Child height in England

National Child Measurement Programme

National Child Measurement Programme (NCMP)

The National Child Measurement Programme (NCMP), established in 2006, collects annual measurements of the height and weight of over one million children in Reception (age 4 to 5 years) and Year 6 (age 10 to 11 years) in primary schools across England.

This slide set presents data for England on the patterns and trends in average (mean) height of children age 5 years and 11 years and the prevalence of short stature among children in reception (age 4 to 5 years) and year 6 (age 10 to 11 years).

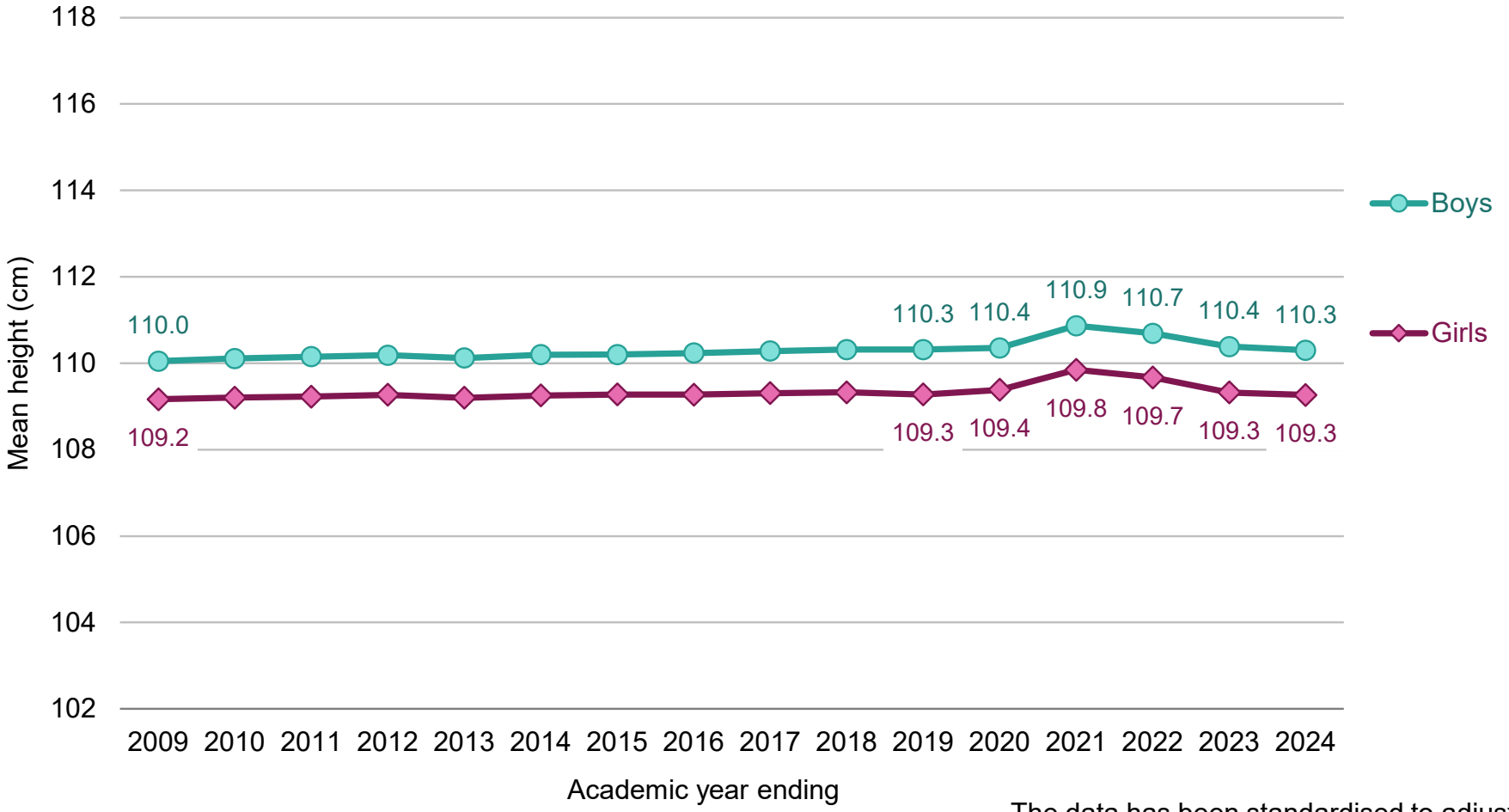
A more detailed description of the child height and short stature data is available here:

https://www.gov.uk/government/statistics/obesity-profile-february-2025-update/obesity-profile-statistical-commentary-on-patterns-and-trends-in-child-height-february-2025

The new height data is presented in the Obesity Profile on Fingertips for England, statistical regions, local authorities and integrated care boards (ICBs), with inequalities data for England by sex, ethnic group and deprivation decile.

Average (mean) height in centimetres at age 5 in England

National Child Measurement Programme 2008/2009 to 2023/2024



Note: y axis does not start at zero

The average height of 5 year old boys and girls in England had been increasing slightly over the period of NCMP data collection up to 2019 to 2020.

There was a relatively large increase in average height in 2020 to 2021 which coincided with the large increase in the prevalence of obesity during the pandemic[1].

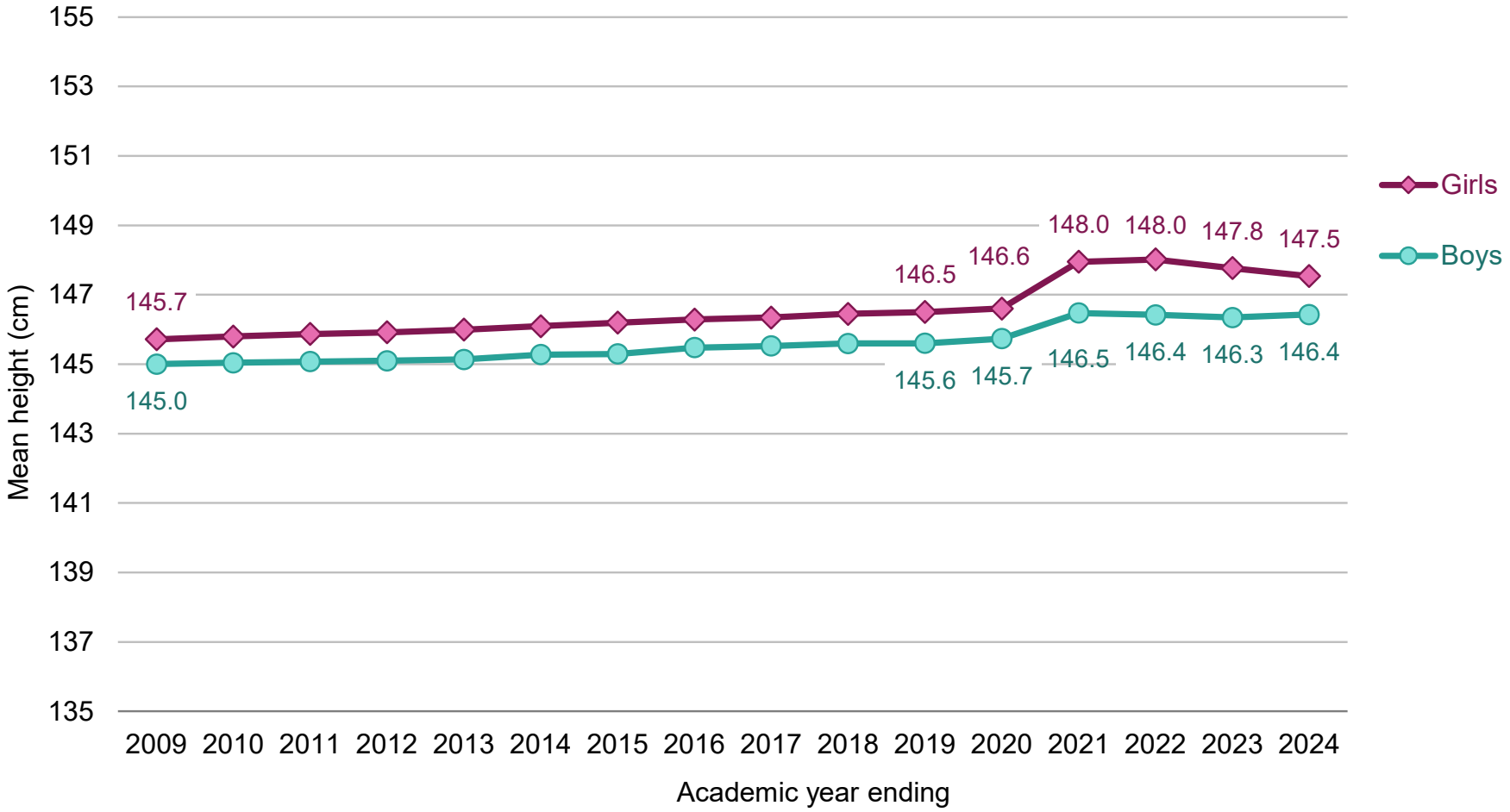
Since 2020 to 2021 average height has decreased among girls and boys and is now similar to the 2018 to 2019 average.

