



# National Child Measurement Programme Analysis using the ONS Area Classification



The charts and figures within the report are best viewed in colour. Due to the nature of the analysis presented in this report, which requires data to be presented for a large number of different population groups, it has not been possible to use a palette of colours that can be easily distinguished when viewed in black and white.

Delivered by NOO on behalf of the Public Health Observatories in England

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## 1. Key points

- This report demonstrates how the Office for National Statistics Area Classification (ONS-AC) can be used alongside data from the National Child Measurement Programme (NCMP) to make better use of this valuable dataset.
- The ONS-AC is a freely available system of classifying geographic areas based on similar population characteristics. The categories are named in a way that describes the type of population predominant in those areas, for example 'Disadvantaged Urban Communities' or 'Professional City Life'.
- Child obesity prevalence differs between ONS-AC categories; this highlights the health inequalities that exist between different population groups. As the ONS-AC categories can be mapped back to local areas, this system can be used to identify the likely level of obesity within local neighbourhoods and populations.
- Obesity prevalence is highest in areas classed as Multicultural City Life, followed by areas classed as being Disadvantaged Urban Communities. Urban Fringe areas tend to have the lowest obesity prevalence. This pattern is consistent for both boys and girls and for both age groups covered by the NCMP.
- The pattern of high obesity prevalence is also consistent across all regions in England. However there is less consistency across the regions in the pattern of low obesity prevalence by ONS-AC classification.
- Although the categories are based on similar characteristics, they do not contain homogeneous populations. As a result there are some differences in obesity prevalence within the main ONS-AC categories, and this pattern does differ with age and sex.
- For example, Year 6 boys living in areas classified as Young City Professionals have a very high prevalence of obesity, despite this sub-classification being part of a larger grouping (Professional City Life) that tends to have a prevalence of obesity that is similar to, or below, the national average.
- The relative differences in obesity prevalence between ONS-AC categories have broadly remained constant over the last four years of the NCMP. There are some slight differences in the trend in obesity prevalence over time within ONS-AC groupings, but it is too early to say whether different categories are following a different trajectory.
- NCMP analysis using the ONS-AC can be used by local areas to highlight the specific population groups or areas with the highest levels of child obesity. This information can be used to help target local weight management interventions more effectively.
- Monitoring child obesity prevalence by ONS-AC category, at both national and local level, will enable a better understanding of the trend over time and identify any differences in the pattern between sociodemographic groups. This approach can also be used to monitor progress towards tackling health inequalities in child obesity.

## 2. Introduction

The National Child Measurement Programme (NCMP) is an annual programme that measures the height and weight of children aged 4–5 years (Reception) and 10–11 years (Year 6). The 2009/10 NCMP was the fourth year of this system of national child measurement in England.

Previous analysis of the NCMP has demonstrated that prevalence of obesity in children varies by sociodemographic characteristics such as ethnicity and socioeconomic status, and between urban and rural areas.<sup>1,2</sup> The prevalence of obesity is disproportionately high among certain ethnic groups (particularly Bangladeshi, Black African, and Black Caribbean children), in areas with high levels of deprivation, and for children living in urban areas.

These relationships have been publicised as a result of NCMP analysis already published by the National Obesity Observatory (NOO), The NHS Information Centre (IC) and other organisations. However, such information does not provide a simple approach that can be used at local level to target interventions or resources at those communities or populations which are most at risk of child obesity.

Use of the Office for National Statistics Area Classification (ONS-AC) alongside NCMP data can achieve this. The ONS-AC categorises geographic areas based on a wide variety of common characteristics. The analysis within this report demonstrates that the prevalence of child obesity differs between these categories, and that the population groups with the highest obesity prevalence are largely consistent across the country, over time and by age and sex of children.

The ONS-AC can therefore be used both to demonstrate which parts of the population have the highest child obesity prevalence, and to locate precisely where within a local area these population groups are found. This approach can identify, at a very local level, which parts of the child population should be prioritised for assistance.

Targeting resources or interventions at a local level using ONS-AC categories is likely to be preferable to using obesity prevalence figures produced for small areas such as Lower Super Output Areas (LSOAs). Obesity prevalence figures for areas of this size are unlikely to be robust, as a result of the small number of children measured at this level of aggregation. More robust obesity prevalence figures can be calculated for groups defined using the ONS-AC, yet can still be mapped back to LSOA level. This issue is discussed in more detail within the NOO publication 'NCMP: Guidance for small area analysis'.<sup>3</sup>

In addition, by classifying the NCMP dataset into similar population groups in a way that takes account of many sociodemographic factors, the ONS-AC provides a powerful additional tool with which to better monitor change over time or changes in health inequalities.

This report firstly provides a brief description of the ONS-AC and the methods used to produce this analysis. The prevalence of child obesity by ONS-AC is then presented, by age, sex and region. The trend in obesity prevalence by ONS-AC category is also examined.

## 3. Background to ONS Area Classification

ONS-AC uses data from the 2001 Census to group areas into clusters with common characteristics. It is available at many levels of administrative and statistical geography; the analysis in this report uses the LSOA classification as this is the lowest level of geographic coding available within the NCMP dataset.

