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Child Measurement Programme 2022-2023

This report summarises the data collected across Wales during the 2022-2023 school year

Version 1.0

Mae'r ddogfen yma ar gael yn y Gymraeg/This document is available in Welsh



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Key Points

- This report summarises the key findings of the Child Measurement Programme (CMP) for the 2022/23 academic year.
- All children aged 4-5 years attending reception class and residing in Wales were offered routine height and weight measurements by school nursing teams. These data are reported Nationally to facilitate surveillance.
- At an all Wales level the proportion of children with a healthy weight was 74.3%, statistically significantly higher than pre-pandemic.
- At all Wales level the proportion of children with overweight or with obesity were 13.4% and 11.4% respectively, both statistically significantly lower than pre-pandemic.
- The proportion of children with obesity in Wales was higher than those reported for England and Scotland.
- Children residing in the least deprived '*deprivation fifth*' according to postcode of residence were statistically significantly less likely to have obesity compared with all other deprivation fifths.

Introduction

This report summarises the key findings of the Child Measurement Programme (CMP) for Wales for the school year 2022/23. We are pleased to report at an all Wales level for the first time since 2018/19 before the covid-19 pandemic.

Following discussions with stakeholders after the release of last year's report we have retained the same layout. Part 1 will summarise the all Wales level data and provide comparisons between the Local Health Boards (LHBs) and Local Authorities (LAs). It is anticipated that this section will be useful for those interested in the general situation across Wales, such as Welsh Government and National organisations.

Part 2 will provide bespoke short reports for each LHB and the associated LAs. It is anticipated that these sections will be of more interest to local organisations, such as the relevant LHBs and LAs who may wish to use the information to monitor population needs and potentially support service planning. These sections may also be of interest to members of the public who wish to know the situation in their communities.

In addition to this summary report, the full results, including data tables, are available on the Child Measurement Programme website at [Child Measurement Programme for Wales](#).



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Methods

This report relates to measurements taken of children resident in Wales who attend reception class and turned 5 during the academic year 2022/23. For this year we chose to focus on the return to all Wales level data. We have retained the new outputs that were piloted last year in response to the stakeholder feedback that we received via surveys and at meetings. These key products include: firstly, the deprivation breakdown in relation to obesity by LHB; and secondly, the data breakdown at primary care cluster (PCC) level geography. Detailed information explaining how measurements were taken and how data were collected and analysed are available on the website, see the downloadable document '[The Child Measurement Programme for Wales: history, legislative framework and technical aspects](#)'. However, the following paragraphs provide a summary of the methods.

Cohort Inclusions and Exclusions

Records are included in the 2022/23 Child Measurement Programme for Wales if the child is resident in Wales, attends a school in Wales, has a recorded sex and was born in the period September 2017 to August 2018. Children are excluded if their measurement occurred outside the 2022/23 academic year, their height or weight recorded is an implausible measurement or if their consent is withdrawn. Children are also excluded if they are unable to stand unaided.

Variables

Variables are the characteristics of the children that we are able to explore when analysing data, for example 'sex'. For the purpose of this report sex refers to a binary variable categorised as 'boys' or 'girls.' Rurality was also categorised as a binary variable: 'rural' or 'urban'. Deprivation is approximated according to postcode area of residence. The postcode maps to the Welsh Index of Multiple Deprivation (WIMD), a relative measure that ranks 1,909 small geographical areas in Wales from least deprived to most deprived. The index is derived from 8 domains: employment; health; education; access to services; community safety; physical environment; housing (see the Welsh Government StatsWales [website](#) for further details). For the purpose of results reporting in this report, the 1,909 small areas are grouped into quintiles. Health board and local authority figures use local fifths of deprivation. Local fifths differ from the national fifths in that the five equal bands of deprivation are recalculated for the small areas within each health board and local authority boundary respectively. Rate ratios are calculated by dividing the percentage of children with obesity in the most deprived area, by the percentage in the least deprived area. The rate ratios provide a measure of relative inequality within a health board or Wales. A larger rate ratio implies a larger inequality gap.

Ethnicity is recorded according to categories defined by the ONS (for further information see ons.gov.uk) that are: White; Asian or Asian British; Black, Black British, Caribbean or African; Mixed or multiple ethnic groups; Other ethnic group; Not known. Given the low numbers of children in some of the ethnicity group categories these data were reported at an all Wales level only.

Data Representativeness

Representativeness refers to how well matched the collected data are to the entire cohort of eligible children. Usually the participation for the Child Measurement Programme is very high, and representativeness is less of a concern. However, as we recovered from the pandemic the participation had been lower in some areas as noted in 2021/22. For 2022/23 the participation was satisfactory, with >85% for all LA regions and >80% for all PCCs. Therefore, raw data results (the collected data without adjustments) have been reported for all geographical levels.

Primary Care Cluster Level Data

As this was a pilot last year the methodology is not included in the historical CMP documents that pre-date this new output. A Primary Care Cluster (PCC) is a geographical area where more than one General Practice (GP) work together to provide some services relevant to their population needs. Primary Care Clusters data are built from small geographical levels called Lower Super Output Areas (LSOA). These LSOAs have been mapped to the cluster where the highest number of residents are registered to a GP practice within the cluster. The Cluster mapping used was reported in October 2022. Clusters are subject to change and may not be directly comparable with previous CMP publications.

The rationale for the PCC level data were based upon the constraints of the 2021/22 data and the opportunity to provide an output relevant to Primary Care planners. We have retained the PCC output this year for two reasons. First, Middle Super Output Area (MSOA) level data are still not available as MSOA analyses require 5 years of rolling data to include adequate numbers of children. As PCCs are larger geographical areas than MSOAs, it was possible to provide summaries with a single year's worth of data. Second, the PCC geographical unit is recognised by Primary Care providers within LHBs, and feedback following the pilot has suggested that these data are welcomed to support identification of population need and potential service provision.

Analyses

Prevalence rates were calculated using the age and sex-specific body mass index (BMI) centiles calculated using the British 1990 growth reference (UK90) (from a method proposed by Cole et al 1995, cited in Dinsdale et al, 2011). The 95% confidence intervals (95% CIs) for the prevalence rates were calculated using a method proposed by Wilson et al, 1927, cited in Altman, 2000. The body mass index (BMI) was calculated using a method proposed by Keys et al (1972). The following clinical weight categories thresholds have been assigned for surveillance purposes:

- underweight: less than but not including 2nd centile.
- healthy weight: 2nd centile up to but not including 85th centile.
- overweight: 85th centile up to and not including 95th centile.
- obese: 95th centile and above.

Results are given in proportion (%) of cohort followed by the corresponding 95% confidence interval (95% CI) in brackets. The cohort is the total number of measured children resident within

the geographical region for which the specific data are reported, for example LHB reporting includes the results of all children resident within that LHB. Statistically significant differences were defined when the 95% Confidence Intervals of the compared proportion results did not overlap. However, overlapping 95% Confidence Intervals cannot be assumed to mean that there is no statistically significant difference. This would require further statistical analyses to compare proportions with overlapping 95% Confidence Intervals. These analyses were beyond the scope of this report.

National level comparisons, where applicable, were made with the most recent previous report with all Wales coverage: 2018/19 data. For LHBs other than Cwm Taf Morgannwg (CTM), comparisons with 2021/22 data were made. Comparisons were also made at all Wales level to the English and Scottish report.

Limitations

Limitations for the CMP data in general are reported in the '[The Child Measurement Programme for Wales: history, legislative framework and technical aspects](#)' document and the '[data quality statement](#)'. These are available on the website alongside the report. Limitations that are specific to this year's report are listed as follows:

- As there were insufficient data for a 2019/20 official statistics report and limited data reported for the 2020/21 and 2021/22 years, there remains a data gap within the past 5 years. Analyses based upon 5 years reporting, such as drilling down to Middle Super Output Area (MSOA) level, are, therefore, not available.
- The interactive dashboard has not yet been updated. However, the update work has commenced and we anticipate that this will be published in the upcoming year.
- We have provided deprivation breakdown at LHB level, however, the numbers for some quintiles categories are low.
- The WIMD is a place-based measure of deprivation and should be considered as an approximation, or best fit, when applied to individuals. This is because individuals living in a postcode associated with lower levels of deprivation may live in a household that would be categorised as having higher levels of deprivation, and vice versa.
- For each LHB region we have provided estimates for the relative gap in deprivation over time comparing the least and most deprived quintiles. Whilst it is reasonable to consider the changes in relative deprivation gap within the LHB, these should not be used to compare between LHB regions. This is because deprivation within geographies is based upon the epidemiological profiling of the population resident within the region.
- Ethnicity data reporting were restricted to all Wales level due to the small numbers in some categories. These data must be interpreted with caution as participation from ethnic groups is unlikely to be uniform across Wales due to variation in population demographics. Local teams

should consider these results in the context of local knowledge of their population demographics.