The data has been standardised to adjust for children being measured at different times in the academic year. See slide 19 for analysis methods used to produce this data.

1. Evidence from research literature shows that obesity is associated with accelerated height gain in childhood, but then a 'catch-down' of reduced height gain in adolescence, and earlier onset of puberty. Dynamic alterations in linear growth and endocrine parameters in children with obesity and height reference values | Eclinical medicine Kemp et al 2021

Average (mean) height in centimetres at age 11 in England

National Child Measurement Programme 2008/2009 to 2023/2024



The average height of 11 year olds in England has seen small increases over the period of NCMP data collection from academic years ending 2009 to 2020.

There was a relatively large increase in average height in 2020 to 2021 which coincided with a large increase in the prevalence of obesity during the pandemic[1].

Since 2021 to 2022 average height of girls has decreased but remains above pre-pandemic levels. Average height of boys has not decreased and remains above pre-pandemic levels and is similar to the 2020 to 2021 average.

Girls are taller than boys on average at age 11 due to starting puberty earlier.

Note: y axis does not start at zero

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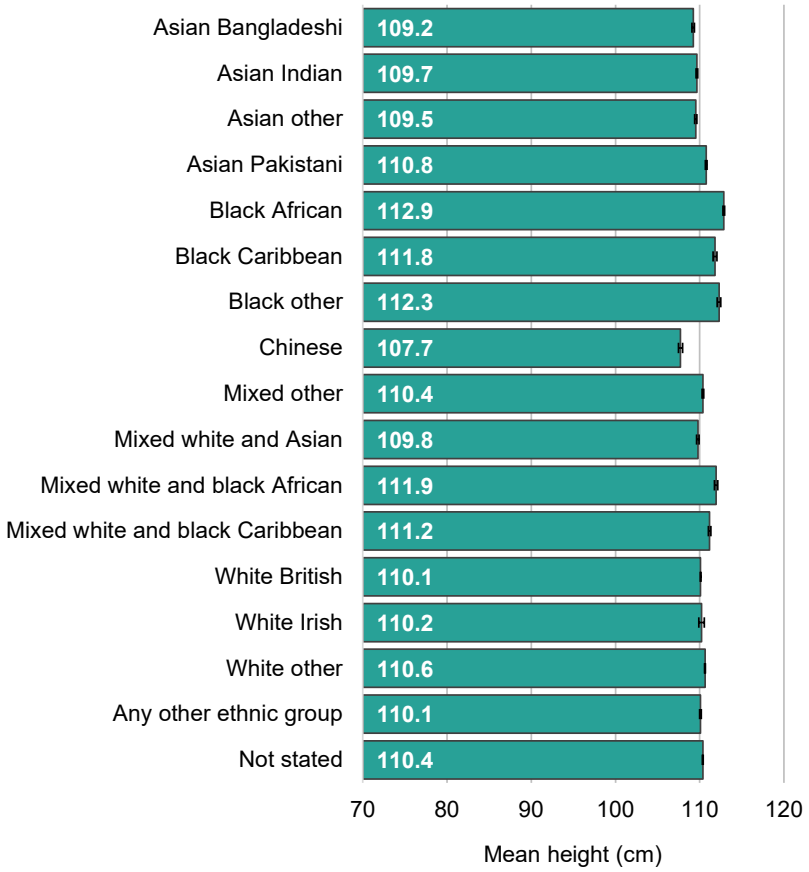
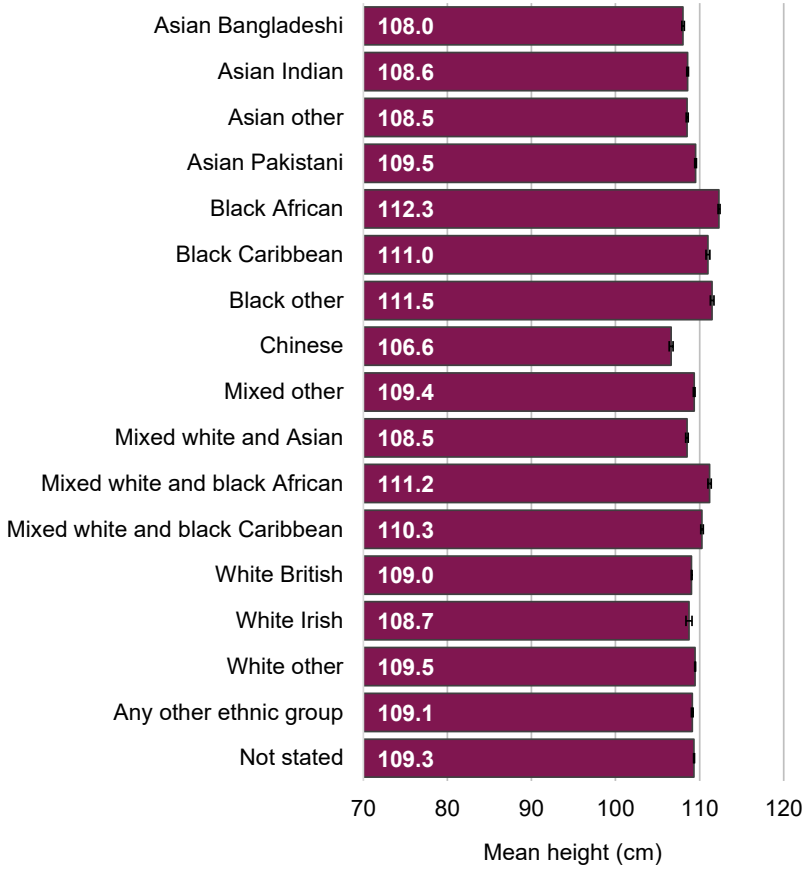
Average (mean) height in centimetres at age 5 in England by ethnic group

National Child Measurement Programme 2023/2024

Boys



Girls



Mean height varies by ethnic group with boys and girls from black ethnic groups being on average taller, and boys and girls from Asian ethnic groups being on average shorter at age 5 than children from other ethnic groups.

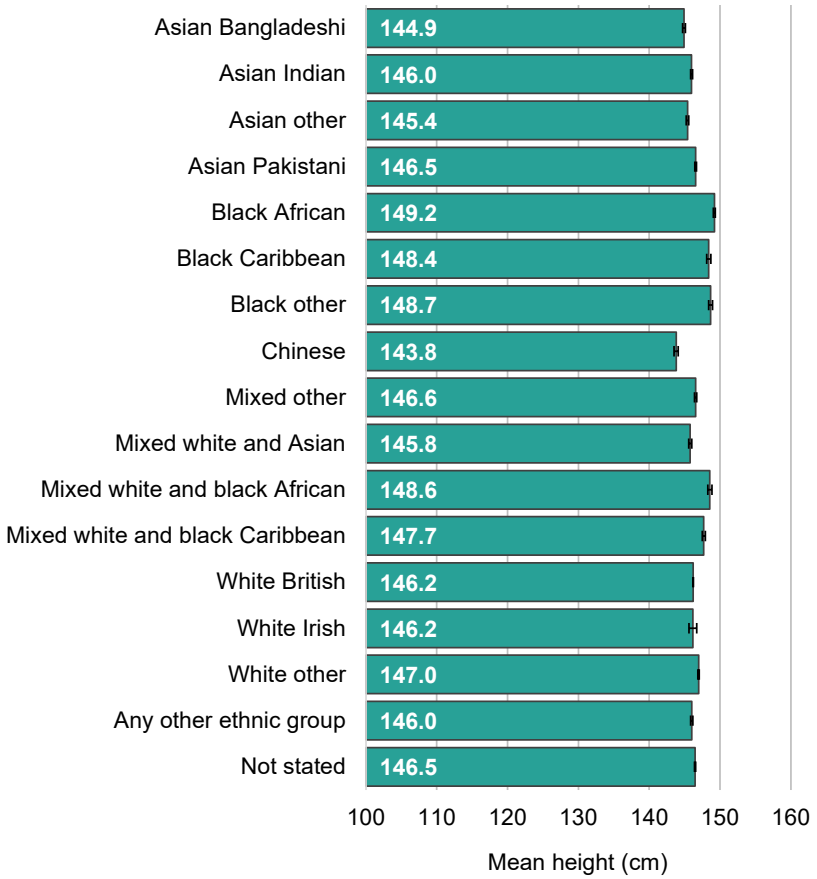
Note: y axis does not start at zero

The data has been standardised to adjust for children being measured at different times in the academic year. See slide 19 for analysis methods used to produce this data.