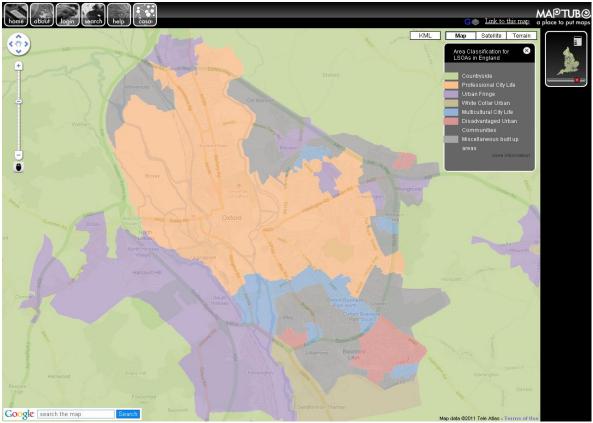
There are three levels of clustering within the ONS-AC. LSOAs are grouped into 7 'supergroups', then 20 'groups' and a further 53 'sub-groups'. The analysis for this paper uses only the supergroups and groups, which are summarised in Table 1. Although the NCMP measures approximately one million children each year, when the data are split into 53 sub-groups, as well as by sex and school year, the sample size is not large enough to provide robust estimates of obesity prevalence.

The colour shading for each supergroup, illustrated in Table 1, has been used throughout this paper. NOO has also published an online interactive map which can be used to view the supergroup classification of LSOAs within a local area which also uses this colour scheme. Figure 1 (page 6) provides a screenshot of this map from the MapTube website.

| Supergroup                        | Group                          |
|-----------------------------------|--------------------------------|
|                                   | 1.1 Countryside Communities    |
| 1 Countryside                     | 1.2 Rural Economies            |
|                                   | 1.3 Farming and Forestry       |
|                                   | 2.1 Educational Centres        |
| 2 Professional City Life          | 2.2 Young City Professionals   |
|                                   | 2.3 Mature City Professionals  |
| 3 Urban Fringe                    | 3.1 Urban Commuter             |
| S Orban Fringe                    | 3.2 Affluent Urban Commuter    |
|                                   | 4.1 Well off Mature Households |
| 4 White Collar Urban              | 4.2 Young Urban Families       |
|                                   | 4.3 Mature Urban Households    |
|                                   | 5.1 Multicultural Inner City   |
| 5 Multicultural City Life         | 5.2 Multicultural Urban        |
|                                   | 5.3 Multicultural Suburbia     |
| 6 Disadvantaged Urban Communities | 6.1 Struggling Urban Families  |
| o Disadvantaged orban communities | 6.2 Blue Collar Urban Families |
|                                   | 7.1 Suburbia                   |
| 7 Miccollangous Built Lin Aroos   | 7.2 Resorts and Retirement     |
| 7 Miscellaneous Built Up Areas    | 7.3 Urban Terracing            |
|                                   | 7.4 Small Town Communities     |

 Table 1: ONS Area Classification: 7 supergroups and 20 groups

Figure 1: Screenshot of ONS LSOA Area Classification supergroups for Oxford, as published by NOO on the Centre for Advanced Spatial Analysis (CASA) MapTube website



http://www.maptube.org/map.aspx?mapid=831

Figure 2 (page 7) provides an illustration of the variables used to classify areas into supergroups using Disadvantaged Urban Communities as an example. This supergroup classification contains LSOAs where the proportion of detached housing or households owning two or more cars is below the national average, as is the level of educational qualification. It has above the national average level of lone parent households, public rented households, limiting long-term illness, and unemployment.

A summary of the characteristics of each supergroup is included in Appendix 1 of this report. The Area Classification methodology document<sup>4</sup> published by ONS contains detailed descriptions of the other supergroups within the LSOA Area Classification. We recommend that anyone using the ONS-AC with their local data should read the Area Classification methodology and accompanying guidance<sup>5</sup> to familiarise themselves with the characteristics of each group and supergroup.

The ONS-AC is one of a number of systems of classification available for the English population. Similar analyses can be conducted using population stratification systems such as Acorn from CACI<sup>6</sup> or Mosaic from Experian.<sup>7</sup> However, unlike most other such systems, the ONS-AC is free to use. The data files required to perform analysis, as well as the supporting documentation, are available from the ONS website.<sup>8</sup>

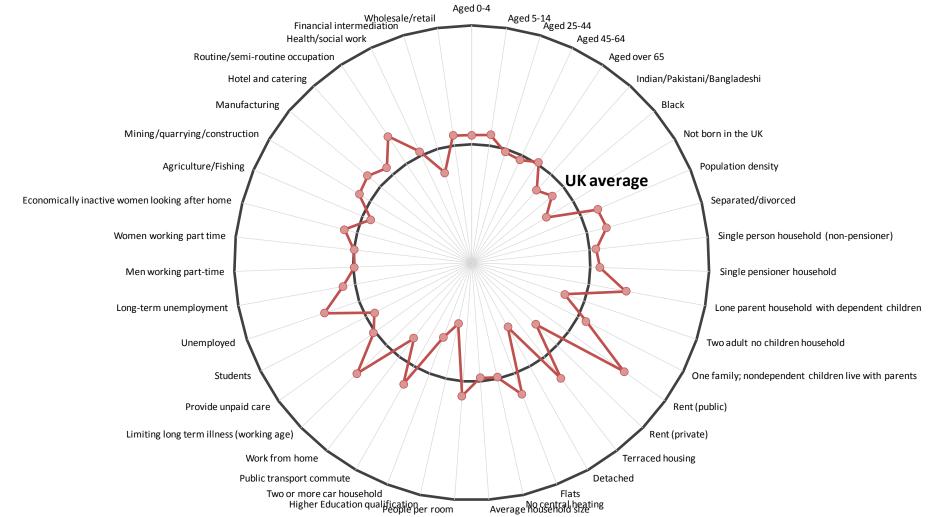


Figure 2: Characteristics of the Disadvantaged Urban Communities supergroup, sourced from the ONS Area Classification methodology<sup>4</sup>

In this figure, data points close to the outer ring show a higher rate for that variable, compared to the UK average. The closer to the centre the lower the rate, compared to the UK average. Data points close to the middle ring are close to the UK average.

