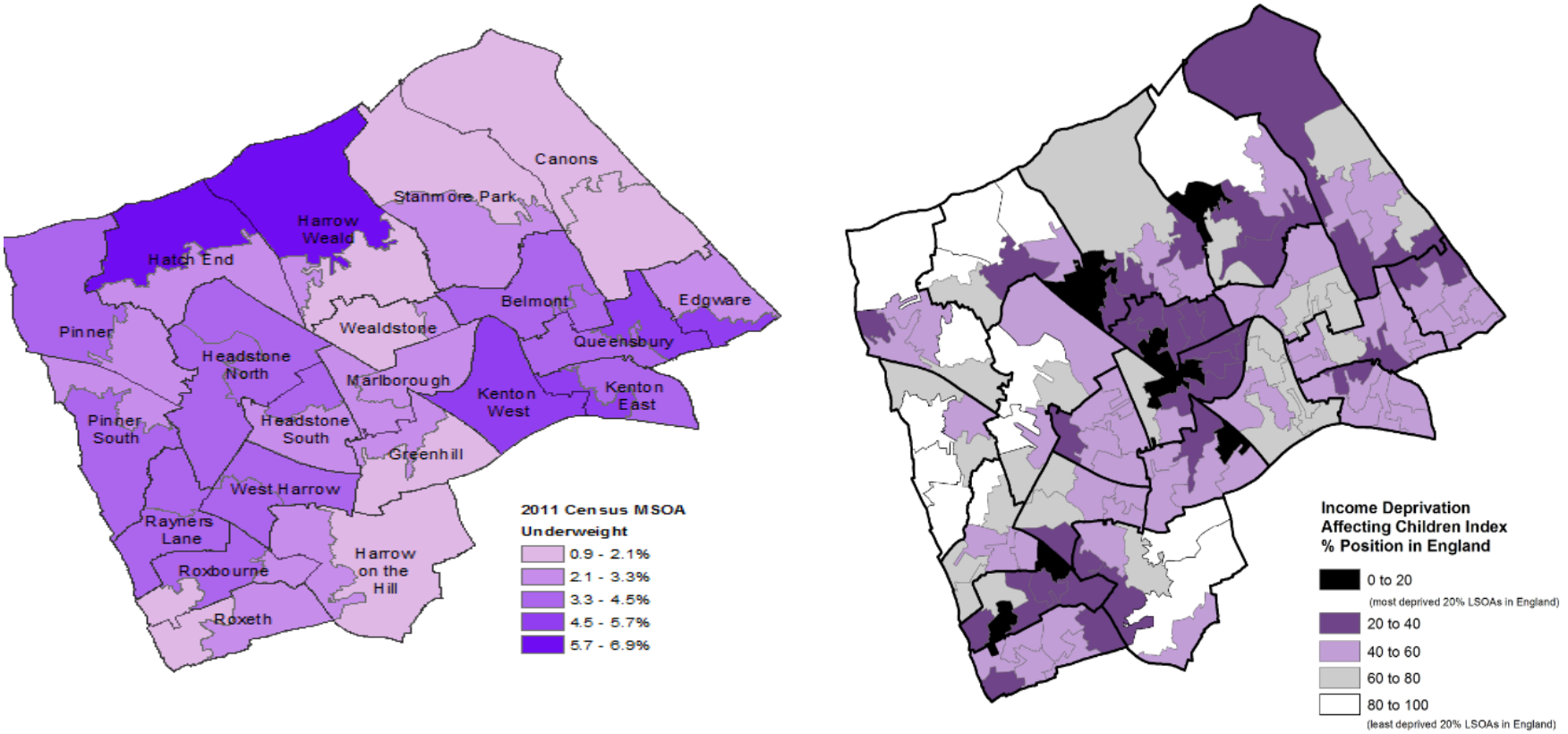


(b)

Source: Public Health Outcome Framework -Fingertips (National Child Measurement Programme Pupil Enhanced Dataset)