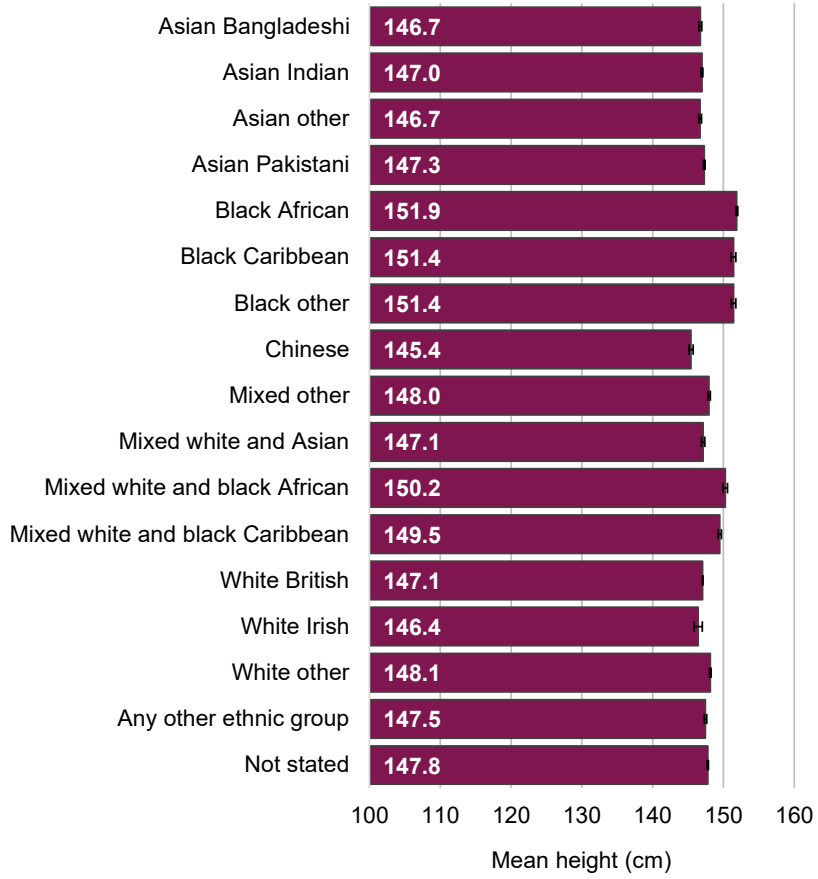
Average (mean) height in centimetres at age 11 in England by ethnic group

National Child Measurement Programme 2023/2024

Boys



Girls



Mean height varies by ethnic group with boys and girls from black ethnic groups being on average taller, and boys and girls from Asian ethnic groups being on average shorter at age 11 than children from other ethnic groups.

Note: y axis does not start at zero

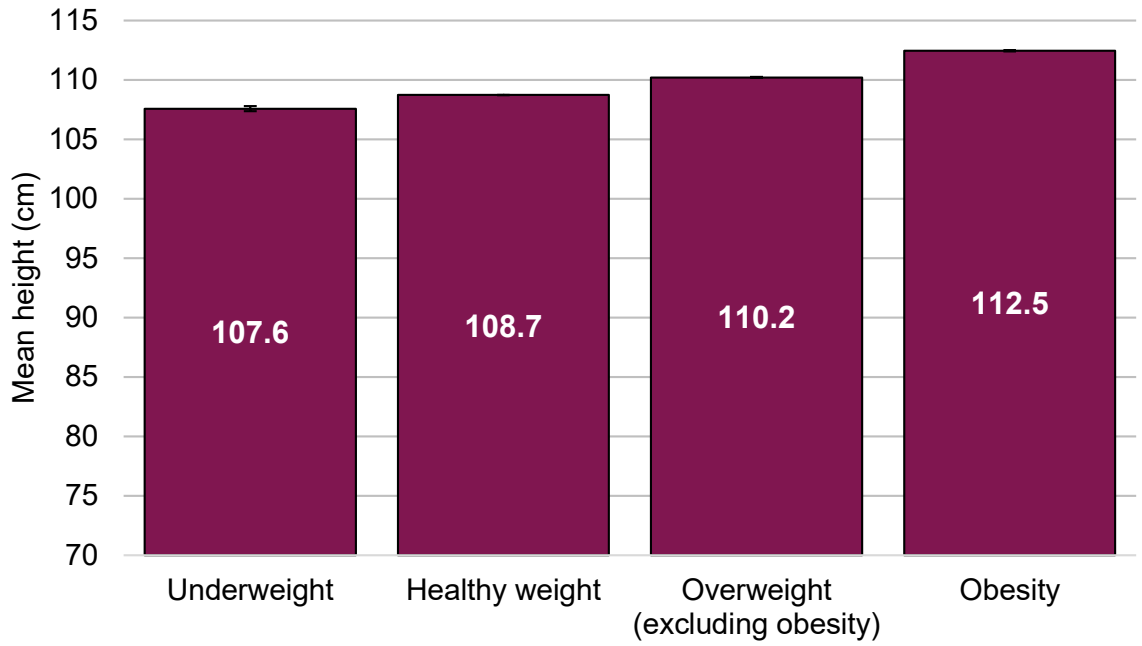
The data has been standardised to adjust for children being measured at different times in the academic year. See slide 19 for analysis methods used to produce this data.

Average (mean) height in centimetres at age 5 in England by BMI category

National Child Measurement Programme 2023/2024

Boys

Girls



Mean height among 5 year olds increased across body mass index (BMI) categories in 2023 to 2024, for both boys and girls, from underweight (108.7cm boys, 107.6cm girls) through to those living with obesity (113.2cm boys, 112.5cm girls). This pattern is consistent across all years of NCMP data collection.*

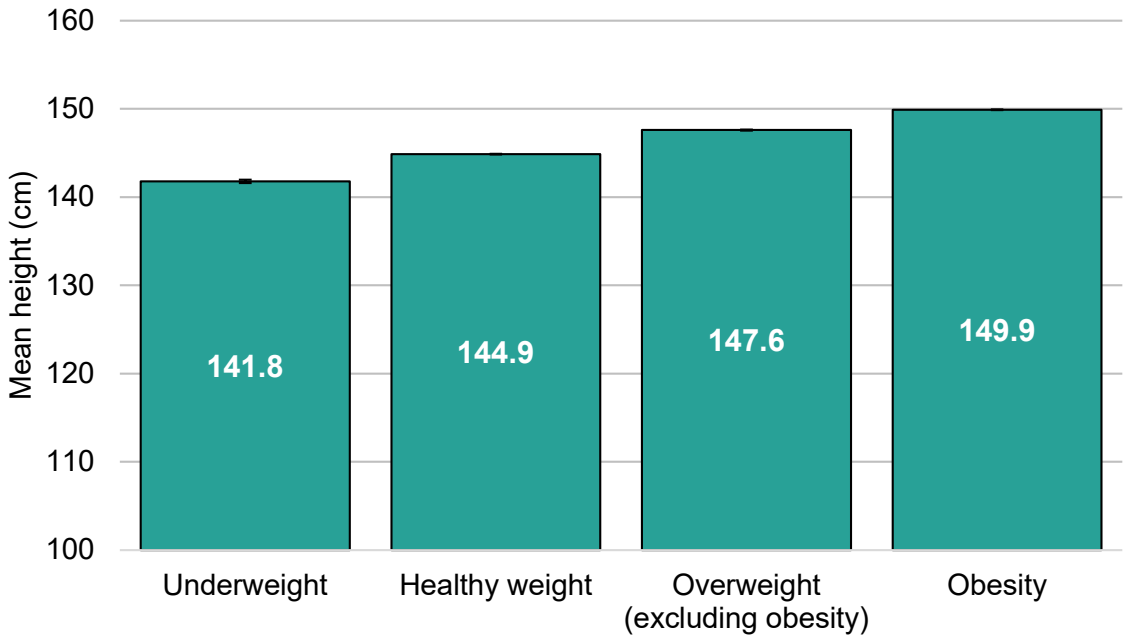
Note: y axis does not start at zero

The data has been standardised to adjust for children being measured at different times in the academic year. See slide 19 for analysis methods used to produce this data.