## 4. Methods

The analysis in this paper focuses primarily on data from the 2009/10 NCMP, but also includes analysis of the trend in obesity prevalence using four years of NCMP data. The datasets used for this analysis were provided to public health observatories by the IC in March 2011.

The analysis is restricted to data for pupils attending state-maintained schools. Only a very small proportion of independent and special schools are covered in the NCMP datasets, so for consistency with the published IC figures and previous reports from the IC and NOO, these records have been excluded from the analysis for this paper.

An ONS-AC supergroup and group have been assigned to each child record in the NCMP which has a valid LSOA of residence for the child. Therefore only records with a valid child LSOA code for an LSOA in England and Wales are included in this analysis.

In the 2009/10 NCMP 99.0% of child records included a valid LSOA of residence. The child's LSOA is calculated from the child's postcode prior to upload to the national database. If no child postcode is provided by the PCT, the national dataset will not contain an LSOA of residence. In the 2006/07 NCMP only 57.7% of records had a valid child LSOA, therefore some caution needs to be taken when interpreting LSOA data for that year. The proportion increased to 95.1% in 2007/08 and then to 99.1% in 2008/09.<sup>9</sup>

Within this report, children with a body mass index (BMI) greater than or equal to the 95<sup>th</sup> centile of the British 1990 growth reference (UK90) have been classified as obese. This is the most commonly used definition when presenting child obesity prevalence figures in England.<sup>10</sup>

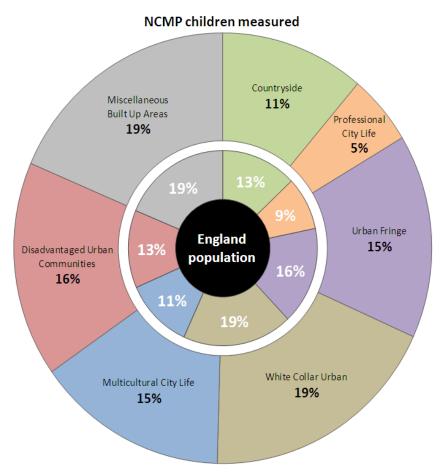
A 95% significance level has been used for the confidence limits shown within this report, and also for testing any statistically significant differences reported.

# 5. Analysis

#### Proportion of children measured for the NCMP by ONS-AC supergroup

The proportion of children measured in the 2009/10 NCMP in each supergroup is similar to the split for the whole England population, as shown in Figure 3. A similar pattern to that shown for all children in Figure 3 was seen when this analysis was performed by sex and school year.

**Figure 3:** Proportion of children measured in the 2009/10 NCMP compared to the proportion of the total 2009 population of England, by ONS Area Classification supergroup



Where there are differences between the proportion of children measured by supergroup and the national population it is likely that these can be explained by the characteristics of each supergroup. For example, the proportion of children measured in the Professional City Life supergroup is almost half that in the general population. However, one of the characteristics of this supergroup is that the proportion of its population aged 5–14 is lower than that for the general population (as shown in Appendix 1).

#### **Prevalence of obesity**

Previous analysis of the NCMP has shown that obesity prevalence is higher for children in Year 6 than those in Reception and higher among boys than girls. Analysis using the ONS-AC shows that obesity prevalence by supergroup and group reflects these patterns. However there are some small differences in the pattern of obesity prevalence by ONS-AC category when split by children's age and sex, so most of the following analysis has been presented separately for these groups.

#### Prevalence of obesity by ONS-AC supergroup (Figure 4)

In both Reception and Year 6, and for both boys and girls, obesity prevalence is highest in the Multicultural City Life supergroup, followed by Disadvantaged Urban Communities.

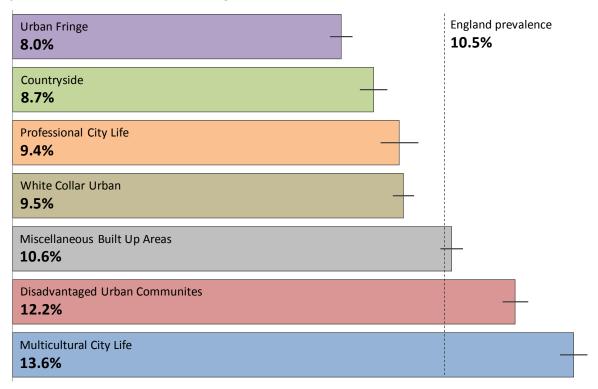
Obesity prevalence among the Miscellaneous Built Up Areas supergroup is broadly similar to the national average regardless of the age and sex of the children measured. In Year 6 obesity prevalence for this supergroup is statistically significantly higher than the national average, although the size of this difference is small.