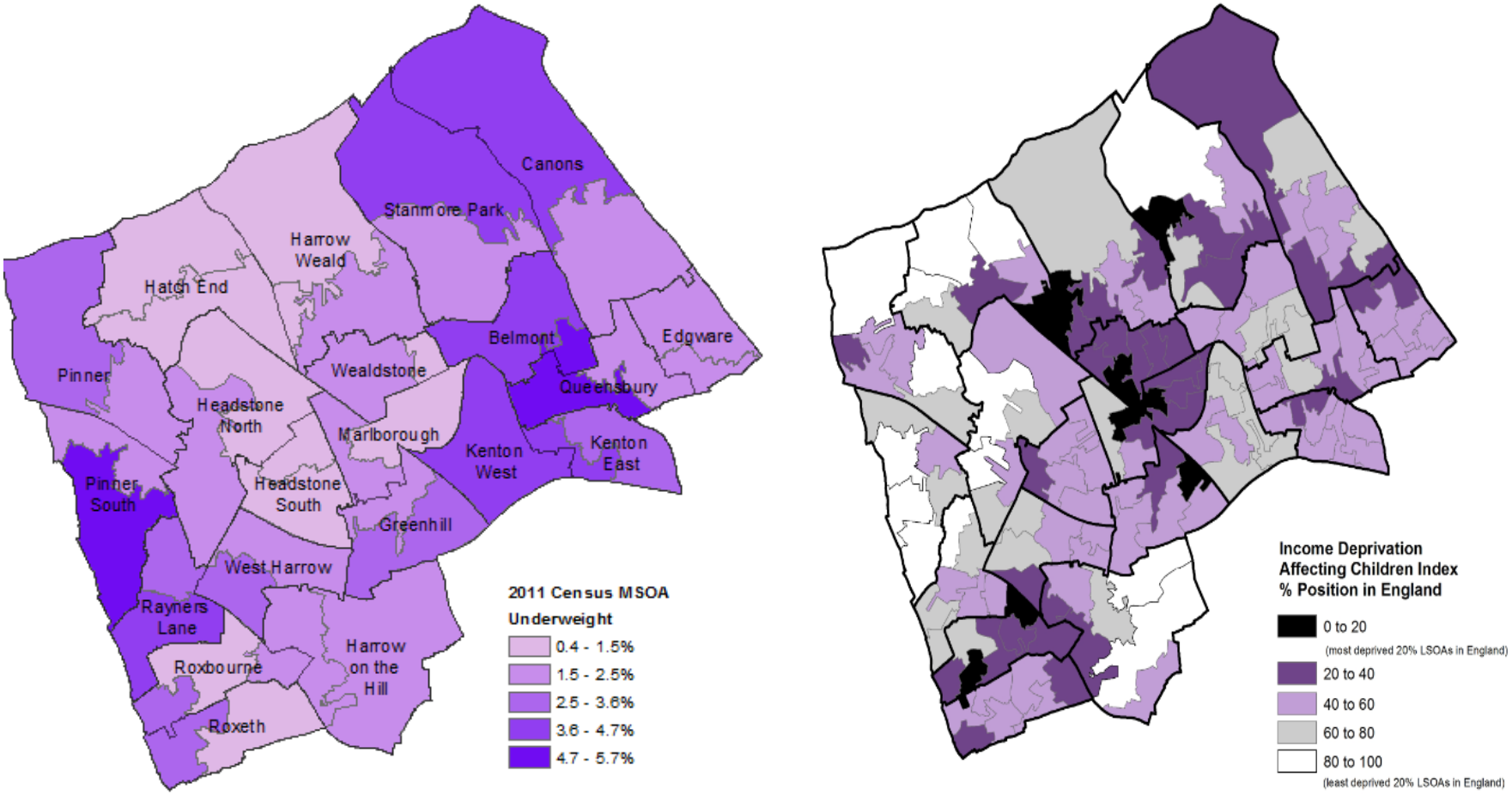
Underweight and child poverty

Fig. 14 Harrow wards showing (left map) 3-year average* prevalence of underweight in resident 4–5 year olds, compared with (right map) child poverty**