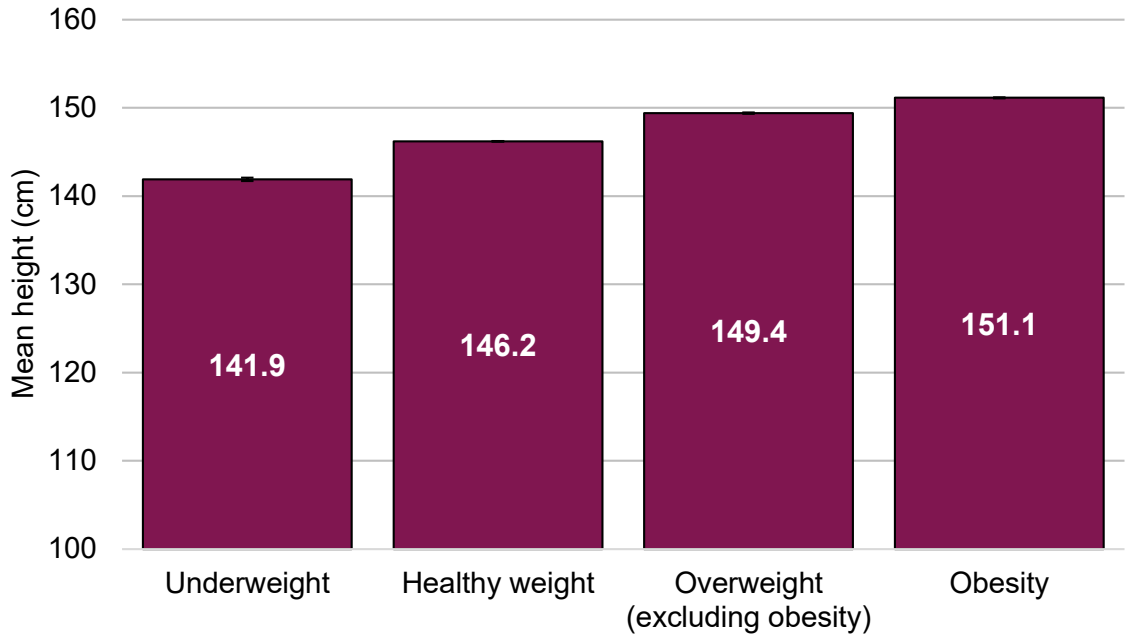
* Trend data can be viewed in the Obesity Profile on Fingertips.

Average (mean) height in centimetres at age 11 in England by BMI category
National Child Measurement Programme 2023/2024

Boys



Girls



Mean height among 11 year old boys and girls also increased across body mass index (BMI) categories from underweight (141.8cm boys, 141.9cm girls) through to those living with obesity (149.9cm boys, 151.1cm girls). This pattern is consistent across all years of NCMP data collection.*