Analysis by ONS-AC highlights that, contrary to earlier published NCMP analysis<sup>2,11</sup>, obesity prevalence is not always high in urban areas. In fact, the Urban Fringe supergroup has the lowest obesity prevalence for both age groups and both sexes; lower than prevalence in the Countryside supergroup, which is consistently the second lowest. Obesity prevalence in the White Collar Urban supergroup is also consistently lower than the national average.

The pattern of prevalence by age and sex is broadly similar across ONS-AC supergroups. The only noticeable exception is that for boys in Year 6 the prevalence of obesity in the Professional City Life supergroup is similar to the national average and higher than that in White Collar Urban areas. For all other age/sex groups the obesity prevalence in the Professional City Life supergroup is lower than both the national average and that for White Collar Urban areas.

This consistency suggests that the ONS-AC supergroups can be used to identify areas of high obesity prevalence regardless of the age and sex of the children in question.

**Figure 4a:** Prevalence of obesity (with 95% confidence limits) among boys in Reception by ONS Area Classification supergroup, NCMP 2009/10



**Figure 4b:** Prevalence of obesity (with 95% confidence limits) among girls in Reception by ONS Area Classification supergroup, NCMP 2009/10

| Urban Fringe                          | England prevalence<br>9.2% |
|---------------------------------------|----------------------------|
| Countryside                           |                            |
| Professional City Life                |                            |
| White Collar Urban 8.2%               |                            |
| Miscellaneous Built Up Areas<br>9.3%  |                            |
| Disadvantaged Urban Communities 11.2% |                            |
| Multicultural City Life 11.9%         |                            |

**Figure 4c:** Prevalence of obesity (with 95% confidence limits) among boys in Year 6 by ONS Area Classification supergroup, NCMP 2009/10

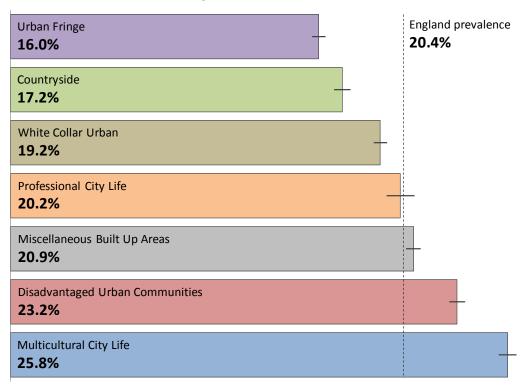
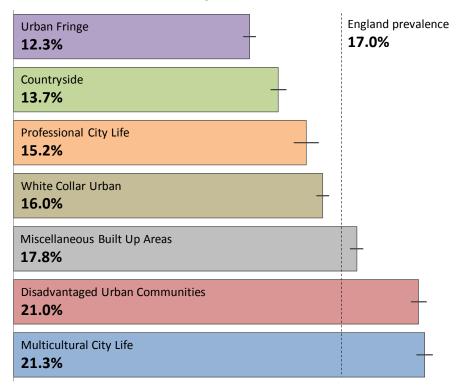


Figure 4d: Prevalence of obesity (with 95% confidence limits) among girls in Year 6 by ONS Area Classification supergroup, NCMP 2009/10



#### Prevalence of obesity by ONS-AC group (Figure 5)

Although the seven ONS-AC supergroups are defined using common characteristics, they cannot capture all the variation within the national population. The ONS supergroups therefore do not contain homogeneous populations and further analysis by ONS-AC group reveals variation in obesity prevalence within each supergroup. At this level of analysis greater differences emerge in the pattern of obesity prevalence between school years and by sex.

For all children, regardless of age and sex, obesity prevalence is significantly higher than the national average for all groups within the Disadvantaged Urban Communities and Multicultural City Life supergroups, as well as for the Urban Terracing group (within the Miscellaneous Built Up Areas supergroup). Children within the Multicultural Inner City group show a significantly higher prevalence than all other ONS-AC groups, with the exception of boys in Year 6.

For both boys and girls in Year 6, the Countryside Communities group has significantly higher obesity prevalence than the national average. This is of particular interest as this group is part of a supergroup (Countryside) which has low obesity prevalence regardless of age and sex.

In addition, when analysed using ONS-AC groups, those areas classed as Young City Professionals show significantly higher obesity prevalence compared to England for boys in Year 6. One in four (25.8%) Year 6 boys in this group are obese, compared to one in five (20.4%) of all Year 6 boys in England – the second highest prevalence of all ONS-AC groups for children of this age and sex.

This finding is surprising for two reasons. Firstly, the Professional City Life supergroup has a similar prevalence to the England average for boys in Year 6. Secondly, the demographic characteristics of this group suggest a level of affluence (for example, a high proportion of the population have higher education qualifications and a low proportion are employed in manual occupations) which is usually associated with a low prevalence of child obesity. However, this group is also characterised by a high proportion of the population being from Asian and Black ethnic groups. These demographic groups are known to have a high prevalence of obesity and so may go some way towards explaining the raised prevalence of obesity within this ONS-AC group. Figure 5a: Prevalence of obesity (with 95% confidence limits) among boys in Reception by ONS Area Classification group, NCMP 2009/10