- BMI cut off thresholds have not been adjusted for different ethnic groups.
- Primary Care Clusters data are a 'best-fit' built from LSOAs mapped to the cluster where the highest number of residents are registered to a GP practice within the cluster.
- At PCC level it should be noted that these results are based upon one year of data collection only and numbers in some sub-categories are low.
- The PCC thematic maps provided for each LHB in Part 2 of the report use different proportion ranges for the colour categories. Therefore, these maps should not be compared between LHB regions.
- The data reported for 2020/21 across Aneurin Bevan University Health Board (ABUHB) and Swansea Bay University Health Board (SBUHB) revealed large increases in the proportions of children with obesity in these regions. It should be noted that subsequent data does not provide evidence either way about the trajectories of the individual children included in the 2020/21 cohort. In other words we do not know if the 2020/21 cohort will have retained higher levels of obesity as they age. Follow up measurements of the same children at older ages are not currently undertaken in Wales.

Engagement and Results Reporting

Parents/guardians receive an information leaflet explaining the measurement programme. The leaflets are bilingual Welsh/English and are either delivered as hard copies or digital communication depending upon location.

The CMP team meet with healthcare professionals in Public Health and School Nursing regularly throughout the year allowing communication of CMP results and receiving of stakeholder feedback respectively. The team also engage with Welsh Government representatives via several forums, including monthly School Nurses Leads meetings and bespoke ad hoc meetings or communication exchanges. The CMP data are also presented at the Healthy Weight: Healthy Wales strategy meetings when they occur.

The report and outputs are made available to the public on the Public Health Wales website as a pre-announced official statistics release. The summary, or key findings, of this report are published at the start of the report and are not repeated elsewhere within the report. They are also published as HTML text on the website to support accessibility. The key findings section can also be considered as the executive summary.

We received feedback last year flagging that not all aspects of the report used 'person first' language. In response to this we have continued on our journey away from the traditional scientific style of writing to a more universal approach, including person first language. However, given the nature of these data there remains a need to cover the scientific elements. For example,

highlighting statistically significant differences.

This report does not provide recommendations. It is anticipated that the data reported here may be triangulated with other sources of data and information by Government, relevant organisations and individuals to help inform weight management policy and programmes.



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Part 1: General Outputs

Wales Level

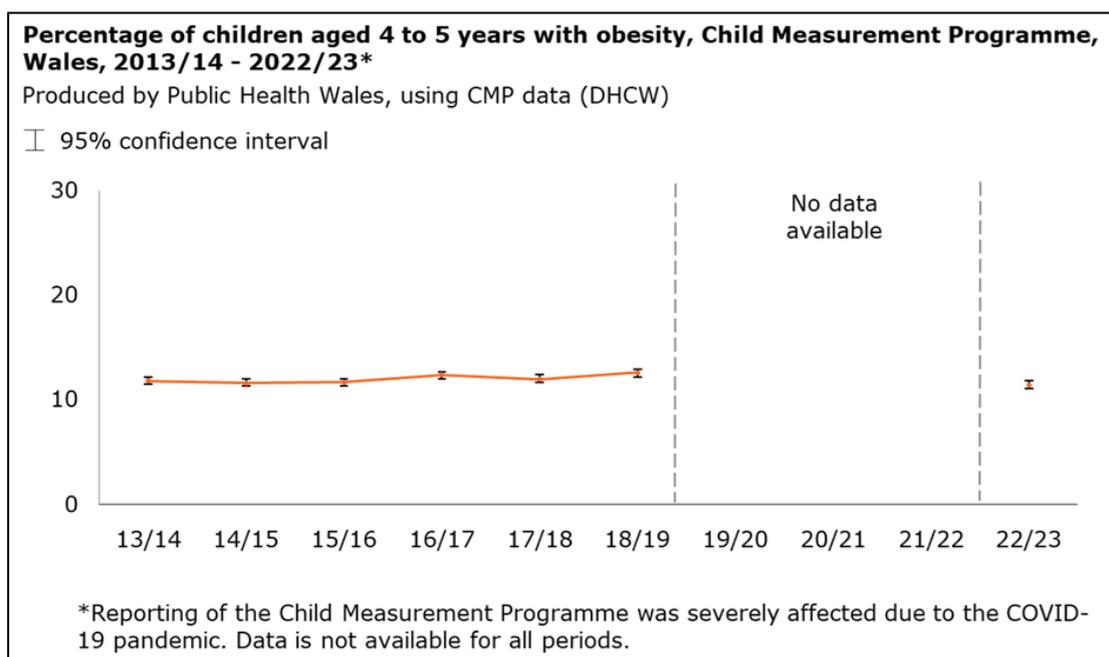
Nearly 30,000 children were measured resulting in a participation proportion of 91.5%, slightly lower than pre-pandemic where participation had remained above 93% between 2014/15 to 2018/19. The participation varied slightly between boys and girls with 90.9% and 92.1% participation noted respectively. Just over 200 children actively opted out of the programme.

At an all Wales level the proportion of children with underweight was 0.9% (95% CI 0.8-1.0), slightly higher than the 0.7% (95% CI 0.6-0.8) reported pre-pandemic in 2018/19. However, looking back further the proportion was 0.8% in 2017/18 demonstrating small year on year fluctuations in keeping with the relatively low numbers of children identified within this category.

The proportion of children with a healthy weight was 74.3% (95% CI 73.8-74.8). This was significantly higher than pre-pandemic with a proportion of 72.4% (95% CI 71.9-72.9) reported in 2018/19.

The proportion with overweight and with obesity were 13.4% (95% CI 13.0-13.8) and 11.4% (95% CI 11.1-11.8) respectively. These were statistically significantly lower than the proportions with overweight and with obesity of 14.4% (95% CI 14.0-14.8) and 12.6% (95% CI 12.2-12.9) reported respectively in 2018/19. The trend in the proportion of children with obesity over time is shown in Figure 1. Although the proportion across Wales was lower than pre-pandemic, caution should be applied when interpreting this result given the missing data during the pandemic and only a single data point post pandemic. This means that we cannot yet be confident that this is a trend.

Figure 1:





Comparison with England and Scotland

Overall, the 2022/23 data for [England National Child Measurement Programme](#), reported a lower proportion of children with obesity at 9.2% compared with Wales (11.4%). Comparisons with Scotland are harder to interpret as children generally enter school when several months older than in England and Wales, [Body Mass Index of Primary 1 children in Scotland, School Year 2022/23, For 2022/23](#). Scotland also reported a lower proportion at risk of obesity at 10.5%, compared with Wales. However, the trend was similar with all three countries reporting a reduction in the proportion with obesity back down to around the pre-pandemic levels. At the time of writing the Northern Ireland Statistical Report on Children's Health for 2022/23 was not yet available.

Sex

The proportion of boys and girls with overweight were similar at 13.3% (95% CI 12.7-13.8) and 13.5% (95% CI 12.9-14.0) respectively. However, there were differences between boys and girls for other weight categories. As also observed pre-pandemic, statistically significantly fewer girls were measured as having underweight (0.6%, 95% CI 0.5-0.7) compared with boys (1.2%, 95% CI 1.1-1.4). A smaller proportion of boys were measured as having a healthy weight (73.6%, 95% CI 72.9-74.3) compared with girls (75.0%, 95% CI 74.3-75.7). More boys were reported as having obesity (11.9%, 95% CI 11.4-12.4) compared with girls (10.9%, 95% CI 10.4-11.4). These patterns between girls and boys in relation to healthy weight and obesity were also observed pre-pandemic.

Deprivation

Deprivation data are summarized in Table 1. Participation varied by deprivation quintile, with a similar pattern observed for both boys and girls. No trend was observed between deprivation and the category of 'underweight'. However, increasing deprivation was associated with a reduction in the proportion of children with healthy weight and a reciprocal increase in proportions of children with overweight and with obesity.

Children in the most deprived fifth were statistically significantly less likely to have a healthy weight compared with those in the middle to least deprived fifths. Children in the least deprived fifth were statistically significantly less likely to have overweight compared with those in the most and next most deprived fifths. Children in the least deprived fifth were statistically significantly less likely to have obesity compared with all other deprivation fifths.