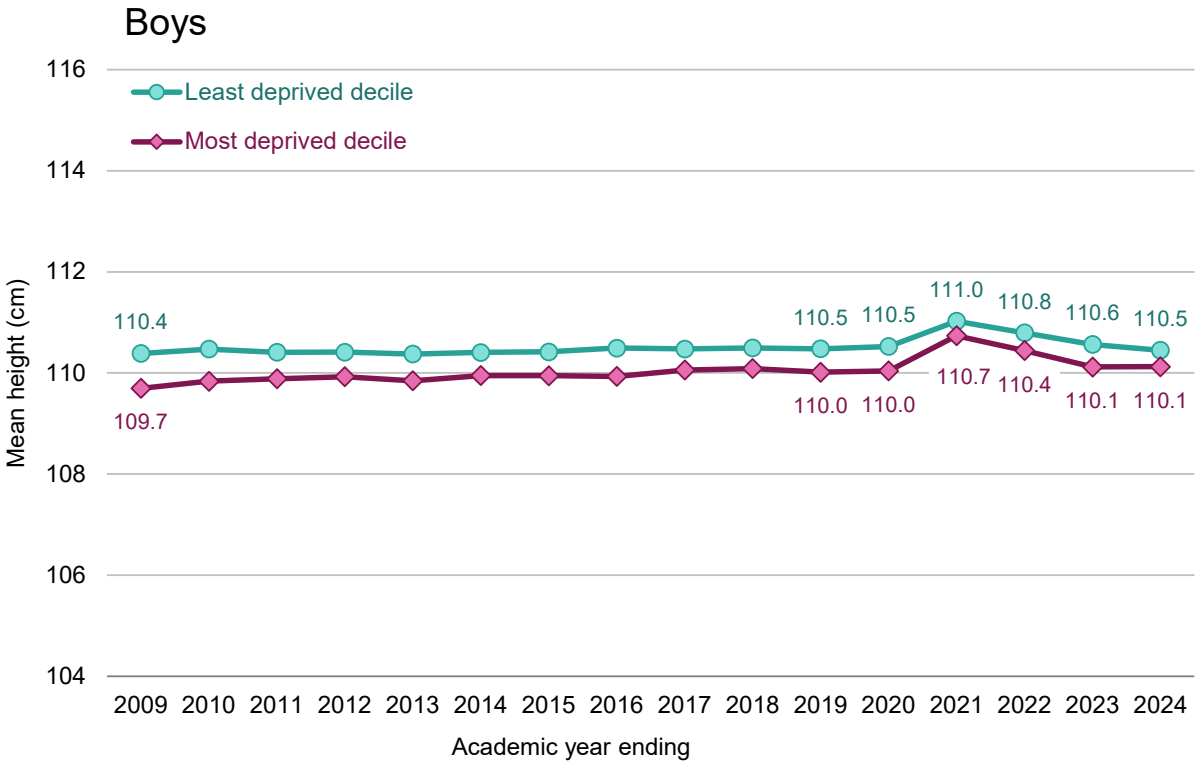
Note: y axis does not start at zero

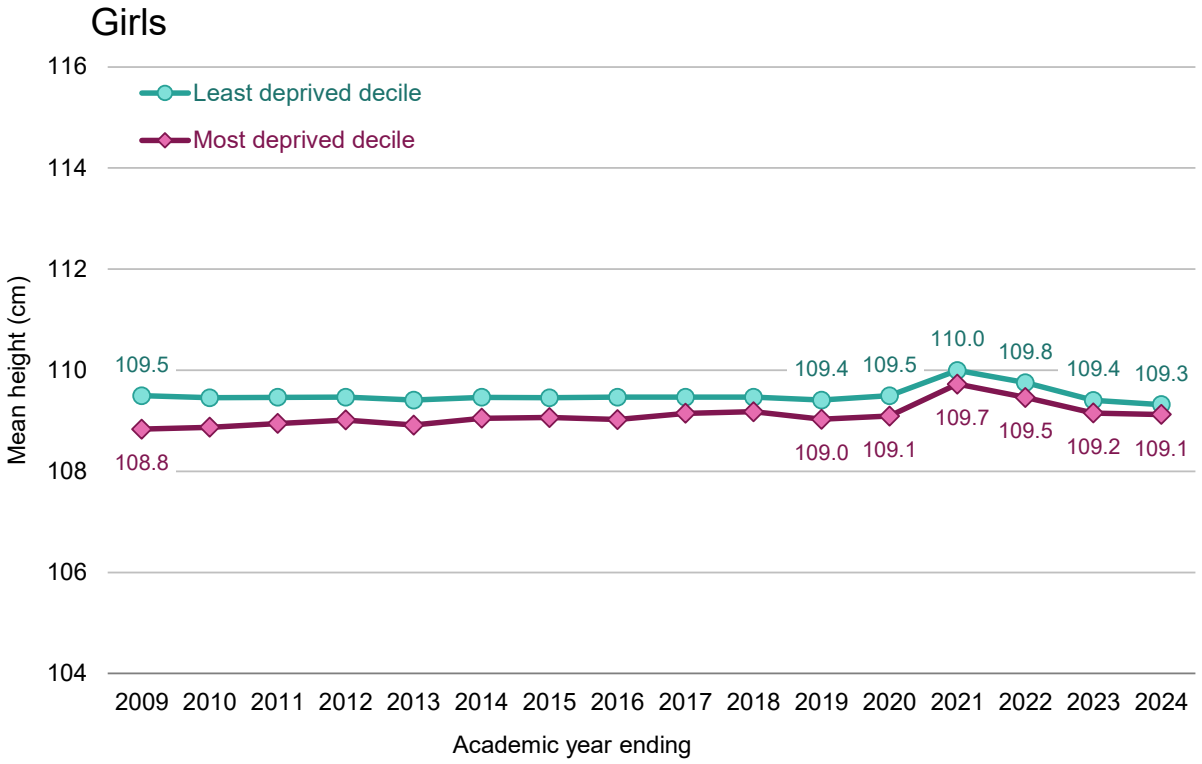
The data has been standardised to adjust for children being measured at different times in the academic year. See slide 19 for analysis methods used to produce this data.

* Trend data can be viewed in the Obesity Profile on Fingertips.

Average (mean) height in centimetres at age 5 in England by deprivation

National Child Measurement Programme 2008/2009 to 2023/2024





Note: y axis does not start at zero

These charts show the difference in average height of 5 year olds living in the least and most deprived areas in England. Over the period of the NCMP the data shows that boys and girls living in the least deprived 10% of areas in England are taller than those living in the most deprived areas, however the gap has narrowed slightly over time.

The data has been standardised to adjust for children being measured at different times in the academic year. See slide 19 for analysis methods used to produce this data.

Average (mean) height in centimetres at age 11 in England by deprivation

National Child Measurement Programme 2008/2009 to 2023/2024

Note: y axis does not start at zero

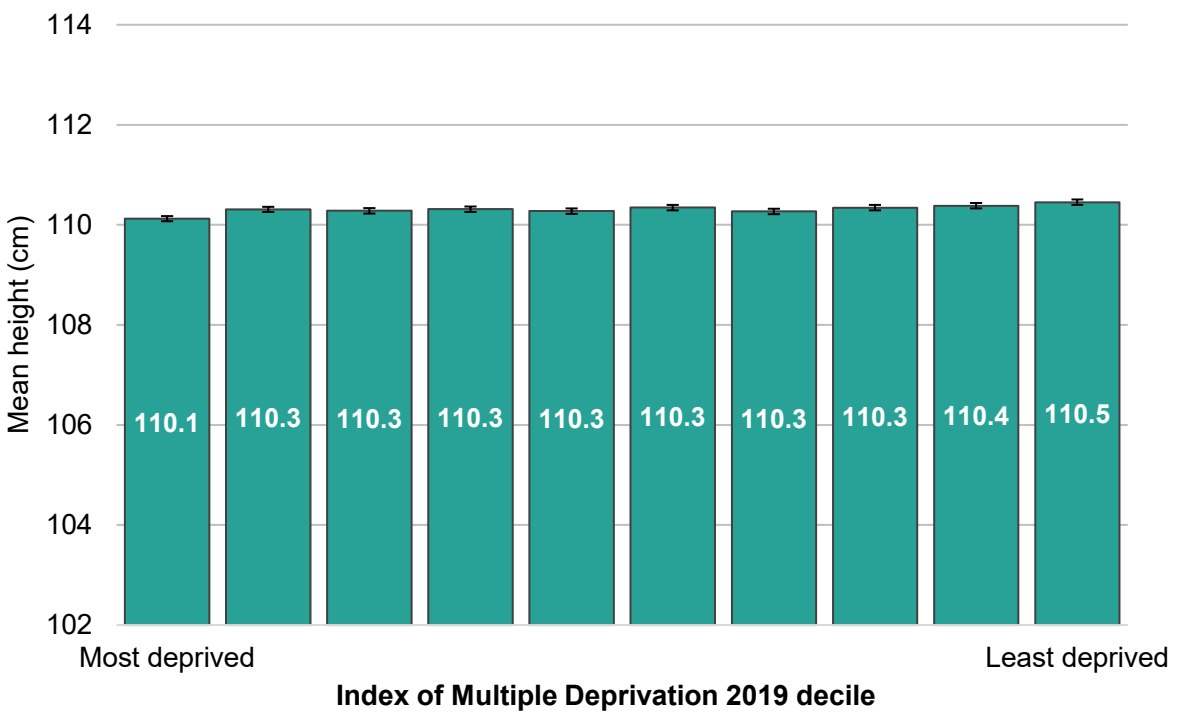
These charts show the difference in average height of 11 year olds living in the least and most deprived areas in England. The data shows that boys living in the least deprived 10% of areas in England are taller than those living in the most deprived areas, however the gap has narrowed slightly over time. Over the period of the NCMP the gap in height of girls living in the least and most deprived areas has narrowed then reversed.

The data has been standardised to adjust for children being measured at different times in the academic year. See slide 19 for analysis methods used to produce this data.

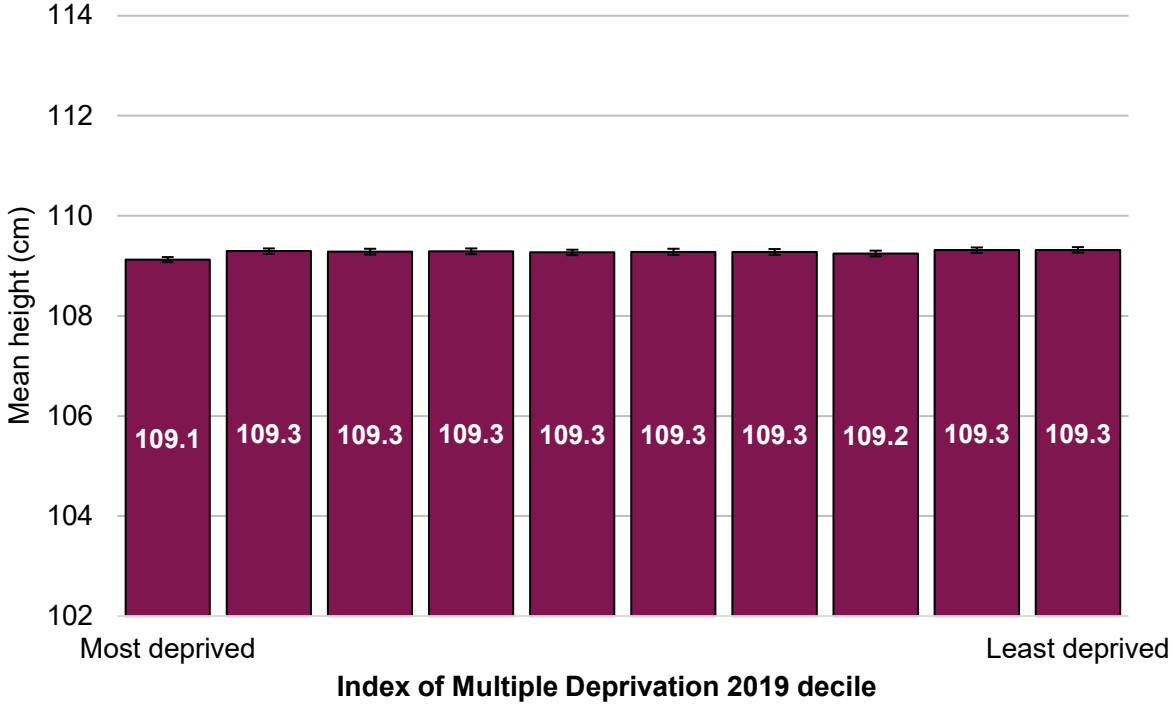
Average (mean) height in centimetres at age 5 in England by deprivation

National Child Measurement Programme 2023/2024

Boys



Girls



As seen previously on slide 59 there is currently very little difference in mean height of all children aged 5 years between deprivation deciles.