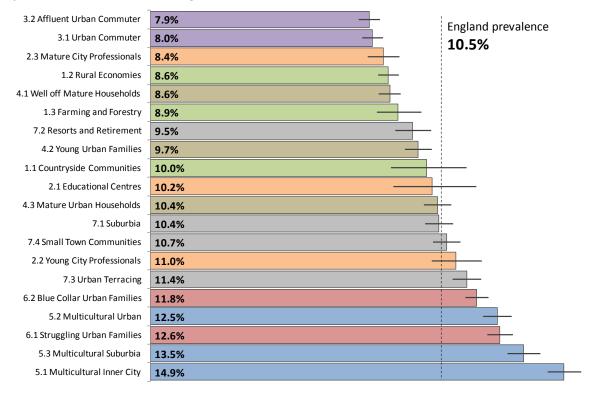


Figure 5b: Prevalence of obesity (with 95% confidence limits) among girls in Reception by ONS Area Classification group, NCMP 2009/10

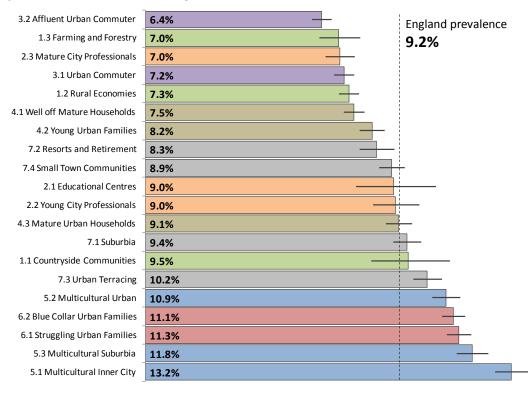


Figure 5c: Prevalence of obesity (with 95% confidence limits) among boys in Year 6 by ONS Area Classification group, NCMP 2009/10

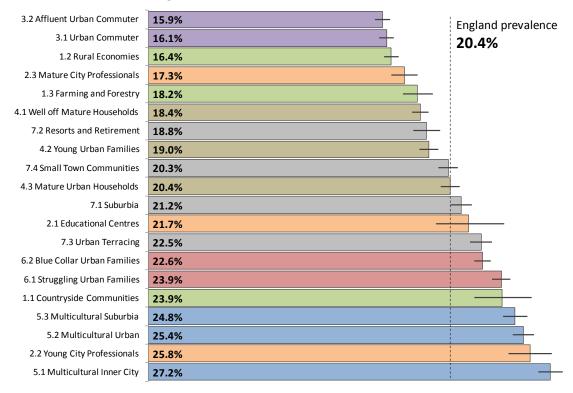
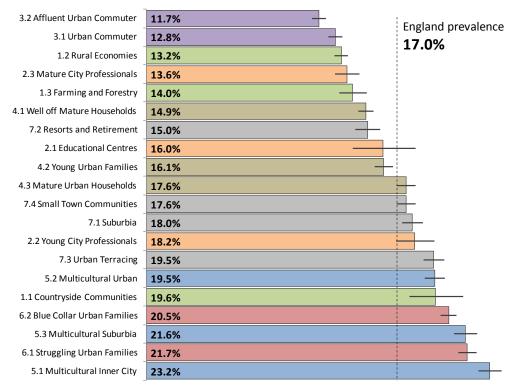


Figure 5d: Prevalence of obesity (with 95% confidence limits) among girls in Year 6 by ONS Area Classification group, NCMP 2009/10



#### **Regional variation in obesity prevalence by ONS-AC supergroup (Figures 6-7)**

There is some regional variation in the proportion of children measured within each supergroup, as shown in Figure 6 (page 17). London in particular differs substantially from the national average, with over half the children measured in 2009/10 (58%) resident in areas classified as within the Multicultural City Life supergroup, compared to 15% of the national population. Similarly, the North East has 45% of children measured resident in areas classified as within the Disadvantaged Urban Communities supergroup, compared to only 16% of the national population.

Figure 7 (page 18) shows the prevalence of obesity for each region by ONS-AC supergroup. Regions have been ordered according to the average obesity across all seven supergroups.

There is some regional variation in prevalence by supergroup between the regions, for example obesity prevalence among Year 6 children in Disadvantaged Urban Communities is around 25% in London, but closer to 20% in the East of England. However, overall there is a fair degree of consistency across the regions, especially with regard to the supergroups with the highest prevalence. In all nine regions of England, areas classed as Multicultural City Life and Disadvantaged Urban Communities have the highest prevalence of obesity, with Miscellaneous Built Up Areas third.

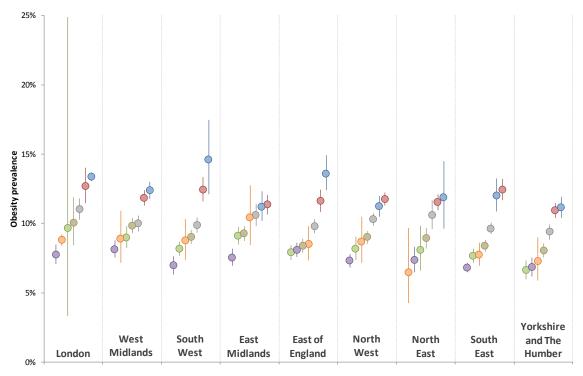
There is less consistency among the supergroups with low obesity prevalence, which means that a local analysis is likely to be required before using the ONS-AC to identify areas of low obesity prevalence.