When considering deprivation according to sex, both boys and girls in the least deprived fifth were statistically significantly more likely to have a healthy weight. For boys, there was an increasing trend in proportion with overweight as deprivation increased. Girls in the most and next most deprived fifths were statistically significantly more likely to have overweight (14.3, 95% CI 13.2-15.5 and 14.6, 95% CI 13.4-16.0 respectively) compared to the least deprived fifth (11.9%, 95% CI 10.7-13.1). For boys, the proportion with obesity in the least deprived fifth (8.2%, 95% CI 7.2-9.2)



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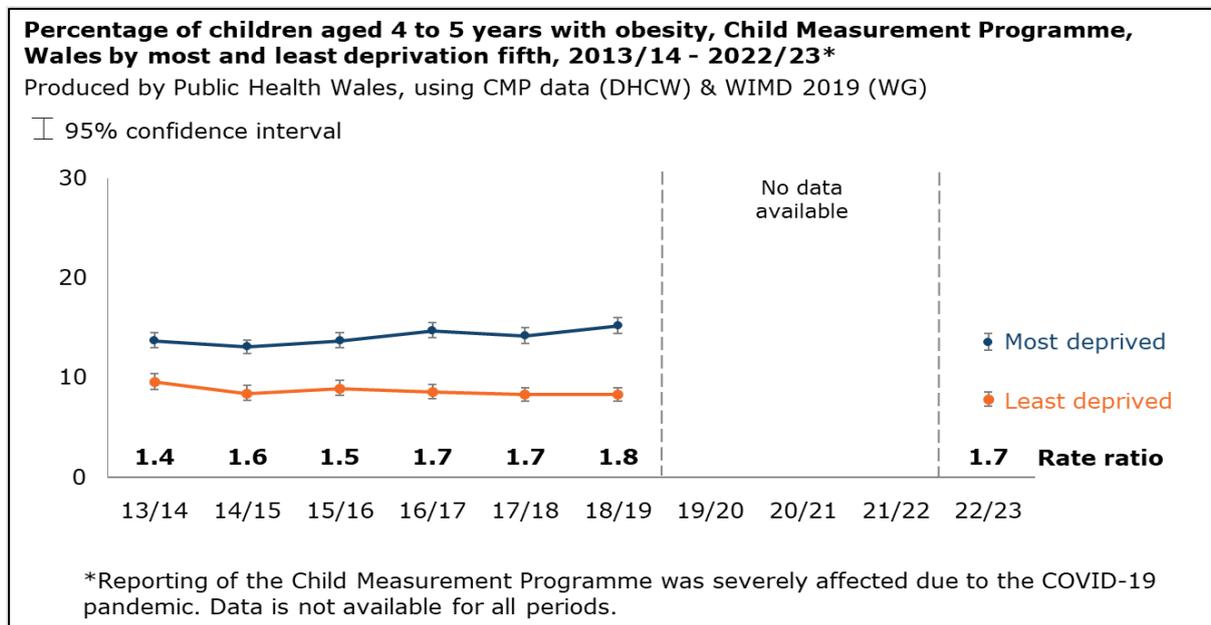
was statistically significantly lower than for all other deprivation fifths. The proportion increased with increasing deprivation until it reached 14.6% (95% CI 13.5-15.8). This same pattern was observed for girls, with the proportion of children with obesity rising from 7.5% (95% CI 6.6-8.6) in the least deprived fifth to 12.4% (95% CI 11.4-13.6) in the most deprived.

The time trend in deprivation gap between the least and most deprived fifths is given in Figure 2. The deprivation gap, as reflected by the rate ratio, had increased from 2013/14 to just before the pandemic in 2018/19. The current (2022/23) gap is similar to the gap observed in 2018/19. Caution should be applied when reviewing the trend due to the three missing years' data.

Table 1: Wales Level Deprivation Data Summary, Children aged 4-5 years, Child Measurement Programme 2022/23

Deprivation fifth	Participation	With Healthy Weight proportion, 95% CI	With Overweight proportion, 95% CI	With Obesity proportion, 95% CI
Least deprived fifth	92.3%	79.4% (78.3-80.5)	11.8% (11.0-12.7)	7.8% (7.1-8.6)
Next least deprived	92.1%	75.6% (74.4-76.7)	12.9% (12.0-13.8)	10.6% (9.8-11.4)
Middle deprived	91.8%	73.8% (72.7-74.9)	13.6% (12.7-14.5)	11.6% (10.8-12.5)
Next most deprived	91.0%	72.6% (71.4-73.7)	14.0% (13.1-14.9)	12.7% (11.9-13.6)
Most deprived fifth	90.6%	71.2% (70.2-72.2)	14.2% (13.4-15.0)	13.6% (12.8-14.4)

Figure 2:



Ethnicity

The ethnicity data are summarised at all Wales level in Table 2. Given the low numbers of children in categories such as with 'underweight', some categories were combined. Over half the cohort were categorised as 'White' and over a third were categorised as 'Not known'. Only 6% of the total cohort were categorised within the other ethnicity categories.

There was a statistically significantly higher proportion of children categorised as 'Asian or Asian British' with a healthy weight or with underweight compared with those categorised as 'White' or 'Black, Black British, Caribbean or African'. In contrast, the proportions of 'White' or 'Black, Black British, Caribbean or African' children with overweight or obesity were statistically significantly higher than the proportion of 'Asian or Asian British' children within this category. Children categorised as 'Black, Black British, Caribbean or African' had a statistically significantly higher proportion of children categorised as with obesity compared with 'White' children. These results should be interpreted with caution given the low numbers of children in some groups.

Table 2: Wales Level Ethnicity Data Summary, Children aged 4-5 years, Child Measurement Programme 2022/23

<i>Ethnicity</i>	<i>Proportion of cohort</i>	<i>With Healthy Weight or Underweight proportion, 95% CI</i>	<i>With Overweight or Obesity proportion, 95% CI</i>	<i>With Obesity proportion, 95% CI</i>
White	57.2%	74.9% (74.2-75.5)	25.1% (24.5-25.8)	11.5% (11.1-12.0)
Asian or Asian British	2.2%	80.9% (77.7-83.7)	19.1% (16.3-22.3)	12.3% (10.0-15.1)
Black, Black British, Caribbean or African	0.8%	70.7% (64.6-76.0)	29.3% (24.0-35.4)	17.4% (13.1-22.6)
Mixed or multiple ethnic groups	2.3%	78.5% (75.3-81.4)	21.5% (18.6-24.7)	11.2% (9.1-13.8)
Other ethnic group	0.7%	73.8% (67.6-79.3)	26.2% (20.7-32.4)	15.0% (10.8-20.3)
Not known	36.8%	75.2% (74.4-76.0)	24.8% (24.0-25.6)	11.0% (10.5-11.6)



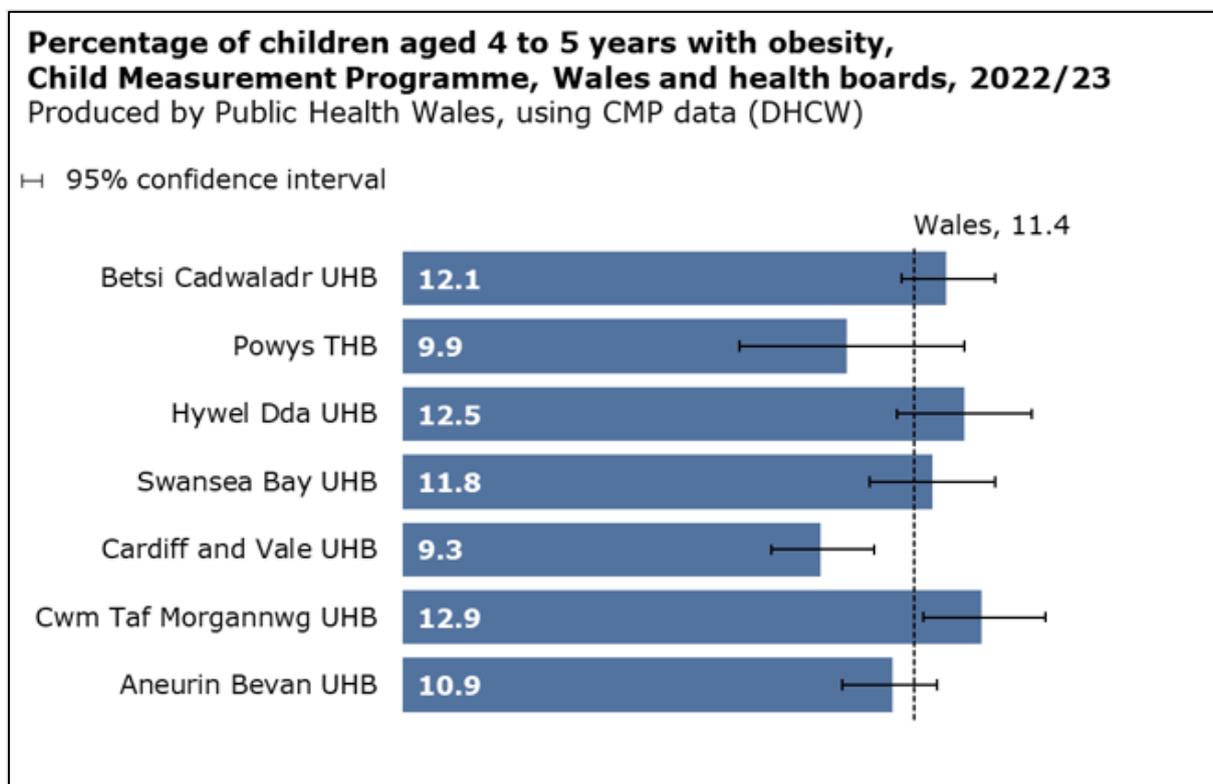
Rurality

The proportions of children categorised as 'healthy weight or underweight' or categorised as 'overweight or obese' were similar at 75.2% and 24.8% respectively irrespective of rurality. When considering 'obesity' alone the proportion with obesity in urban areas was higher at 11.7% (95% CI 11.3-12.1) versus the proportion in rural areas at 10.8% (95% CI 10.1-11.4).