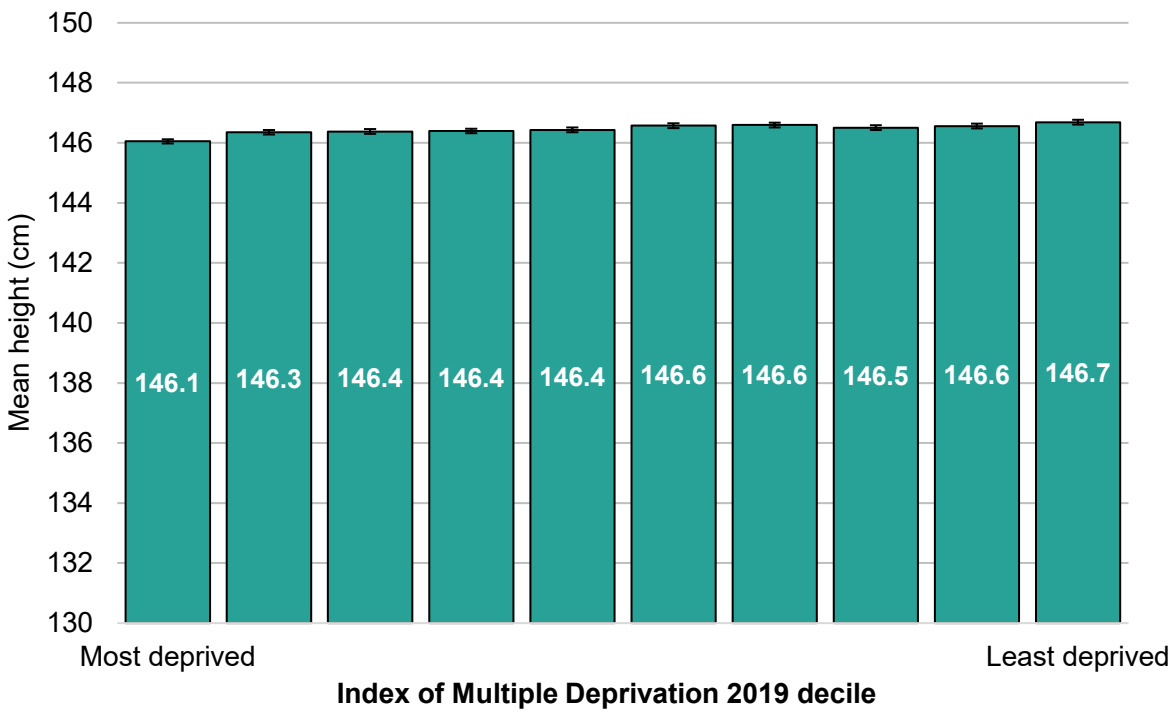
Note: y axis does not start at zero

The data has been standardised to adjust for children being measured at different times in the academic year. See slide 19 for analysis methods used to produce this data.

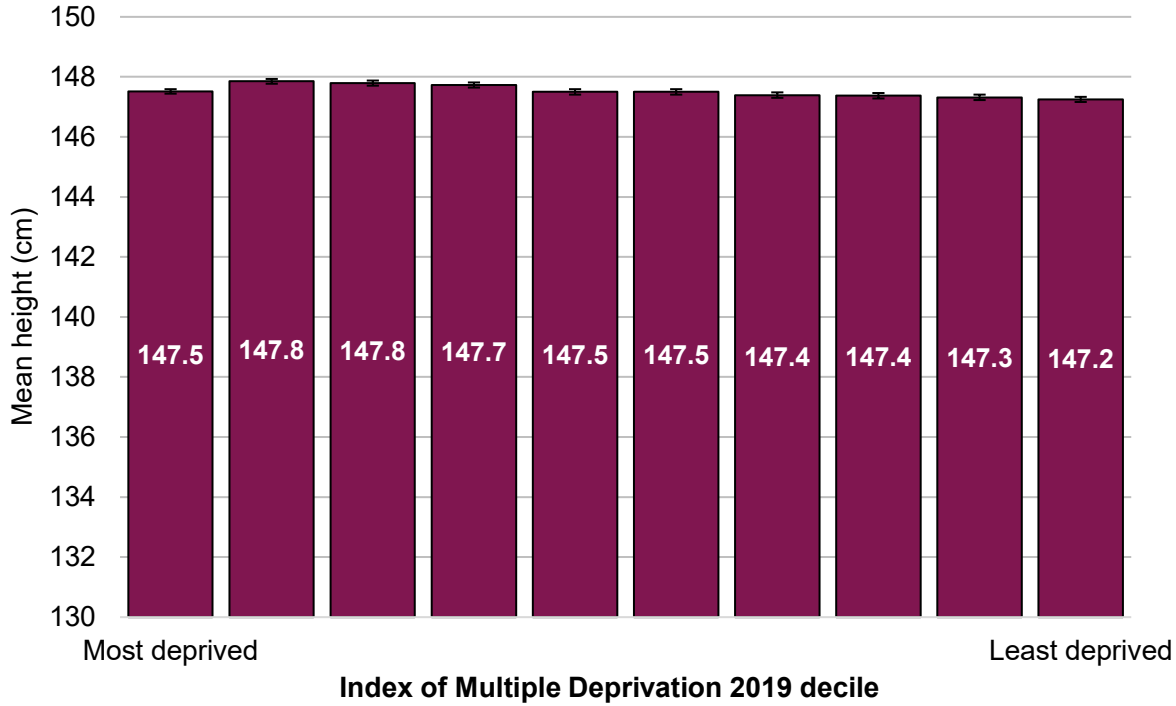
Average (mean) height in centimetres at age 11 in England by deprivation