| White Collar<br>Urban                 | 18.7%         | 18.9%            | 22.3%                          | 21.0%              | 19.9%         | 26.5%            | 20.3%         | 25.6%         | 22.4%         | 3.1%<br>8.2%<br>7.7% |
|---------------------------------------|---------------|------------------|--------------------------------|--------------------|---------------|------------------|---------------|---------------|---------------|----------------------|
| Disadvantaged<br>Urban<br>Communities | 16.2%         | 20.6%            | 23.9%                          | 10.9%              | 25.1%         | 18.1%            | 8.8%          | 11.0%         |               |                      |
| Miscellaneous<br>Built Up Areas       | 18.6%         | 18.1%            |                                | 22.5%              |               | 12.3%            | 24.5%         | 22.0%         | 44.9%         | 57.7%                |
| Urban Fringe                          | 15.3%         | 13.7%            | 19.6%                          | 20.1%              | 23.4%         | 16.3%            | 25.7%         | 12.3%         |               |                      |
| Multicultural<br>City Life            | 14.9%         | 18.2%            | 10.5%<br>11.5%                 | 3.5%               | 15.0%         | 7.2%             | 3.2%          | 25.20/        | 12.0%         |                      |
| Countryside<br>Professional City Life | 11.2%<br>5.3% | 9.0%             | 10.3%                          | 18.9%<br>3.1%      | 9.1%<br>6.2%  | 18.0%            | 13.0%<br>4.4% | 25.3%         | 12.6%<br>4.6% | 21.8%                |
| ~ г                                   | England       | West<br>Midlands | Yorkshire<br>and The<br>Humber | East of<br>England | North<br>West | East<br>Midlands | South<br>East | South<br>West | North<br>East | London               |

Figure 6: Proportion of children measured in the 2009/10 NCMP by ONS Area Classification supergroup and region

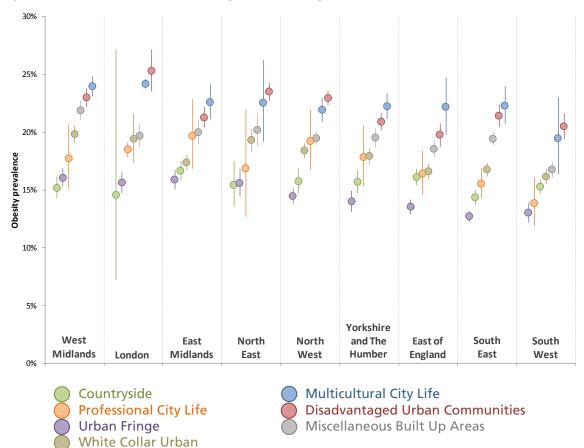
Where the proportion of children within an ONS-AC supergroup is less than 3% of all children measured within the region, the actual percentage figure is not shown. The full dataset used to create this chart is available within the Excel download that accompanies this report.

NOO | NCMP: Analysis using the ONS Area Classification



**Figure 7a:** Prevalence of obesity (with 95% confidence limits) among children in Reception by ONS Area Classification supergroup and region, NCMP 2009/10

**Figure 7b:** Prevalence of obesity (with 95% confidence limits) among children in Year 6 by ONS Area Classification supergroup and region, NCMP 2009/10



#### Change in the prevalence of obesity by ONS-AC supergroup (Figure 8)

The relative differences in prevalence of obesity between ONS-AC supergroups have largely remained constant over the last four years for children in both Reception and in Year 6. Areas classed as Multicultural City Life, Disadvantaged Urban Communities, and Miscellaneous Built Up Areas have consistently had a higher prevalence of obesity than the other supergroups.

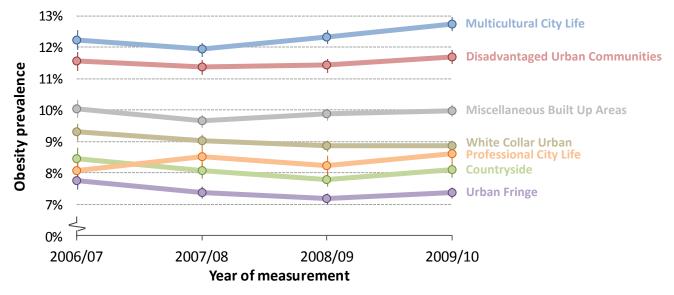
This consistency suggests that it is appropriate to combine data from different years of NCMP measurements when using the ONS-AC in local analysis. Combining data from different years of measurement helps to make NCMP analysis more robust, but might mask important differences if the relative differences in obesity prevalence between ONS-AC groups had changed substantially over time.

There does appear to be some change in obesity prevalence within groups over time. In Year 6 there appears to have been slight increases in obesity prevalence for most supergroups over the period covered by the NCMP. All supergroups showed a statistically significant increase in prevalence between 2006/07 and 2009/10, and all except Professional City Life and Urban Fringe between 2007/08 and 2009/10.

In Reception there was a statistically significant decrease in obesity between 2006/07 and 2009/10 for the Urban Fringe and White Collar Urban supergroups, but a significant increase for areas classed as Multicultural City Life. Between 2007/08 and 2009/10 the Multicultural City Life, Disadvantaged Urban Communities and Miscellaneous Built Up Areas supergroups all showed statistically significant increases, whilst all other supergroups showed no significant change.

