



Data Quality Statement

**National Child Measurement Programme:
England, 2014/15 school year**

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Introduction

Established in 2005/06, the National Child Measurement Programme (NCMP) records height and weight measurements of children in reception (aged 4–5 years) and year 6 (aged 10–11 years) in state-maintained schools¹ in England.

The NCMP provides robust data for the child excess weight indicators in the Public Health Outcomes Framework, and is a key element of the Government's approach to tackling child obesity.

The programme now holds nine years of reliable data (2006/07 is the first year that the data are considered to be robust due to the low participation in 2005/06), and annually measures over one million children. Details of how data are collected and validated are available in annex B of the main report.

Public Health England (PHE) has responsibility for national oversight of the programme, and on its behalf, the central collation and analysis of the NCMP data is coordinated by the Health and Social Care Information Centre (HSCIC). Local Authorities (LAs) have a statutory responsibility to deliver the National Child Measurement Programme.

Data Collection and Burden

The NCMP operates on an “opt out” basis. Local authorities send letters to parents of children eligible² to participate in the NCMP. This letter sets out the purposes for which the data will be held and used. Children not opted out by their parents or by themselves are then measured and their measurements and other details are entered into the NCMP collection system.

The measurement of children's heights and weights, without shoes and coats and in normal, light, indoor clothing, was overseen by healthcare professionals and undertaken in school by trained staff. Public Health England provides guidance to local authorities on how to accurately measure height and weight².

Data are provided annually by local authorities and published by the Health and Social Care Information Centre (HSCIC). Most local authorities also choose to feedback measurements to parents by generating a letter, using the NCMP collection system, and are encouraged to do so within six weeks of the measurements being taken.

Timeliness

This report is published annually. The collection period is the academic year, which runs from September to August. The measurements can take place at any point during the collection period, and date of measurement is recorded. The NCMP report relating to each academic year is scheduled for publication in late November and is therefore published just over three months after the end of the period to which it relates.

¹ The NCMP includes all state schools in England (unless the school declined to participate or if the responsible organisation did not measure in that school for other reasons). Any data collected from independent or special schools is excluded from this analysis. See “Coverage” in annex B for more details.

² See:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/463929/NCMP_Operational_Guidance_21015_16.pdf

Accuracy

The accuracy and completeness of the dataset underpinning the analysis in the report is ensured by a rigorous validation procedure.

- 1) As data are submitted, the NCMP system checks that each entered data item meets certain required conditions.
 - a) Invalid data items (e.g. incorrect ethnicity codes) are rejected.
 - b) Unexpected data items (e.g. “extreme” heights) generate warnings flags that require local authority confirmation.
- 2) Data quality indicators (e.g. percentage of records with “extreme” heights) are shown in real time and by different groups of schools allowing users to identify and resolve data quality issues early.
- 3) After the collection deadline, the HSCIC carries out further validation, e.g. comparing data across LAs and over time. The HSCIC contacted a number of LAs to query unexpected findings and, where necessary, request that data be corrected.

The participation rate can particularly affect the accuracy of estimates derived from the data. For example, if the participation rate is very low in a local authority then the prevalence estimates for the BMI categories should be treated with caution as those children measured may not be representative of all children in the local authority. Those local authorities with a low participation rate are mentioned under the “Data quality issues for 2014/15” in this note.

In recognition of the effect of natural year to year variation, confidence intervals are included around the prevalence estimates in the online report tables and should be considered when interpreting results. A confidence interval gives an indication of the sampling error around the estimate calculated and takes into consideration the sample sizes and the degree of variation in the data. They are used to determine whether any differences in prevalence figures are likely to be real or due to sampling variation.

As the sample sizes and participation rates for NCMP are large (1,141,859 records and 95% participation in 2014/15) the 95 per cent confidence intervals for prevalence estimates at national level are very narrow (indicating a small margin of potential error). The comparisons that feature in this report have all been tested at a 95 per cent significance level. Where two figures are described as being different (e.g. higher/lower or increase/decrease etc.) the result of the test has determined a statistically significant difference. Further details are provided in Annex F of the publication.

[Table A1](#), in Annex A of the publication, shows the key data quality measures, at national level, since the first year of robust NCMP data was collected in 2006/07. These data quality measures include indicators around coverage, completeness and accuracy of data entry.

[Online table 8](#) shows the same data quality measures at submitting local authority level for 2014/15. The performance of each LA is colour coded as red, amber or green depending on which of the defined ranges it falls into for that indicator. This publication of this information is intended to provide an incentive for LAs to take active steps to improve data quality. Since 2006/07, there have been considerable improvements in data quality. For example, in 2014/15 90 per cent of records included a valid ethnic code compared to 32 per cent in 2006/07.