National Child Measurement Programme 2023/2024

Boys



Girls



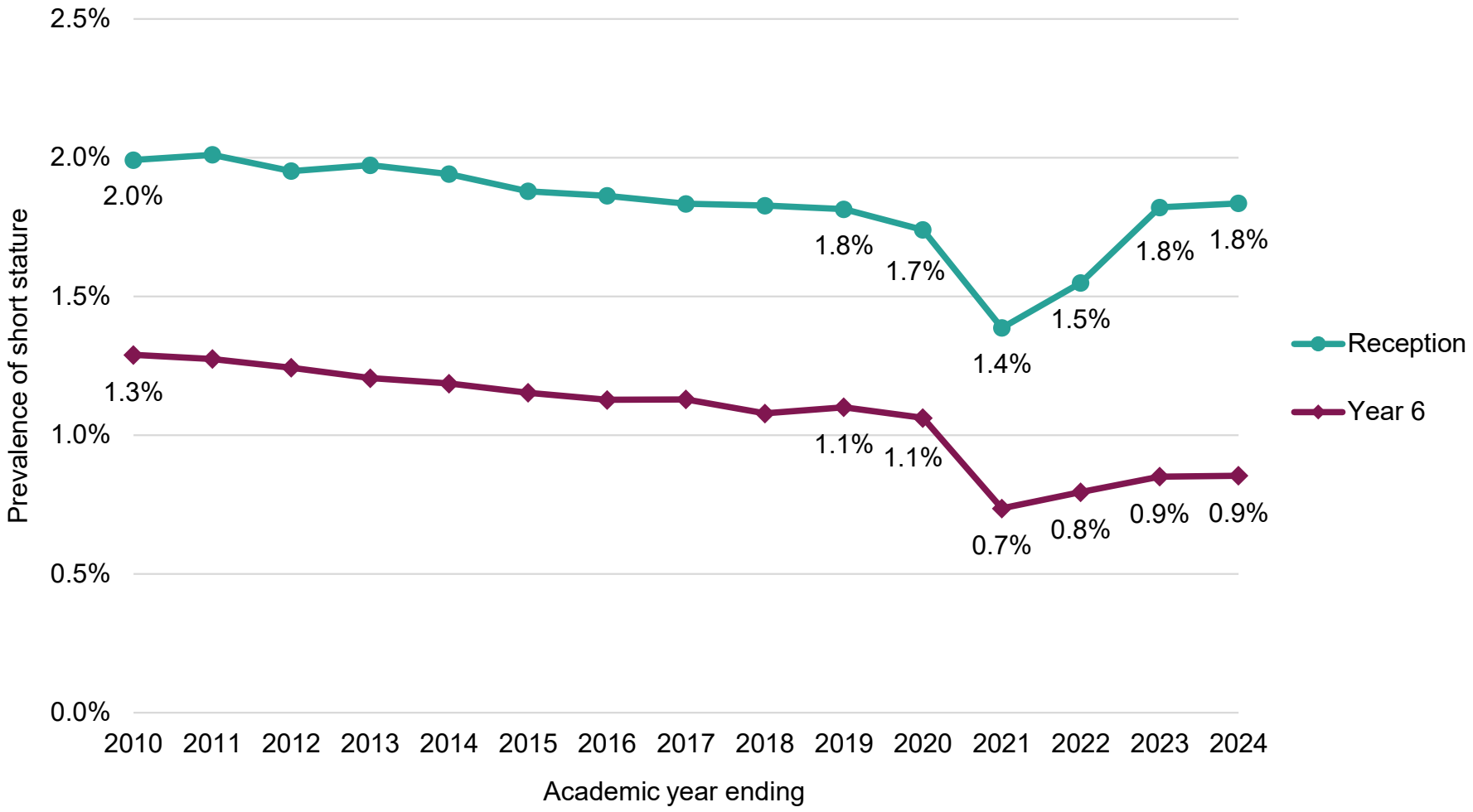
As seen previously on slide 60 there is currently very little difference in mean height of all children aged 11 years between deprivation deciles.

Note: y axis does not start at zero

The data has been standardised to adjust for children being measured at different times in the academic year. See slide 19 for analysis methods used to produce this data.

Prevalence of short stature in England, by school year

National Child Measurement Programme 2009/2010 to 2023/2024



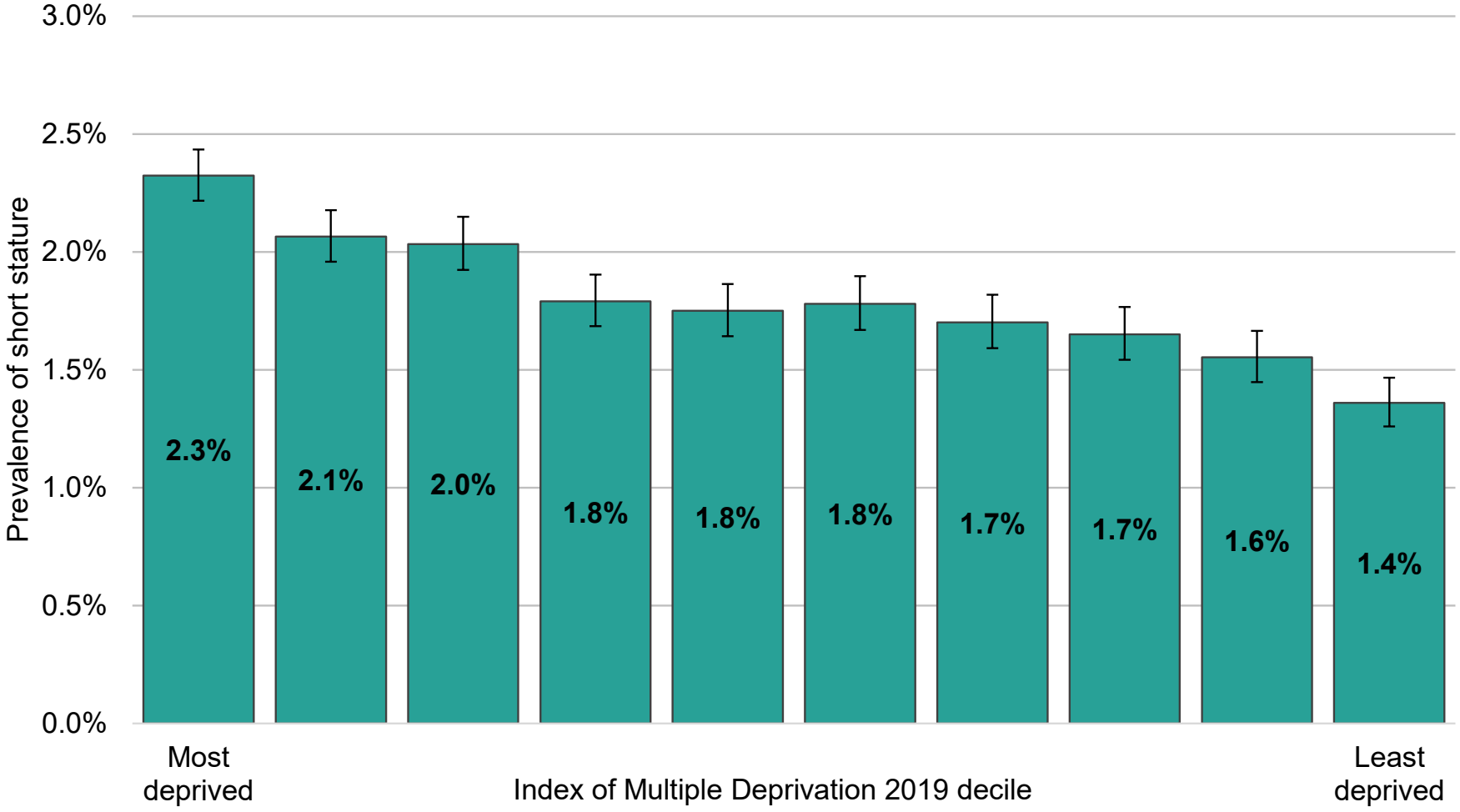
Short stature is defined as height below the 2nd centile of the British 1990 (UK90) growth reference.

Prevalence of short stature among children in reception (age 4 to 5 years) is low and was 1.8% in 2018 to 2019. It decreased during the COVID-19 pandemic but returned to 1.8% in 2023 to 2024.

Prevalence of short stature among children in year 6 (age 10 to 11 years) is lower than in reception children; in 2018 to 2019 1.1% of children had short stature, this decreased to 0.7% in 2020 to 2021 and has remained less than 1% since the pandemic and is now 0.9% in 2023 to 2024.