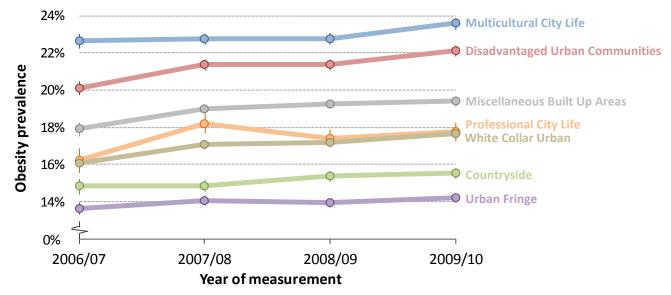
Given the high proportion of children in the 2006/07 NCMP dataset for whom no valid LSOA data are provided (42.3%) alongside the lower participation (80%) for that year, the resulting prevalence figures for 2006/07 may not provide an accurate estimate of child obesity. The apparent change between 2007/08 to 2009/10 is likely to be more robust; however it is difficult to make any concrete assessment of trend with only three years of robust NCMP data available.

Although it is not currently possible to identify any differences in trend between ONS-AC categories with certainty, the use of the ONS-AC to examine trends within NCMP should provide a useful tool in future years. It is likely that any changes in obesity prevalence over time will affect some parts of the child population differently from others. It is therefore possible that analysis of the population as a whole might not detect such changes, especially if increases in some groups are masked by decreases in others.



**Figure 8a:** Change in the prevalence of obesity (with 95% confidence limits) among children in Reception by ONS Area Classification group, NCMP 2006/07 to 2009/10

**Figure 8b:** Change in the prevalence of obesity (with 95% confidence limits) among children in Year 6 by ONS Area Classification group, NCMP 2006/07 to 2009/10



### 6. Discussion

Use of the ONS-AC with NCMP data can further our understanding of the epidemiology of child obesity. To some extent the differences in obesity prevalence between ONS-AC categories reflect what is already known about the links between demographic and socioeconomic factors, such as deprivation and ethnicity, and obesity prevalence. The most deprived and ethnically diverse supergroups – Multicultural City Life and Disadvantaged Urban Communities – consistently show a higher prevalence of obesity among children than other categories.

However analysing NCMP data in this way does reveal some deviation from the expected patterns. For example, this analysis shows that within urban areas, which tend to have a high prevalence of obesity, certain population groups have some of the lowest prevalence of obesity in the country. Conversely, some affluent communities, such as the Young City Professionals group, which might be expected to have a low prevalence of obesity, are shown to have a high prevalence.

It would be possible to determine these patterns by some form of multifactorial analysis, which takes account of a number of variables such as socioeconomic status, urban/rural environment and ethnicity. However, this sort of analysis cannot always easily be performed at a local level, due to a lack of the necessary specialist analytical skills and software, and also due to the time required to conduct such work. By contrast, analysis which uses the ONS-AC classification with NCMP data should be within the skill-set of most local analysts working with this dataset, and can be performed quickly and easily. It also provides a simple approach which can be understood and used by practitioners, without requiring any degree of analytical ability.

Most importantly, the ONS-AC can be easily mapped to local geographic areas. This means it can be used to assist local areas in the targeting of resources aimed at decreasing the prevalence of obesity and increasing the prevalence of healthy weight in children at a neighbourhood level.

The ONS-AC supergroups identified as having the highest prevalence of obesity are largely consistent across the nine regions of England, over time, and regardless of the age and sex of children measured. Therefore, as a general rule, areas which are categorised as Disadvantaged Urban Communities and Multicultural City Life are likely to have the highest prevalence of obesity among children in all parts of the country. If time or resources do not allow for further local analysis, then the findings presented within this report, used in conjunction with the online mapping tool provided by NOO, should provide enough information to identify the areas and neighbourhoods within a local area where obesity prevalence is likely to be highest.

However, as the ONS-AC is freely available, and can quickly and easily be used to analyse NCMP data, there is great potential for a more detailed examination of the patterns at local level. This should provide more detailed data for use in targeting of interventions. Therefore, if time and resources permit, then further analysis at a local level is recommended, using the methods outlined in the recent NOO report.<sup>3</sup>

Firstly, such analysis can be used to ensure that the pattern of obesity prevalence by ONS-AC supergroup at local level does not differ substantially from that observed nationally. Secondly, more detailed analysis by ONS-AC group as well as supergroup, and by age and sex of children, should enable more precise targeting. Such analysis is

likely to be particularly valuable if interventions are being aimed at children of specific age and sex groups, or in areas where the local population has a very different mix of ONS-AC supergroups or groups compared to the national population.

In addition to providing a tool to identify areas of high obesity prevalence, the ONS-AC also provides an additional approach by which to monitor the trend over time in obesity prevalence. Although it is not yet possible to draw any firm conclusions from the existing years of NCMP data, continued monitoring using this approach may detect a decrease or increase in obesity prevalence that is taking place among some sections of the child population, but which is not evident across the population as a whole.

Furthermore, the ONS-AC could provide an additional tool by which to monitor any changes in health inequalities. If attempts to tackle health inequalities within child obesity are successful, this should result in a reduction in the gap between ONS-AC categories over time. Some areas have local targets based on reducing health inequalities, which are typically defined using indicators such as the Index of Multiple Deprivation. In some situations, for example where there is little variation in levels of deprivation within a local area, the ONS-AC might provide an alternative way of segregating the child population and monitoring such ambitions.

As this report shows, analysis of NCMP data using the ONS-AC can greatly enhance our use of this valuable dataset. It is therefore hoped that the use of the ONS-AC with NCMP data will increase in future years, both in terms of national and local analysis.