Local Health Board Comparisons

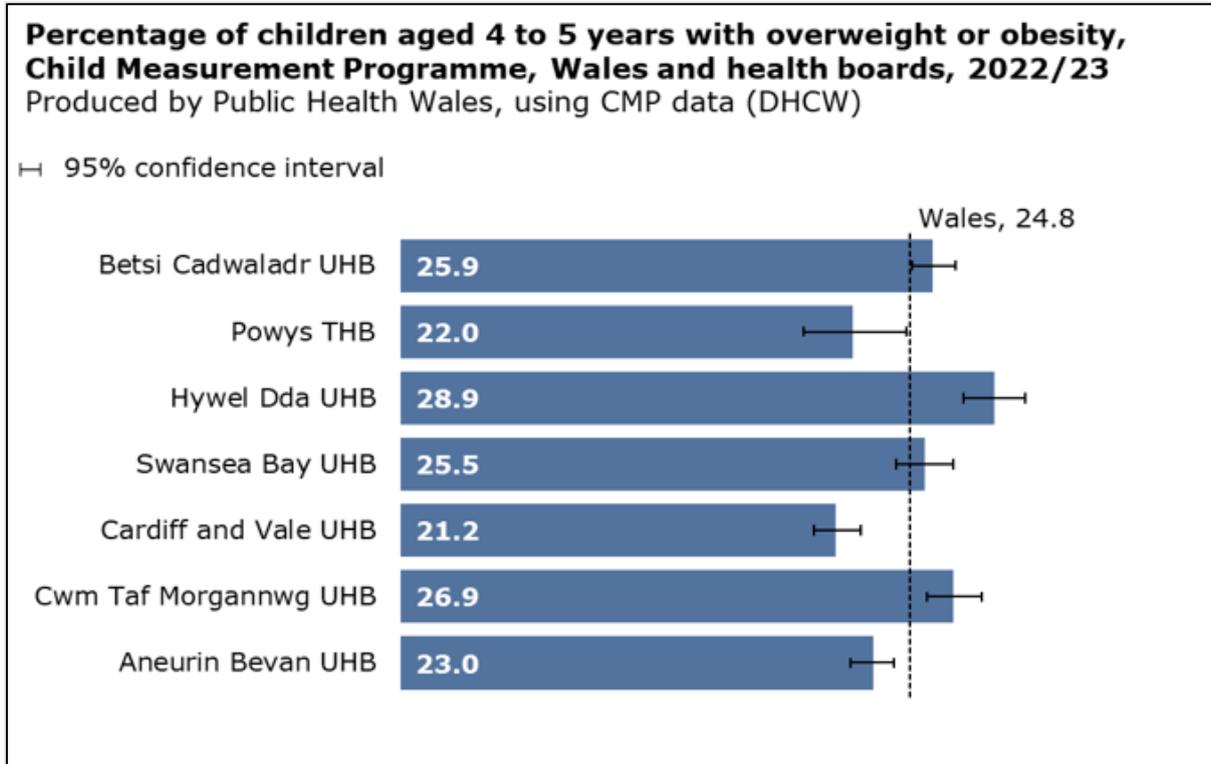
The breakdown for the proportion of children with obesity by LHB is given in Figure 3. The proportion varies from 9.3% (95% CI 8.6-10.2) in Cardiff and Vale to 12.9% (95% CI 11.9-13.9) in Cwm Taf Morgannwg. This difference was statistically significant. Furthermore, it was noted that the proportion of children with obesity in Cardiff and Vale was statistically significantly lower than the Wales average, compared with statistically significantly higher than the Wales average in Cwm Taf Morgannwg.

Figure 3:



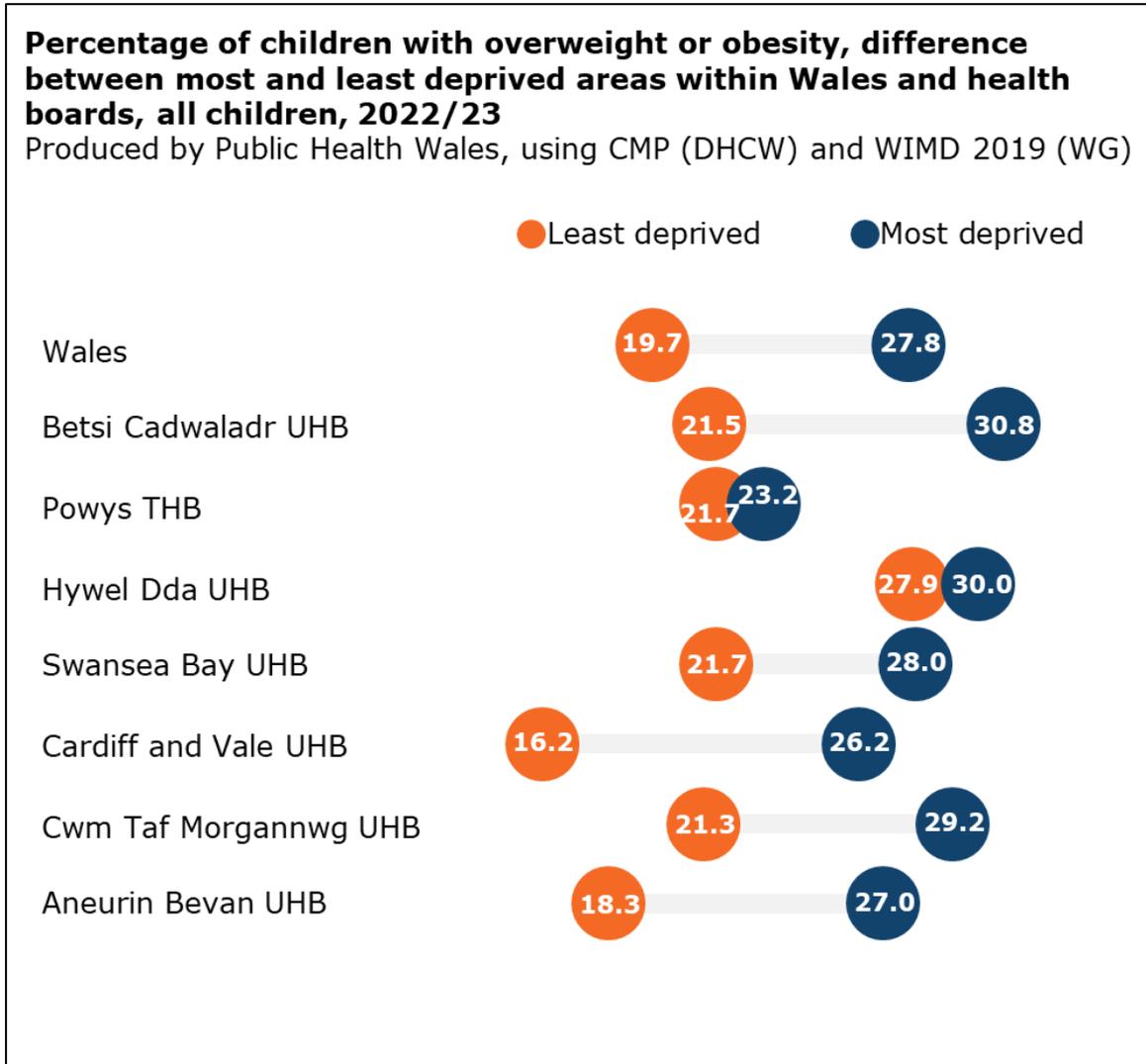
Cardiff and Vale also had the lowest proportion of children with 'overweight or obesity' at 21.2% (95% CI 20.1-22.4). Hywel Dda had the highest at 28.9% (95% CI 27.4-30.4), noting that it was statistically significantly higher than Cardiff and Vale and the Wales average. See Figure 4.

Figure 4:



All Health Boards showed similar deprivation trends with higher proportions of children with overweight or obesity in the most compared to the least deprived deprivation fifths, see dumbbell chart Figure 5. These differences were statistically significant in BCUHB, CTM, CAV and ABUHB.

Figure 5:



Local Authority Level comparisons

The breakdown for children with obesity by LA region are given graphically and by thematic map in Figures 6 and 7 respectively. There were clear differences in the proportion of children with obesity between LA regions within the same LHB footprint. This is highlighted by the variation across Wales from 7.9% (95% CI 6.2-9.9) in Monmouthshire to 14.3% (95% CI 12.0-17.1) in Blaenau Gwent. This difference was statistically significant. The proportions of children with obesity in Cardiff, the Vale of Glamorgan and Monmouthshire were statistically significantly lower than the Wales average. The proportion of children with obesity in Carmarthenshire and Rhondda Cynon Taf were statistically significantly higher than the Wales average.