Data quality issues for 2014/15

All data included in the analyses for 2014/15 have passed all the validation checks conducted by the Health and Social Care Information Centre (HSCIC).

However, there are some issues which users should be aware of when using this report and more information is available in Online table 8:

1. Trafford did not finalise their submission and therefore have not signed off their data quality indicators for 2014/15 data.
2. Three LAs did not achieve the target of an 85 per cent participation rate³ and were asked for an explanation which is provided below:
 - a. Barnsley (80.2% in reception and 71.9% in year 6): low participation due to the number of parents and children opting out of the NCMP.
 - b. Peterborough (80.3% in year 6): increased parental opt-out.
 - c. East Sussex (84.9% in year 6): impact of a change in the provider of the School Health Service and also to the CHIS IT system.
3. 9 LAs exceeded 25 per cent of heights being recorded to the nearest centimetre⁴. Of these, two LAs exceeded 50 per cent: Bournemouth (100%) and Brighton (56%). No LAs exceeded 25 per cent for weights.
4. 18 LAs exceeded 25 per cent of blank ethnicities. Of these, eight LAs did not provide any ethnicity data (Slough, Windsor and Maidenhead, Havering, Trafford, Wigan, Sefton, Rotherham and Solihull). In addition, all ethnicity data for Derby City council has been set to "Not Stated" as it was not captured according to the NCMP Operational Guidance.
5. The top 100 weights in each school year were checked a second time with each local authority resulting in corrections being made to eight weights⁵.

All the above issues need to be considered when interpreting NCMP data, particularly at a local level.

Accessibility

The national summary report is accessible on the HSCIC website (<http://www.hscic.gov.uk/lifestyles>) as a PDF document and tables are provided in Excel format.

A non-identifiable version of the 2014/15 dataset will be published on the HSCIC website in early 2016.

³ Participation rates should be considered when comparing local authority prevalence estimates in table 2. Low participation rates may skew prevalence if the non-participating children are not representative of all pupils in that local authority.

⁴ It would be expected that 10% of measurements would be whole numbers.

⁵ These had already been checked at point of data entry and confirmed as being correct but it was decided to double check these extreme measurements directly with LAs.

Confidentiality

This publication is subject to an HSCIC risk assessment prior to issue. Information is disseminated at a high level of aggregation (Lower tier LA level and above).

For the non-identifiable version of the dataset, some of the data items collected have been removed and others have been altered to compliance with the NHS anonymisation standard⁶.

For the purposes of maintaining confidentiality, City of London LA has been combined with Hackney LA, and Isles of Scilly LA has been combined with Cornwall LA.

Comparability

The 85th and 95th centiles of the British 1990 Growth Reference⁷ (UK90) have been used as the thresholds for most of the overweight and obesity prevalence figures published for English children in the last 10 years. There are a number of other growth references and suggested obesity thresholds available, for example the obesity thresholds recommended by the International Obesity Task Force (IOTF), which are widely used internationally⁸. These thresholds are commonly applied to UK data (for example in peer reviewed journals), and are the second most common thresholds used in this country for published overweight and obesity prevalence figures, after the UK90 population monitoring thresholds.

Comparisons of overweight and obesity prevalence figures between the NCMP and other sources can only be made where the other source also uses the British 1990 Growth Reference.

Analyses have been undertaken to consider whether meaningful comparisons could be attempted between the NCMP and child obesity data contained within the Health Survey for England (HSE), which is also derived using UK90. The HSE is a series of sample-based surveys focusing on a range of health indicators including obesity in children.

A comparison between the data in the 2007/08 NCMP and the HSE 2007, and between the 2008/09 NCMP and the HSE 2008, was published in Chapter 13 of the HSE 2008 (<http://www.ic.nhs.uk/pubs/hse08physicalactivity>).

The report contains links to data published relating to children in Wales, Scotland and Northern Ireland.

⁶ <http://webarchive.nationalarchives.gov.uk/+http://www.isb.nhs.uk/documents/isb-1523/amd-20-2010/index.html>

⁷ Cole T, Freeman JV, Preece MA. *Body mass index reference curves for the UK, 1990*. Arch Dis Child 1995; 73: 25-9.

⁸ Cole TJ, Bellizzi MC, Flegal KM, and Dietz WH. *Establishing a standard definition for child overweight and obesity worldwide: international survey*. BMJ; 2000;320:1240-3.