National Child Measurement Programme
England 2017/18 school year
Data Quality Statement
Published 11 October 2018
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1. **Introduction**

1.1. The National Child Measurement Programme (NCMP) was introduced in 2005/06 and collects height and weight measurements of children in reception (aged 4–5 years) and year 6 (aged 10–11 years) in mainstream state-maintained schools\(^1\) in England. The programme now holds twelve years of reliable\(^2\) data and annually measures over one million children.

1.2. The NCMP provides robust data for the child excess weight indicators in the Public Health Outcomes Framework\(^3\), and is a key element of the Government’s approach to tackling child obesity.

1.3. Public Health England (PHE) has responsibility for national oversight of the programme and local authorities (LAs) have a statutory responsibility to deliver it.

1.4. NHS Digital has responsibility for the collection, validation and dissemination of NCMP data. PHE make the data available via an interactive analysis tool and also carry out some more detailed analyses.

1.5. The national report is accompanied by technical appendices that provide details on:

   i. Data quality (annex A);
   
   ii. Data collection and validation (annex B);
   
   iii. How BMI classifications are derived (annex C);
   
   iv. Guidance on using the data (annex D);
   
   v. Methodology used for confidence intervals (annex E); and
   
   vi. Significance testing (annex F).


2. **Relevance - coverage and content**

2.1. NCMP covers children aged 4–5 years and 10–11 years attending mainstream state-maintained schools in England\(^1\).

2.2. For each collection year LAs are assigned a list of mainstream state-maintained schools, within their area, along with associated reception and year 6 headcounts\(^4\).

2.3. The proportion of returned schools and measured children are assessed at the end of the collection to check that coverage falls within acceptable thresholds. The number of LAs who failed the participation rate target are shown in Online tables 8 and 9.

2.4. Coverage against each data item is also assessed and more details are provided in the following section.

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\(^1\) Local authorities are mandated to collect data from mainstream state-maintained schools. Collection of data from special schools (schools for pupils with special educational needs and pupil referral units) and independent schools is encouraged but data collected these schools is excluded from the national report.

\(^2\) 2006/07 is the first year that the data are considered to be robust due to the low participation in 2005/06.

\(^3\) 2.06ii - Excess weight in 4-5 and 10-11 year olds.

\(^4\) Based on Department for Education school census data.
2.5. Information in the report is presented by the following breakdowns:

i. Age;
ii. Sex;
iii. Geography (region and LA);
iv. Deprivation;
v. Rurality;
vi. ONS area classification; and
vii. Ethnicity.

3. **Accuracy and reliability**

3.1. The accuracy and reliability of the dataset underpinning the analyses in the report is ensured by a rigorous validation procedure. Further details are provided in Validation of National Child Measurement Programme data.

3.2. As records are submitted, the NCMP system checks that all mandatory data items have been provided and data validation rules have been met.

- Records with missing data items are rejected.
- Invalid data items (e.g. incorrect ethnicity codes) are rejected.
- Unexpected data items (e.g. “extreme” heights) generate warning flags that require LA confirmation.

3.3. The NCMP system provides LAs with real-time data quality indicators throughout the collection period. This enables them to monitor the quality of their data during the collection period so they can take action if necessary.

3.4. The LA’s NCMP Lead is required to sign off these indicators as being within acceptable limits as part of finalising their data at the end of the collection. The data quality thresholds are provided in the validation document mentioned above.

3.5. The performance of LAs against these data quality measures is published in a data quality table (Online table 8) along with the national report. This table serves to highlight publicly any LAs which have poor quality data in relation to their peers to provide an incentive for LAs to take active steps to improve data quality.

3.6. Table A1, in appendix 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.

3.7. Since 2006/07, there have been considerable improvements in data quality. Table A1 in the Appendices shows the key data quality measures at national level since the first year of robust NCMP data was collected in 2006/07.

3.8. After the collection deadline, NHS Digital carries out further validation, e.g. comparing data across LAs and over time. NHS Digital contacted a number of LAs to query unexpected findings and, where necessary, requested that data were corrected. Local authority responses to queries from NHS Digital regarding data quality are provided in Online table 9.
3.9. 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 LA. The required participation rate is 85 per cent. The number of LAs who failed the participation rate target are shown in Online tables 8 and 9.

3.10. 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 these 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 natural variation.

3.11. As the sample sizes and participation rates for NCMP are large (over one million children measured and a participation rate exceeding 90 per cent from the 2008/09 collection onwards – see Online table 2 for the latest data) 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 appendix F of the publication.

4. **Timeliness and punctuality**

4.1. The NCMP national report is published annually and has never missed a scheduled publication date.

4.2. The production time for the report has been reduced each year due to increased efficiency in production processes and fewer data quality issues as LA understanding of data requirements improves. This year’s report is being published over a week earlier than last year’s and within two months of the collection deadline.