Figure 6:

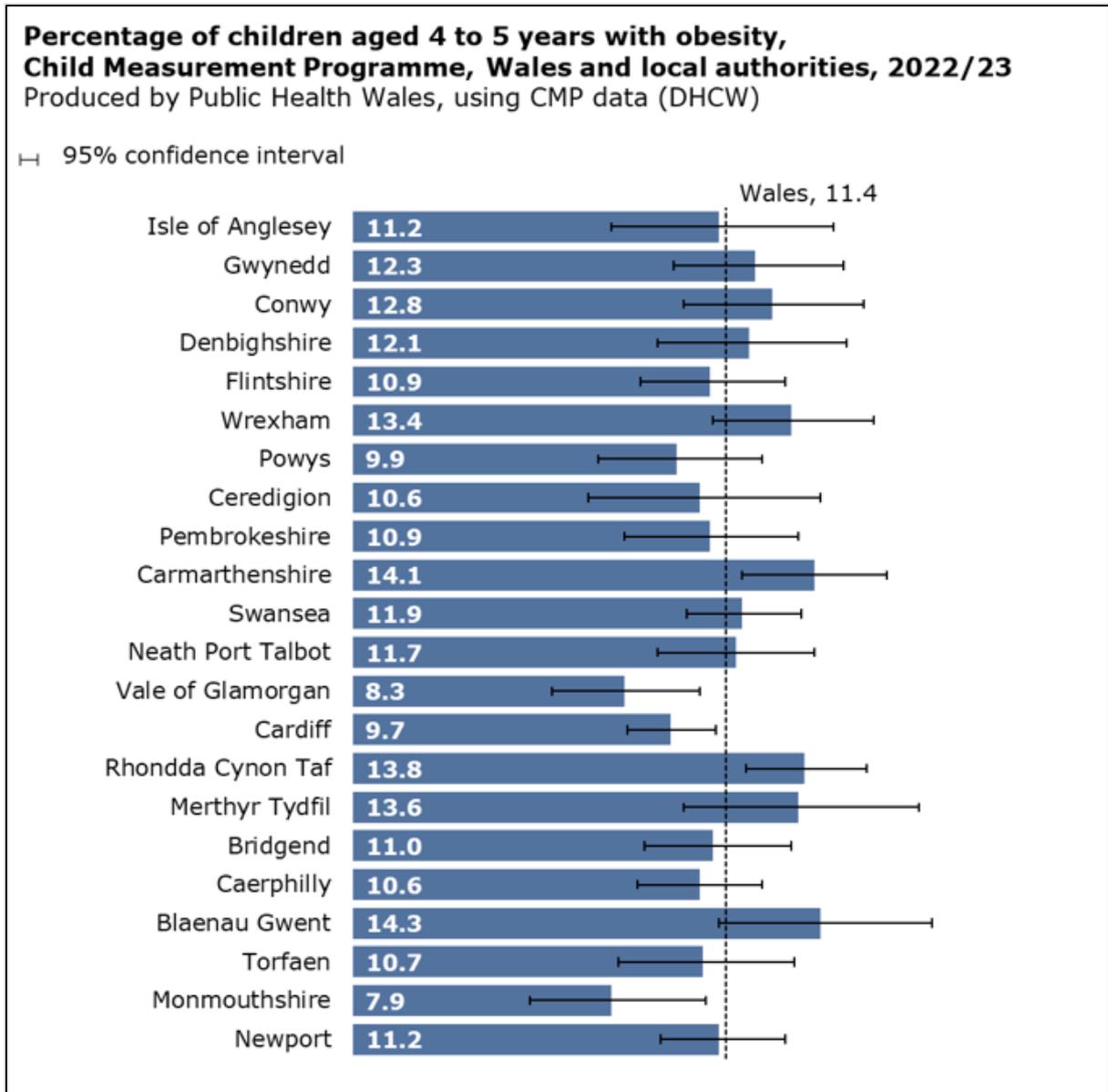
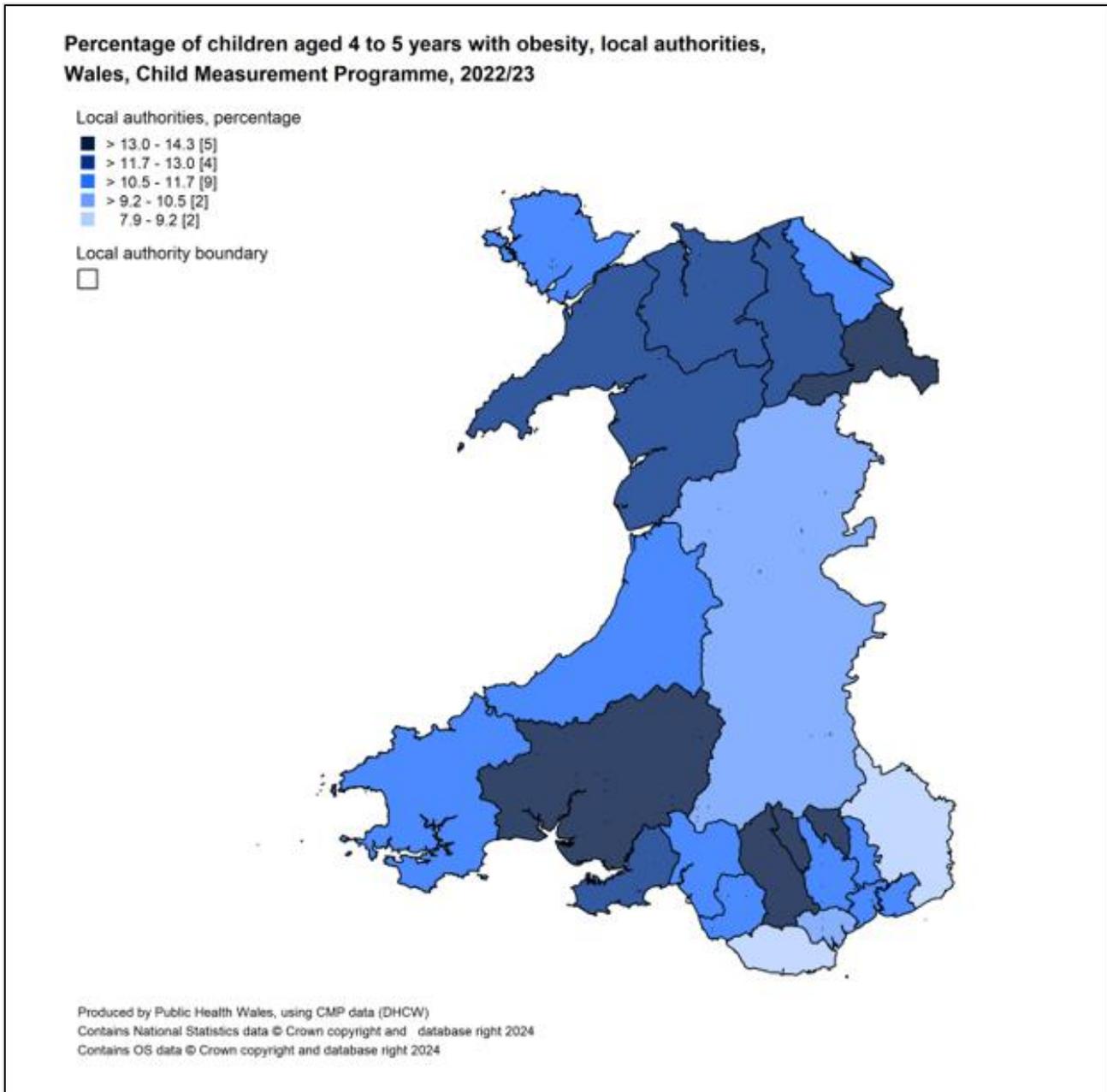


Figure 7:



The proportions of children with overweight or obesity by LA are given in chart Figure 8 and map Figure 9. Proportions varied from 18.6% (95% CI 16.1-21.5) in Monmouthshire to 29.4% (95% CI 25.9-33.1) in Merthyr. These were statistically significantly lower and higher than the Wales average respectively.