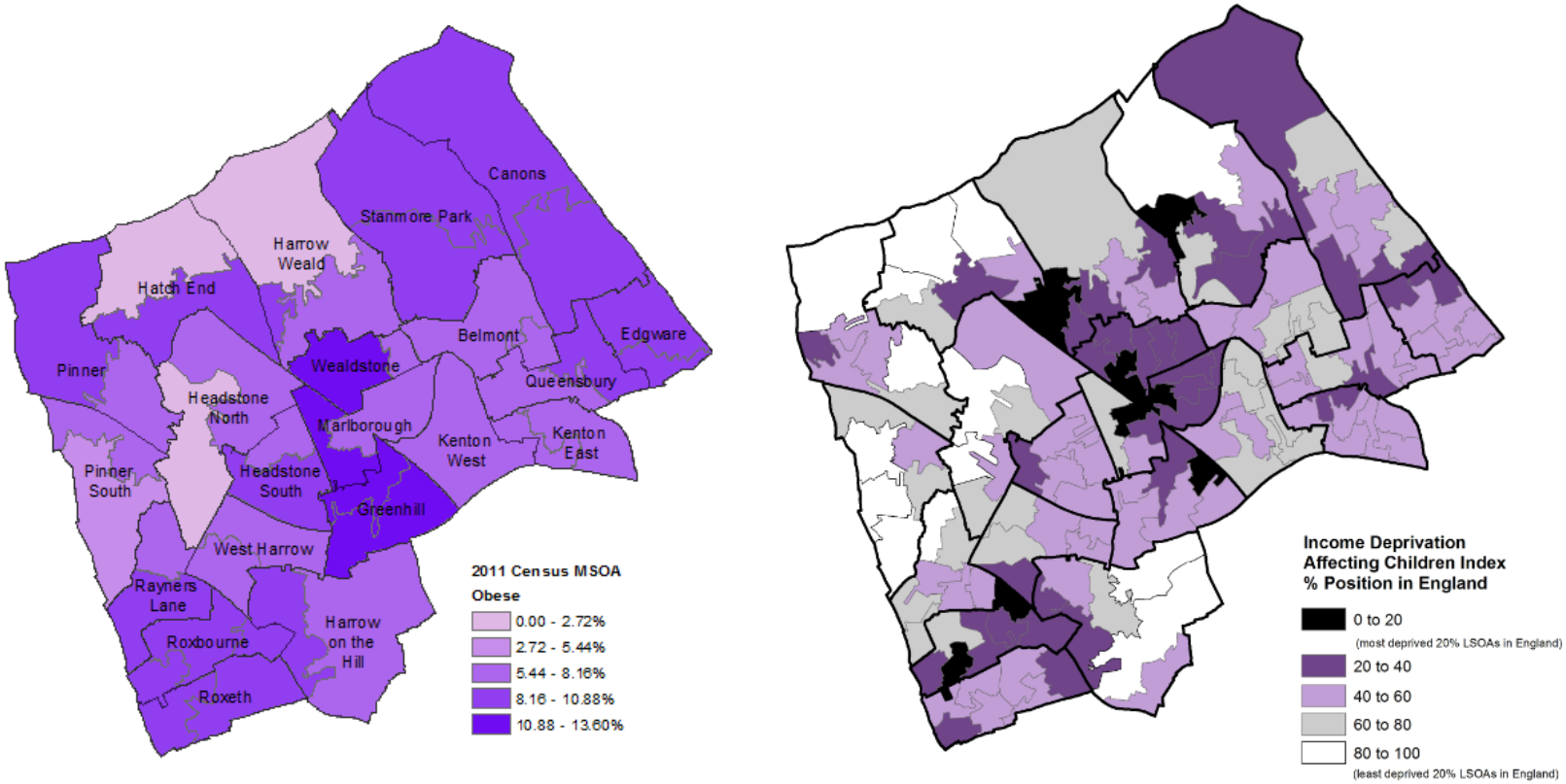
*2015/16 to 2017/18; **2015 Income Deprivation Affecting Children Index (IDACI)Sources: PHE (National Child Measurement Programme Pupil Enhanced Dataset); Department for Communities and Local Government (English Indices of Deprivation); Office for National Statistics (lower super output area)