4.3. This report is being published on 11 October 2018, to coincide with World Obesity Day, and reports on the 2017/18 school year.

5. **Coherence and comparability**

5.1. The report uses the population monitoring thresholds of the British 1990 Growth Reference (UK90) to calculate the prevalence of the BMI classifications. This is a common approach used in England to classify children into different BMI categories.

5.2. Comparisons of overweight and obesity prevalence figures between the NCMP and other sources can only be made where the other source also uses the population monitoring thresholds of UK90.

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5 85th and 95th centiles.
5.3. The Health Survey for England (HSE) also contains prevalence of different BMI categories. HSE covers all children and is not restricted to those in reception or year 6 but as it is based on a much smaller sample the confidence intervals around the estimates are much wider than those presented in this report.


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

6. **Accessibility and clarity**


6.2. The report is accompanied by technical appendices that provide details on methodology and data tables in Excel format.

6.3. In order to meet the Government’s transparency agenda and to facilitate re-use of the data, the data is also made available as a record level file. However, in order to comply with the NHS Anonymisation Standard and mitigate against an individual being identified, certain fields have been removed and others overwritten with blanks or altered. Further information on how this has been carried out is given within the guidance document which accompanies the record level file. This document contains important information on how the file can and cannot be used in the form of a Q&A section.

7. **Confidentiality, transparency and security**

7.1. This publication is subject to an NHS Digital risk assessment prior to issue which is approved by the NHS Digital Statistical Head of Profession. Information is disseminated at a high level of aggregation (lower tier LA level and above).

7.2. 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 Standard. This is approved by the NHS Digital Disclosure Panel which is chaired by the NHS Digital Statistical Head of Profession and contains representation from Information Governance specialists and experienced statisticians within NHS Digital.

7.3. 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.

7.4. In addition, primary suppression has been applied to the LA level tables by not showing prevalence rates based on less than or equal to five children. This only affects the underweight and severely obese categories. Secondary suppression is applied to prevent data being disclosive through subtraction and involves suppressing another lower tier LA within the same upper tier LA (when the primary
suppressed LA is a lower tier LA) or another upper tier LA within the same region (when the primary suppressed LA is an upper tier LA). This secondary suppression is not required if another LA within the upper tier LA/region has already undergone primary suppression. Where the underweight category has been suppressed secondary suppression is also required to another BMI category within that LA. In general, the healthy weight category is suppressed as the obese and overweight categories are of more interest. Secondary suppression within the LA is not required when the severely obese category has been suppressed since it is a subset of the obese category and therefore is not disclosive through subtraction.

8. **Trade-offs between output quality components**

8.1. A small number of children move schools during the school year and therefore can be measured more than once depending on when the measurements take place in the schools they have attended. This is a necessary trade-off since LAs have a statutory responsibility to measure children in mainstream state-maintained schools regardless of whether these children have been measured previously or not.

9. **Assessment of user needs and perceptions**

9.1. This report was part of a consultation on all NHS Digital publications in 2016. There were proposals for changes to this report in section A6.

9.2. In response to user feedback gathered from this consultation the report has now been reformatted with extensive written content being replaced by headline results and associated graphics. These presentation techniques are in line with other reports already being produced by NHS Digital which have received positive feedback from users.

9.3. User feedback is also collected via NHS digital online feedback forms linked to the publication page.

9.4. The 2015/16 report underwent a review managed by the Government Statistical Service (GSS) Good Practice Team where a team of seven GSS colleagues reviewed the report and made suggestions for improvements. The vast majority of these suggested improvements have been implemented in this 2017/18 report.

9.5. Ad hoc requests for NCMP data inform the content of published tables during the design and development stage of the publication each year.

10. **Performance cost and burden**

10.1. The NCMP operates on an “opt out” basis. Local authorities send letters to parents of children eligible to participate in the NCMP. This letter sets out the purposes for which the data will be held and used and provides an opportunity for the parent to say they do not want their child to be measured. Children not opted out by

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their parents or by themselves are then measured and their measurements and other
details are entered into the NCMP collection system.

10.2. 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 weight.7

10.3. Data are provided annually by local authorities and published by NHS Digital.
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.

10.4. The cost of providing the data centrally was last measured in 2012 and was
estimated to be around £131,000. This was at a time when the data was provided by
Primary Care Trusts (PCTs) rather than LAs. However, it should be a reasonable
approximation of the current cost to LAs as the collection has changed little since
then. The cost for NHS Digital to collect, analyse and disseminate the data was
around £200,000 in 2017/18. This includes hosting, maintaining and enhancing the
NCMP IT collection system.
Information and technology for better health and care

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