Figure 8:

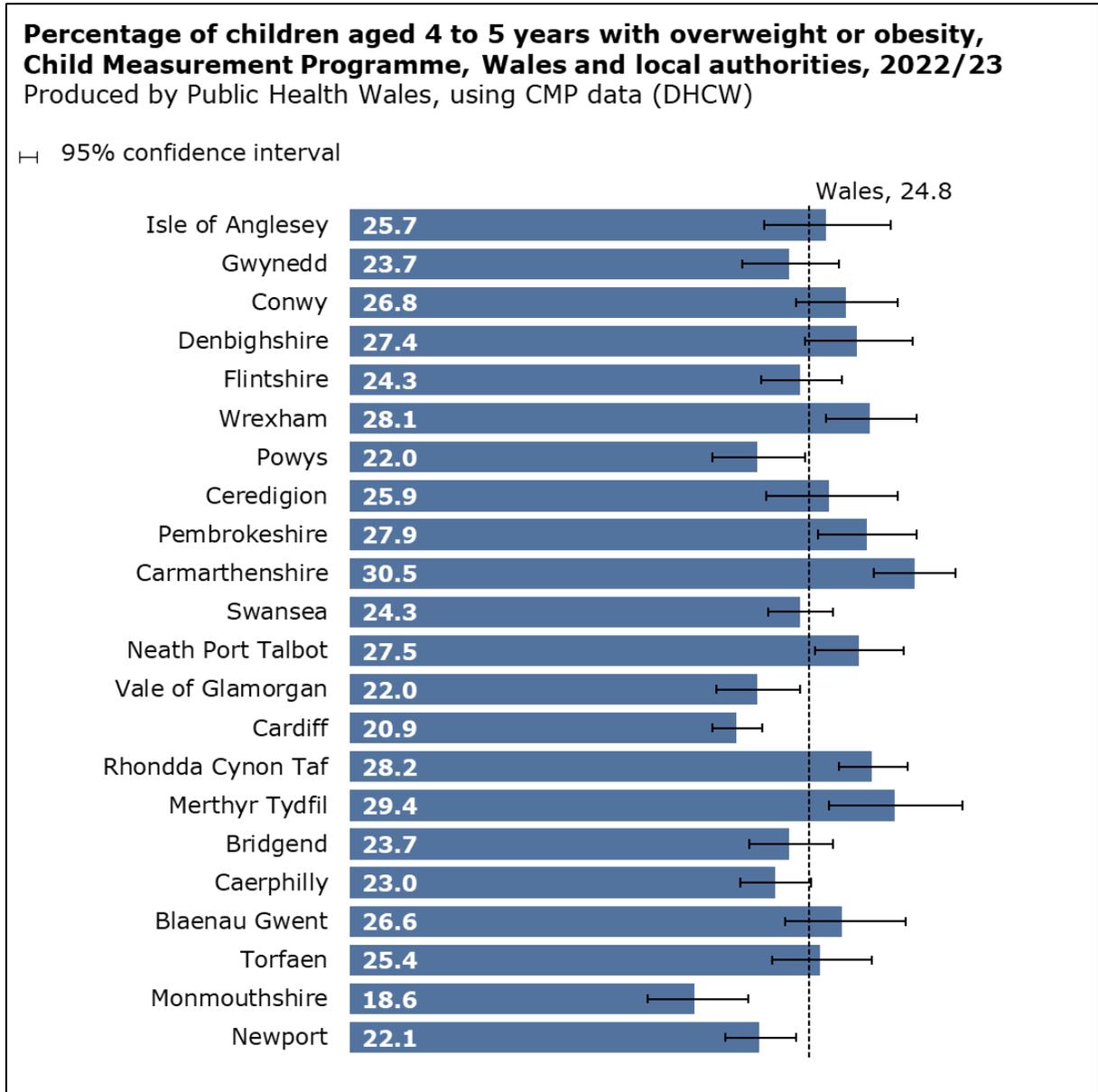
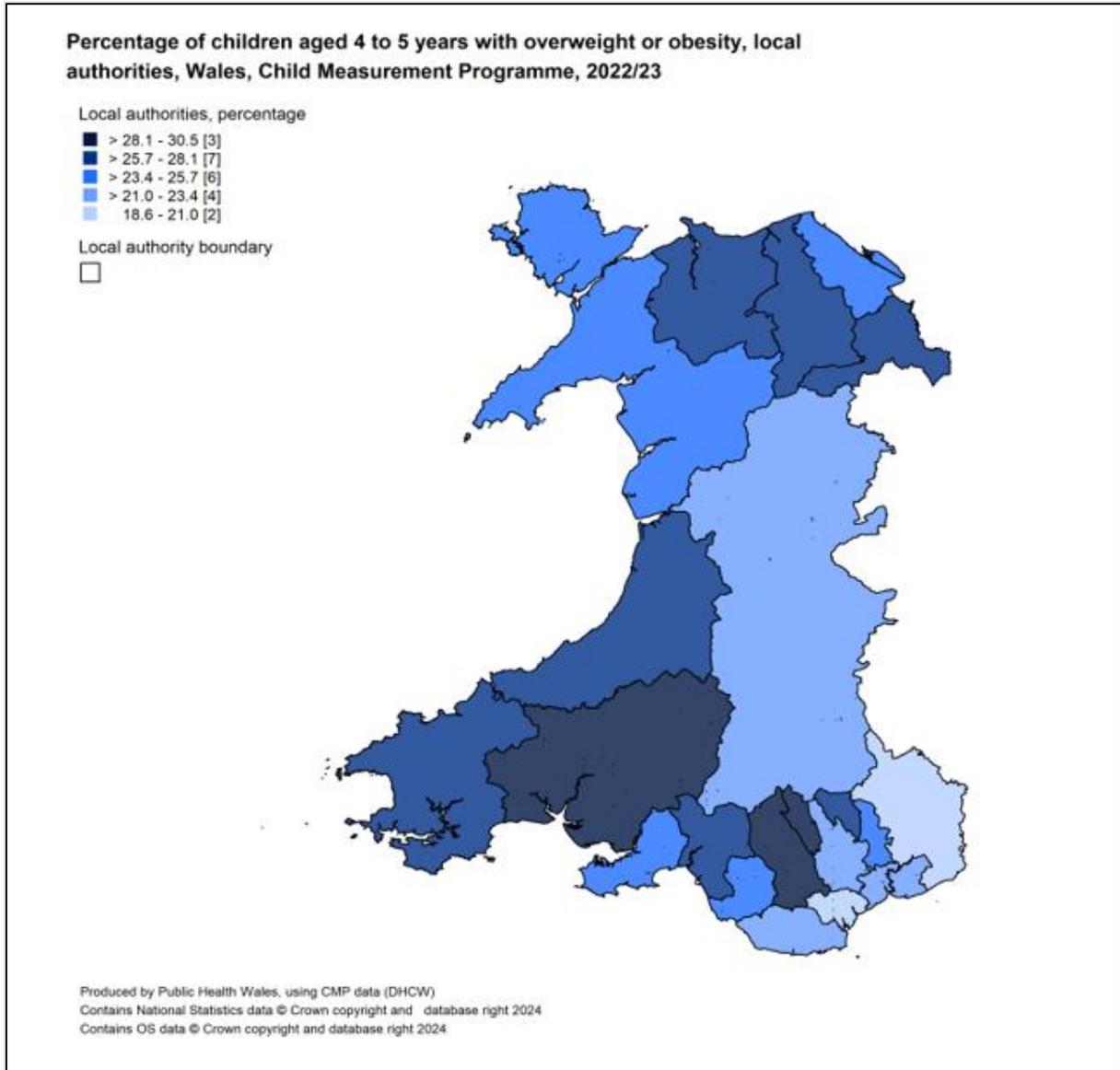


Figure 9:





Part 2: Local health Boards and Local Authorities Focused Reports

Betsi Cadwaladr University Health Board

The overall participation proportion was 91.2% across Betsi Cadwaladr University Health Board (BCUHB), nearly back up to the pre-pandemic coverage of 94.8% for 2018/19 following a lower than usual coverage of 75.2% last year as the programme recovered. The exact number of children that opted out of the programme was too low to report. The participation proportion did vary somewhat by Local Authority regions: Isle of Anglesey 91.2%, Gwynedd 89.8%; Conwy 92.2%; Denbighshire 94%; Flintshire 92.5%; Wrexham 88.1%.

With underweight and healthy weight

The numbers of children categorised as experiencing underweight were small and represented 0.6% (95% CI 0.4-0.8) of the cohort. This proportion was similar to the proportion of 0.5% (95% CI 0.4-0.8) reported for 2021/22 and 0.7% (95% CI 0.6-0.9) reported in 2021/22 and statistically significantly higher than observed pre-pandemic of 0.7% (95% CI 0.6-0.8) observed in 2018/2019.