Fig. 15 Harrow wards showing (left map) 3-year average* prevalence of underweight in resident 10–11 year olds, compared with (right map) child poverty**



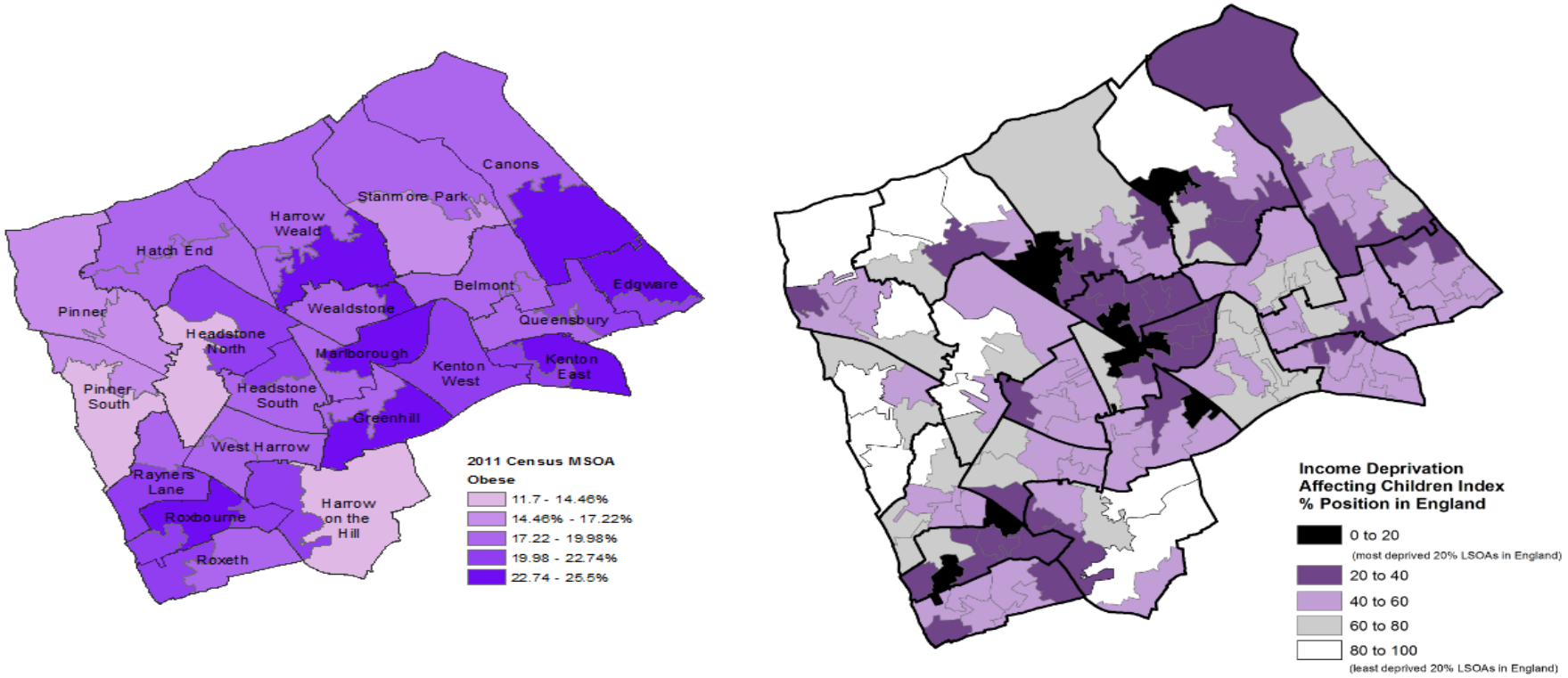
Obese and child poverty

Fig. 16 Harrow wards showing (left map) 3-year average* prevalence of obese in resident 4–5 year olds, compared with (right map) child poverty**