# **Appendix 1: Cluster summaries for supergroups**

This table provides a summary of the characteristics of the populations of each supergroup, adapted from a table in the ONS-AC methodology paper<sup>4</sup> for super output areas and data zones.

| Below national average                                  | Close to national average                               | Above national average                      |  |  |
|---|---|---|--|--|
| Supergroup 1: Countryside                               |   |   |  |  |
| Population density                                      | Proportion aged 5–14                                    | People living in detached<br>housing        |  |  |
| People living in flats                                  | Single pensioner households                             | Working from home                           |  |  |
| Public transport commute                                | One family; non-dependent<br>children live with parents | Agriculture/Fishing<br>employment           |  |  |
|   | Average household size                                  |   |  |  |
|   | Long-term unemployment                                  |   |  |  |
|   | Men working part-time                                   |   |  |  |
|   | Hotel and catering<br>employment                        |   |  |  |
|   | Health/social work<br>employment                        |   |  |  |
| Supergroup 2: Professional C                            | City Life   |   |  |  |
| Proportion aged 5–14                                    | Work from home  | Indian/Pakistani/Bangladeshi<br>ethnicity   |  |  |
| One family; non-dependent<br>children live with parents | Unemployed  | Black ethnicity                             |  |  |
| People living in detached<br>housing                    | Long-term unemployment                                  | Not born in the UK                          |  |  |
| Women working part-time                                 | Men working part-time                                   | Population density                          |  |  |
| Mining/quarrying/<br>construction employment            |   | Single person household (non-<br>pensioner) |  |  |
| Manufacturing employment                                |   | Rented (private)<br>accommodation           |  |  |
| Routine/semi-routine<br>occupation                      |   | People living in flats                      |  |  |
|   |   | Higher education qualification              |  |  |
|   |   | Public transport commute                    |  |  |
|   |   | Students                                    |  |  |
| Supergroup 3: Urban Fringe                              |   |   |  |  |
| Rented (public)<br>accommodation                        | Proportion aged 5–14                                    | People living in detached<br>housing        |  |  |
| People living in terraced<br>housing                    | Proportion aged over 65                                 |   |  |  |
| People living in flats                                  | Indian/ Pakistani/ Bangladeshi<br>ethnicity             |   |  |  |
| No central heating                                      | Not born in the UK                                      |   |  |  |
|   | Population density                                      |   |  |  |
|   | Students  |   |  |  |
|   |   |   |  |  |

Health/ social work employment

| Below national average               | Close to national average              | Above national average                           |
|--------------------------------------|--|--|
| Supergroup 4: White Collar U         | Irban                                  |  |
|                                      | Proportion aged 0–4                    |  |
|                                      | Proportion aged 5–14                   |  |
|                                      | Proportion aged 25–44                  |  |
|                                      | Proportion aged over 65                |  |
|                                      | Single pensioner household             |  |
|                                      | People living in terraced<br>housing   |  |
|                                      | Average household size                 |  |
|                                      | Agriculture/Fishing                    |  |
|                                      | Health/social work<br>employment       |  |
|                                      | Financial intermediation<br>employment |  |
| Supergroup 5: Multicultural          | City Life                              |  |
| Two adult, no children<br>household  | Working from home                      | Indian/Pakistani/Bangladeshi<br>ethnicity        |
| People living in detached<br>housing | Routine/semi-routine<br>occupation     | Black ethnicity                                  |
| Two or more car household            | Health/social work<br>employment       | Not born in the UK                               |
|                                      | Wholesale/retail employment            | Population density                               |
|                                      |  | Rented (public)<br>accommodation                 |
|                                      |  | People living in flats                           |
|                                      |  | People per room                                  |
|                                      |  | Public transport commute                         |
|                                      |  | Unemployment                                     |
| Supergroup 6: Disadvantage           | d Urban Communities                    |  |
| People living in detached<br>housing | Proportion aged 25–44                  | Lone parent household with<br>dependent children |
| Higher Education qualification       | Proportion aged over 65                | Rented (public)<br>accommodation                 |
| Two or more car household            | No central heating                     | Limiting long-term illness                       |
|                                      | Average household size                 | Unemployment                                     |
|                                      | Provide unpaid care                    |  |
|                                      | Men working part-time                  |  |
|                                      | Women working part-time                |  |

| Below national average                     | Close to national average                 | Above national average |  |  |  |
|--|---|------------------------|--|--|--|
| Supergroup 7: Miscellaneous Built Up areas |   |                        |  |  |  |
|  | Proportion aged 0–4                       |                        |  |  |  |
|  | Proportion aged 5–14                      |                        |  |  |  |
|  | Proportion aged 25–44                     |                        |  |  |  |
|  | Indian/Pakistani/Bangladeshi<br>ethnicity |                        |  |  |  |
|  | Not born in the UK                        |                        |  |  |  |
|  | Two adult, no children<br>household       |                        |  |  |  |
|  | Public transport commute                  |                        |  |  |  |
|  | Provide unpaid care                       |                        |  |  |  |
|  | Long-term unemployment                    |                        |  |  |  |
|  | Men working part-time                     |                        |  |  |  |
|  | Health/social work<br>employment          |                        |  |  |  |
|  | Financial intermediation<br>employment    |                        |  |  |  |

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All web links accessed on 30/08/2011

## **Reader Information**

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