Reception: Prevalence of short stature in England by deprivation decile

National Child Measurement Programme 2023 to 2024

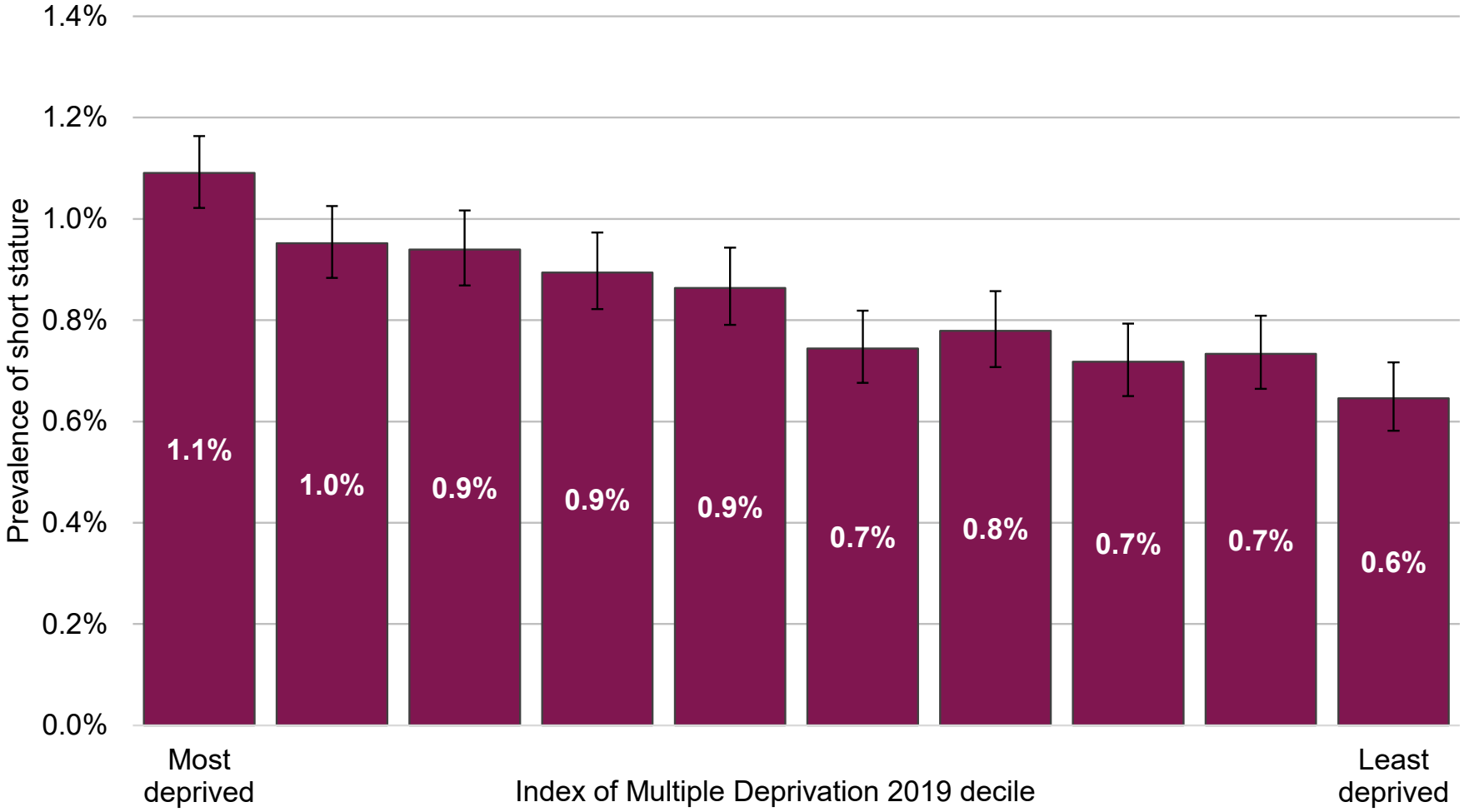


There are inequalities in the prevalence of short stature among children in England.

In 2023 to 2024, children in reception living in the most deprived areas had a higher prevalence of short stature (2.3%) than those living in the least deprived areas (1.4%).

Year 6: Prevalence of short stature in England by deprivation decile

National Child Measurement Programme 2023 to 2024



There are inequalities in the prevalence of short stature among children in England.

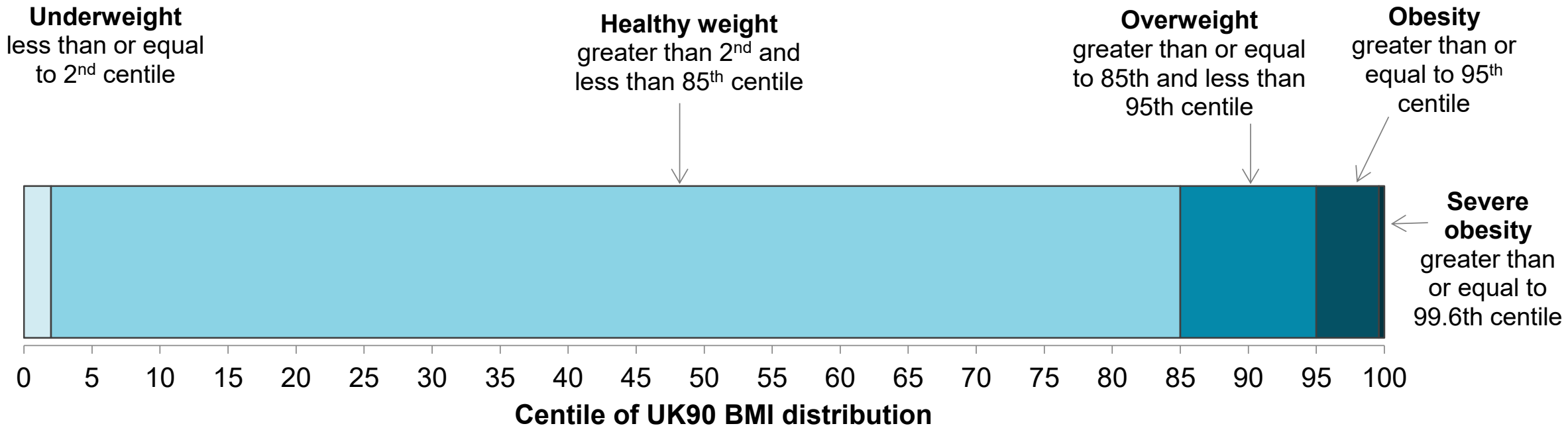
In 2023 to 2024, 1.1% of year 6 children living in the most deprived areas had short stature compared to 0.6% of children in the least deprived areas.

Further information and data sources

Child body mass index classification

Definitions for population monitoring

For population monitoring purposes, a child's body mass index (BMI) is classed as overweight or obese where it is on or above the 85th centile or 95th centile, respectively, based on the British 1990 (UK90[1]) growth reference data. The population monitoring cut offs for overweight and obesity are lower than the clinical cut offs (91st and 98th centiles for overweight and obesity) used to assess individual children; this is to capture children in the population in the clinical overweight or obesity BMI categories and those who are at high risk of moving into the clinical overweight or clinical obesity categories. This helps ensure that adequate services are planned and delivered for the whole population.



1 Cole TJ, Freeman JV, Preece MA. Body mass index reference curves for the UK, 1990. Archives of Disease in Childhood 1995 73:25-29.

Impact of the COVID-19 pandemic on NCMP data collection

The **2019 to 2020 NCMP** data collection stopped in March 2020 when schools were closed due to the Covid-19 pandemic. In a usual NCMP collection year, national participation rates are around 95% (over a million) of all eligible children, however in 2019 to 2020 the number of children measured was around 75% of previous years. Despite the lower than usual number of measurements, analysis by NHS England confirms that figures at national and regional level are directly comparable to previous and future years.

The **2020 to 2021 NCMP** had a delayed start due to the COVID-19 pandemic. Local authorities were still able to collect enough data to enable the production of national and regional estimates of prevalence by body mass index (BMI) category. Around 300,000 children (25% of previous full measurement years) were measured but the sample was not fully representative of the child population. Therefore weighting was used in the analysis to produce valid estimates of prevalence that could be compared to data from previous and future years. Further information on the 2020 to 2021 data collection and weighting methods is available in the NHS England report.
https://digital.nhs.uk/data-and-information/publications/statistical/national-child-measurement-programme/2020-21-school-year

The **2021 to 2022 NCMP** was the first data collection since the COVID-19 pandemic that was unaffected by school closures and other public health measures. Over 1.17 million children were measured in which is 92% of all children that were eligible to take part. This participation rate, though high, is lower than pre-pandemic years where participation had been at 95% since the data collection in 2014 to 2015. This is likely to be due to resourcing issues within some local authorities during the pandemic recovery process.

From the **2022 to 2023 NCMP** onwards data collection was unaffected by issues linked to the COVID-19 pandemic.

Child height analysis methods

As children are growing all the time it is important to ensure any changes in average heights are not due to children being measured earlier or later in the academic year. Therefore, the height estimates are standardised to be the height of a child aged exactly 5 years and 0 days for Reception year and 11 years and 0 days for Year 6.

The standardisation is carried out by calculating the average (mean) height z score across all the measured children as this is a standard deviation score which adjusts height for sex and age at the time of measurement using the UK90 growth reference.

This mean height z scores is then converted to the equivalent height in centimetres of an average 5 and 11 year old child using the LMS Growth Excel addin.

The data is presented in the charts as height in centimetres as this is a more meaningful measure to understand compared to presenting the height z scores.

Deprivation decile is defined using the Index of Multiple Deprivation based on the lower super output area (LSOA) of child residence.

The data on child height presented in these slides can be viewed and downloaded from the Obesity Profile on Fingertips.