*2015/16 to 2017/18; **2015 Income Deprivation Affecting Children Index (IDACI)Sources: PHE (National Child Measurement Programme Pupil Enhanced Dataset); Department for Communities and Local Government (English Indices of Deprivation); Office for National Statistics (lower super output area)

Fig.17 Harrow wards showing (left map) 3-year average* prevalence of obese in resident 10–11 year olds, compared with (right map) child poverty**



*2015/16 to 2017/18; **2015 Income Deprivation Affecting Children Index (IDACI)Sources: PHE (National Child Measurement Programme Pupil Enhanced Dataset); Department for Communities and Local Government (English Indices of Deprivation); Office for National Statistics (lower super output area)

Overweight and child poverty

Fig.18 Harrow wards showing (left map) 3-year average* prevalence of overweight in resident 4–5 year olds, compared with (right map) child poverty**

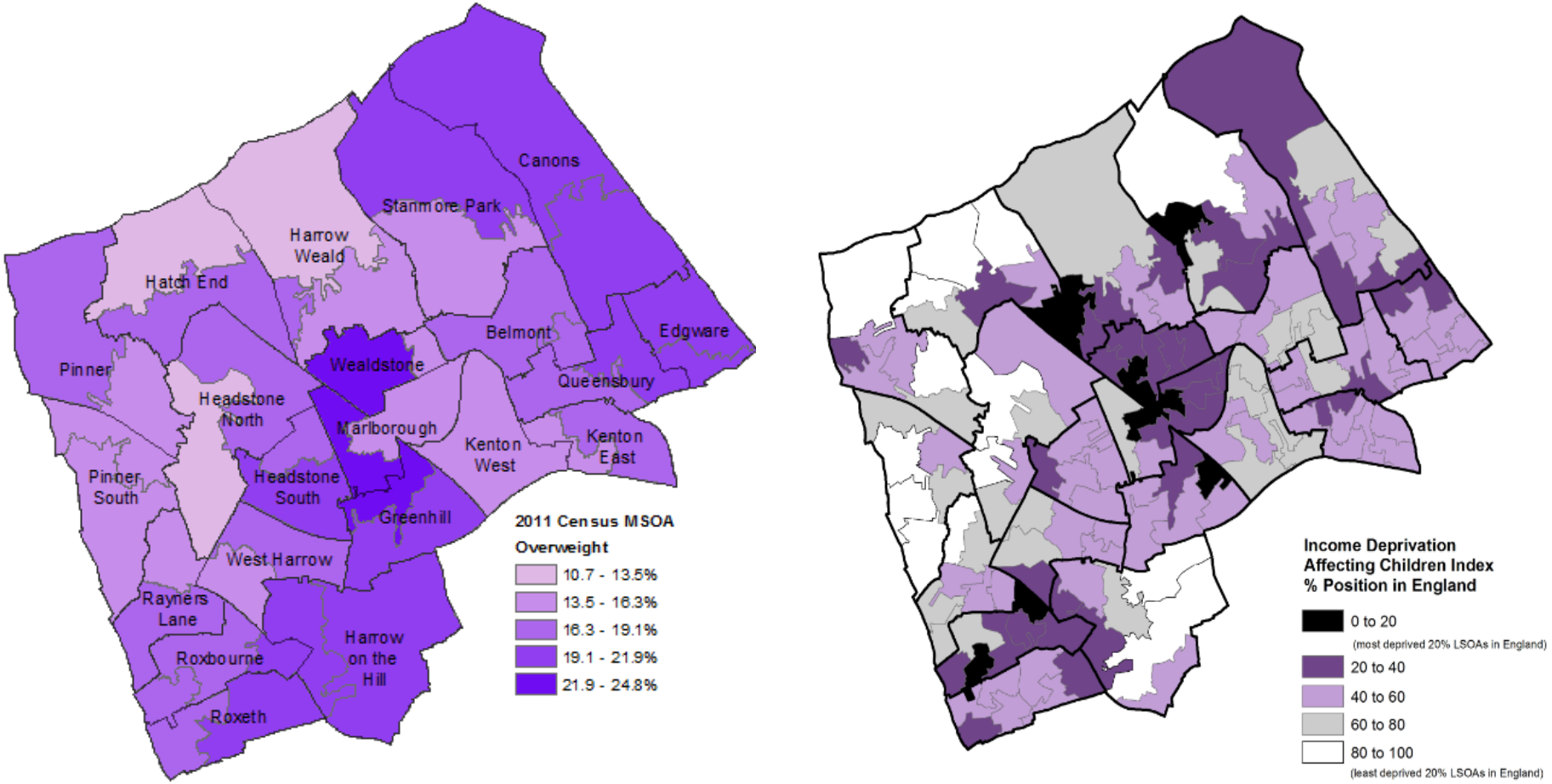
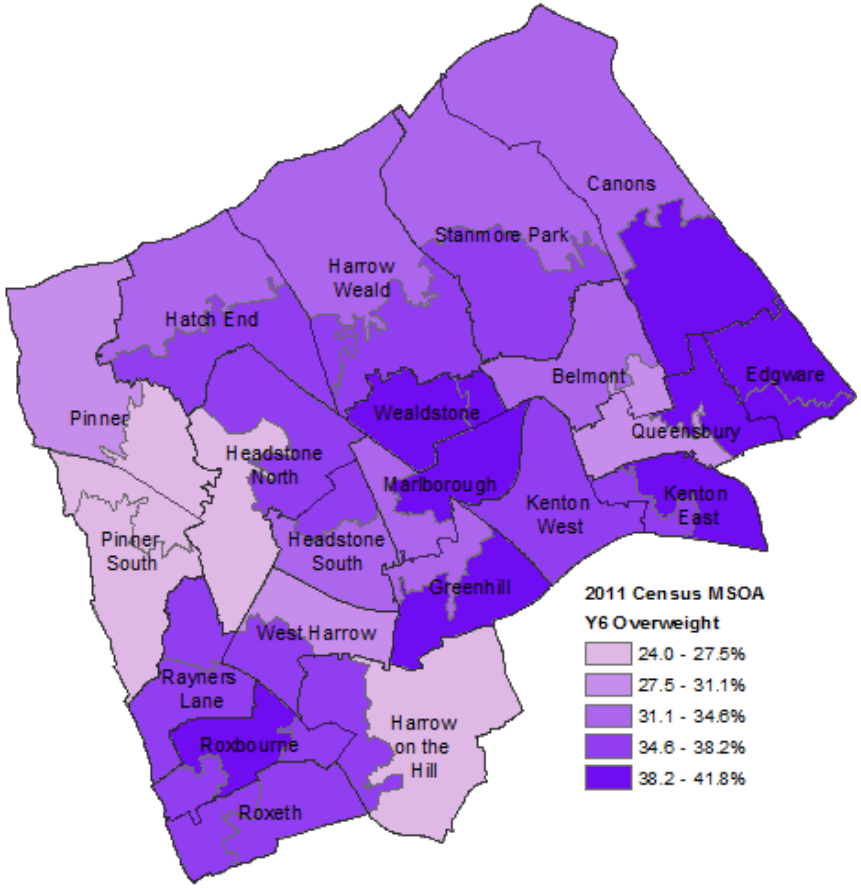
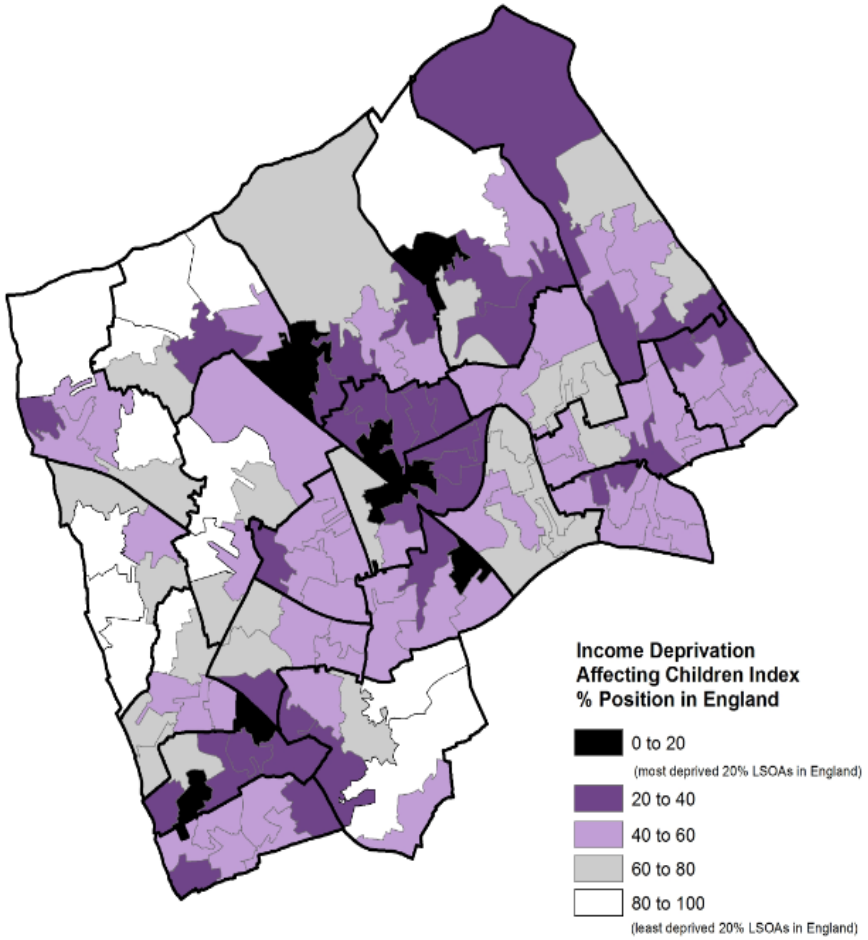


Fig.19 Harrow wards showing (left map) 3-year average* prevalence of overweight in resident 10-11 year olds, compared with (right map) child poverty**





Methods and data caveats

The NCMP data analysed represents pupils attending government-maintained schools within the geographical area of interest. Results exclude: pupils attending privately funded schools; and pupils who were not aged 4–5 years in Reception or 10–11 years in Year 6.

Weight categories are taken from NCMP population BMI categorisation, i.e.: underweight = 2nd centile or below; overweight = on or above 85th centile and below 95th centile; obese = on or above 95th centile; and excess weight = overweight plus obese. Table A3-1 below has been copied from 'PHE NCMP guidance for analysis 2018' also is available form the following link (accessed: 09/09/2019):

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/744234/PHE_NCMP_guidance_for_analysis_2018.pdf

Table A3-1: P scores used for population monitoring BMI classification

Population monitoring BMI centile category	BMI centile score (p-score)	BMI centile
Severe obesity	≥0.996	≥99.6th
Obese	≥0.95	≥95th
Overweight	≥0.85	≥85th
Healthy weight	>0.02 to <0.85	>2nd to <85th
Underweight	≤0.02	≤2nd
Very thin	≤0.004	≤0.4th

Ethnic group categories are taken from NCMP ethnic group categorisation.

Confidence intervals for overall weight category prevalence in Reception and Year 6 are as published by NHS Digital.

Confidence intervals for weight category prevalence amongst wards, ethnic groups and IMD quintiles are calculated using: Analytical tools for Public Health, PHE February 2018, commonly used public health statistics and their confidence intervals. Online link: https://fingertips.phe.org.uk/profile/guidance

Analysis of unhealthy weight at ward level used three-year averages of data from 2015/16, 2016/17 and 2017/18, as per Public Health England advice (Public Health England, National Child Measurement Programme Guidance for Data Sharing and Analysis, NCMP 2017/18, Oct 2018. https://digital.nhs.uk/data-and-information/publications/statistical/national-child-measurement-programme/2017-18-school-year (accessed 10/09/2019)