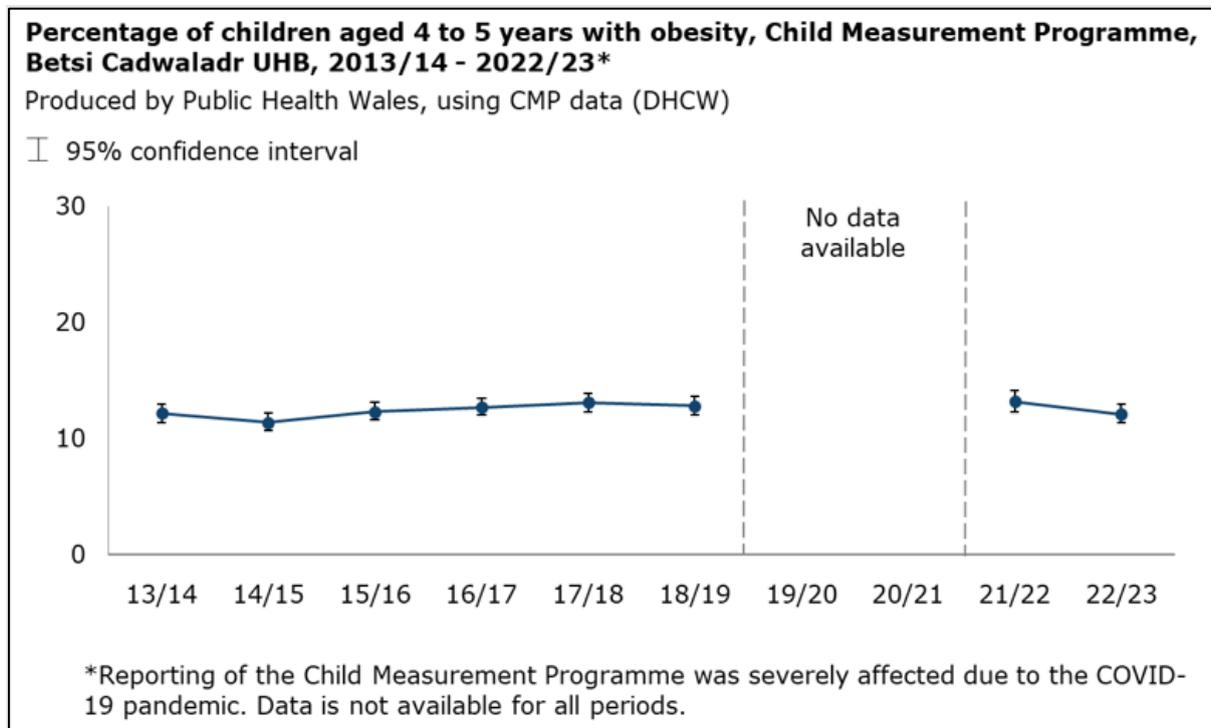
With overweight not obesity

The proportion of children categorised as experiencing overweight not obesity was 13.8% (95% CI 13.0-14.7). This result was slightly lower compared with the 14.4% (95% CI 13.5-15.3) observed in 2021/22 and statistically significantly lower than the pre-pandemic 2018/19 report of 15.9% (95% CI 15.1-16.7).

With obesity

The proportion of children categorised as having obesity was 12.1% (95% CI 11.4-13.0). This result was slightly lower than the 13.2% (95% CI 12.3-14.1) reported last year and the 12.8% (95% CI 12.0 to 13.6) reported in 2018/19. Please see Figure 10 for the time trend.

Figure 10:



Sex

At UHB level the proportion of boys and of girls categorised as 'overweight not obese' was similar at 13.8% (95% CI 12.7-15.1) and 13.8% (95% CI 12.6-15.0) respectively. This was different to the observation last year that showed a statistically significantly higher proportion of boys with 'overweight not obesity' at 15.7% (95% CI 14.4-17.1) versus 13.0% (95% CI 11.7-14.3) for girls. For the 'overweight not obese' category, the LAs followed the same pattern except for Denbighshire that showed a proportion of 17.6% (95% CI 14.4-21.3) for girls versus 13.1% (95% CI 10.3-16.4) for boys. Although, the 95% CIs were wide and overlapping suggesting that this result should be interpreted with caution.

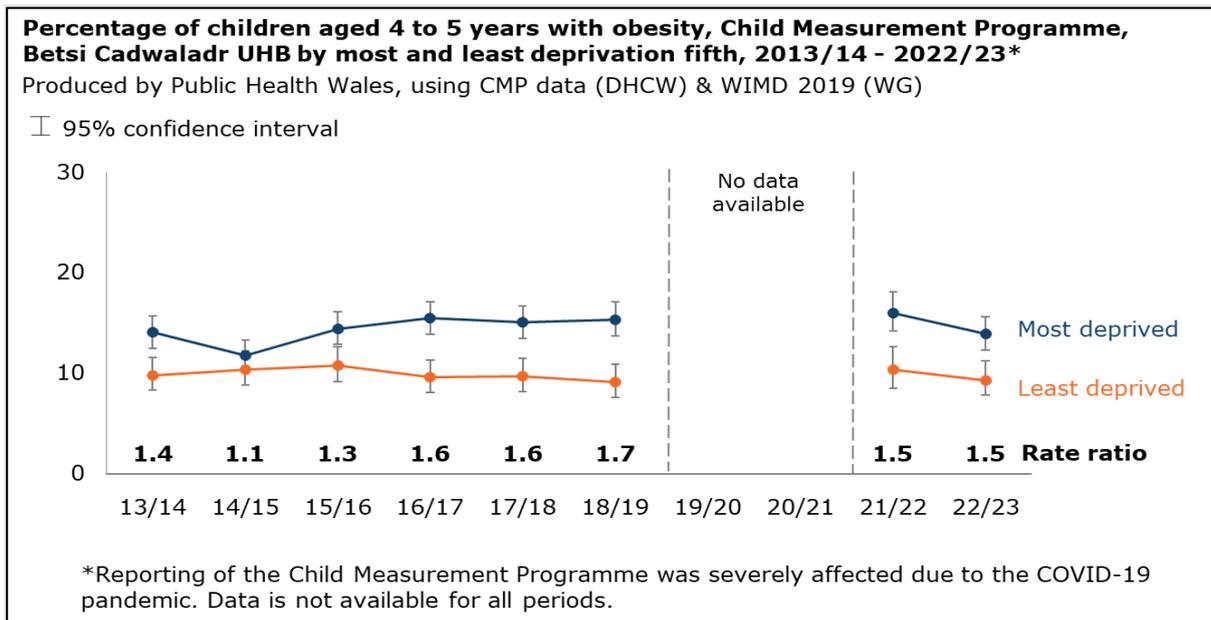
The proportion with obesity at LHB level was higher for boys compared with girls at 13.1% (95% CI 12.0-14.3) versus 11.2% (95% CI 10.1-12.3) respectively. A similar pattern was observed for the LAs except for the Isle of Anglesey that reported a slightly higher proportion of girls with obesity at 11.4% (95% CI 8.5-15.3) compared with boys at 10.9% (95% CI 7.9-14.9).

Deprivation

At LHB level there was a statistically significantly higher proportion categorised as having obesity in the most deprived quintile (13.9%, 95% CI 12.3-15.6) compared to the least deprived (9.3%, 95% CI 7.8-11.2). Patterns were less clear at LA level, however, the LA data should be interpreted with caution given the low numbers of cases in each category. The proportions of children with obesity in the least deprived versus the most deprived quintiles over time are shown in Figure 11.

The rate ratio provides a relative estimate for the gap between the least and most deprived quintiles. There is some variation in gap over time, although, it appears that this gap has narrowed in 2022/23 compared with last year and the most recent pre-pandemic reports. This result should be interpreted with caution as there are not enough post pandemic data observations yet to confirm trends.

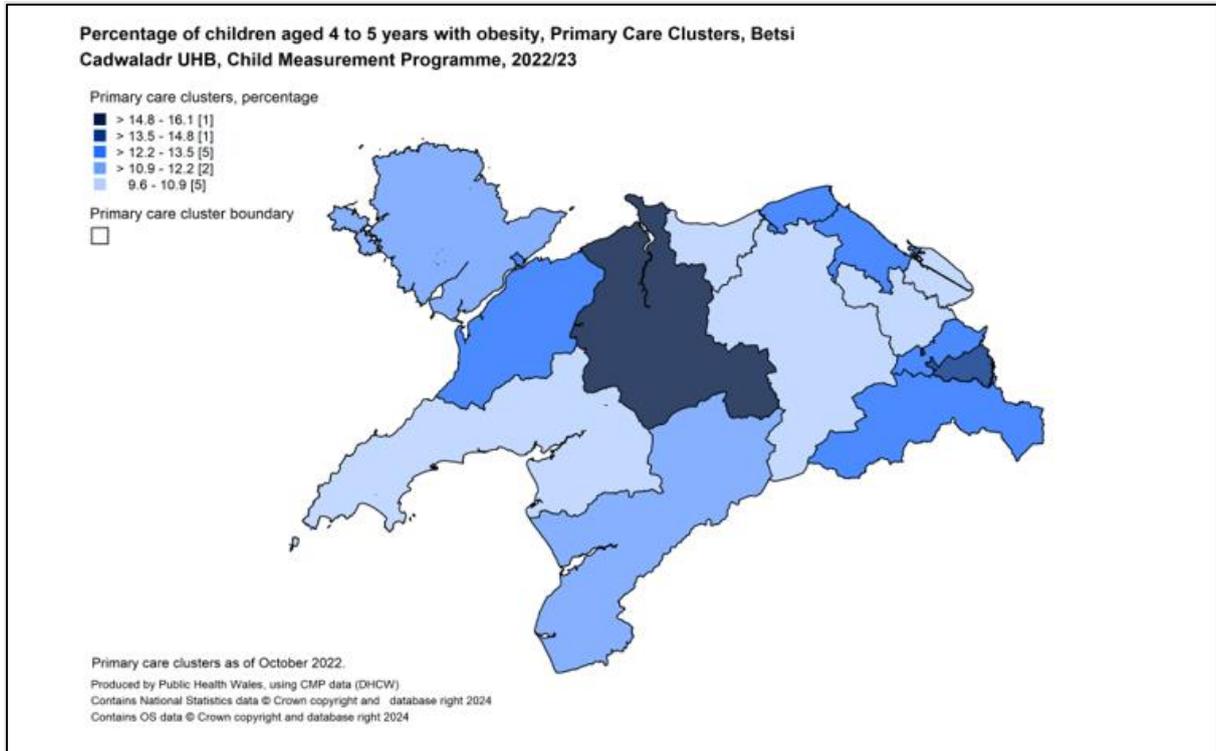
Figure 11:



Primary Care Clusters

All PCCs within the BCUHB footprint had a participation of at least 86%. The proportion of children with obesity varied as shown in the thematic map (Figure 12). The proportion with obesity ranged from 9.6% (95% CI 7.3-12.4) in South Flintshire to 16.1% (95% CI 13.1-19.7) in Conwy West.

Figure 12:



Powys Teaching Health Board

The overall participation proportion was 89.2% across Powys Teaching Health Board (PTHB), the same geographical footprint as Powys LA. The participation was lower than the 92.1% obtained in 2021/22 and the 93% achieved in 2018/19. There were 10 (0.8%) children that opted out of the programme.

With underweight and healthy weight

The numbers of children categorised as experiencing underweight were small and represented 0.8% (95% CI 0.4-1.5). This proportion was similar to the 2018/19 reported proportion of 0.7% (95% CI 0.4 to 1.4). The proportion of children categorised as healthy weight was 77.2% (95% CI 74.6-79.7), that was higher than the 75.5% (95% CI 72.8-78.0) reported last year and statistically significantly higher than the proportion of 71.1% (95% CI 68.4 to 73.7) observed in 2018/19.

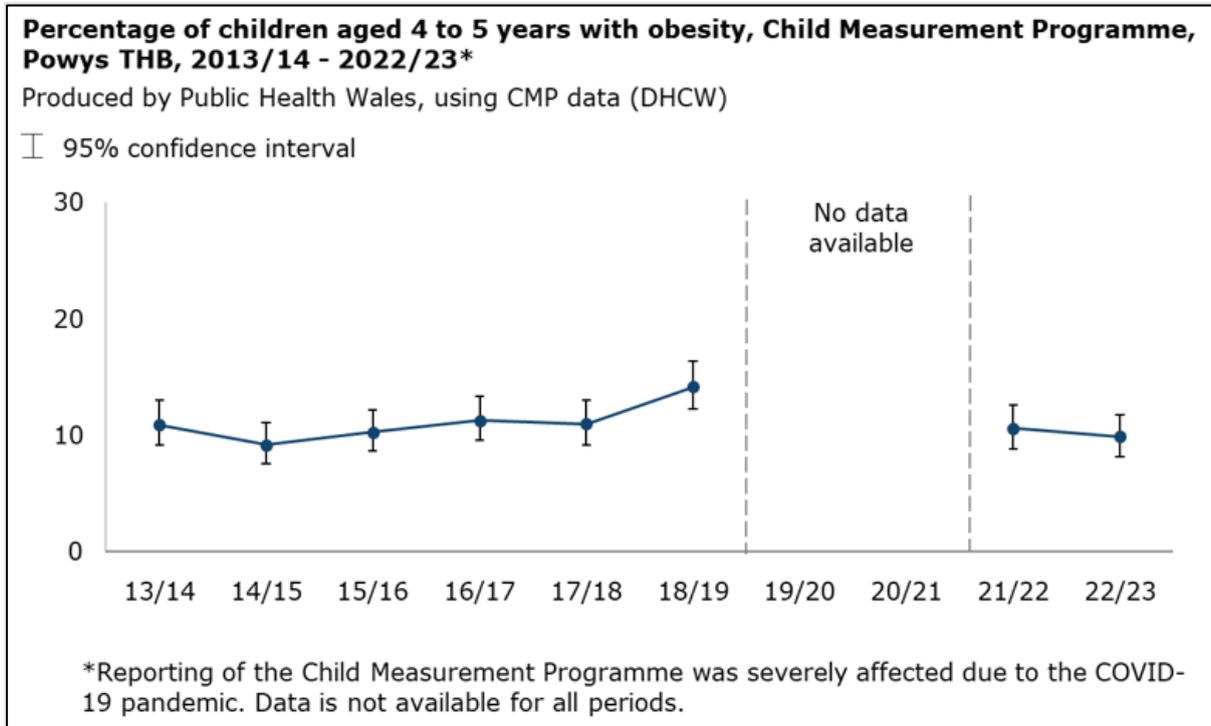
With Overweight not obese

The proportion of children categorised as experiencing 'overweight not obesity' was 12.1% (95% CI 10.3-14.2) and slightly lower than the proportions observed last year at 13.5% (95% CI 11.6-15.7) and pre-pandemic at 13.9% (95% CI 12.0 to 16.1) in 2018-2019.

With obesity

The proportion of children categorised as having obesity was 9.9% (95% CI 8.2-11.8), slightly reduced compared with last year at 10.6 (95% CI 8.8-12.6) and statistically significantly reduced compared with 14.2% (95% CI 12.3 to 16.4) reported in 2018/19. The time trend is shown in Figure 13. Caution should be applied when interpreting trend as there are only two post pandemic observations to date.

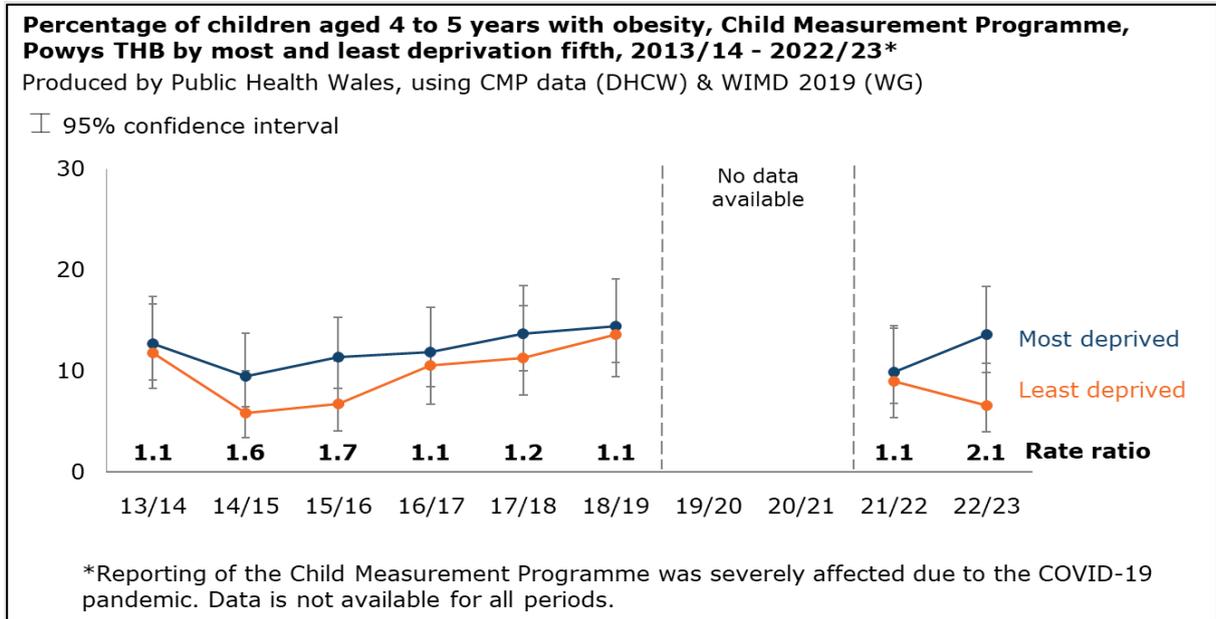
Figure 13:



Sex
 The proportions across weight measurement categories with sufficient numbers of children for comparison were similar for boys and girls in Powys.

Deprivation
 For Powys, low numbers of children in each category. The proportions of children with obesity in the least deprived versus the most deprived quintile was 6.6% (95% CI 4.0-10.8) versus 13.6% (95% CI 9.9-18.4) respectively. The time trends are shown in Figure 14. The rate ratio provides a relative estimate for the gap between the least and most deprived quintiles. There is some variation in the gap over time, with the larger gaps noted for the 2014/15 and 2015/16 years and subsequently narrowing to the last pre-pandemic observation in 2018/19. Last year's measurement in 2021/22 remained consistent with the 2018/19 observation. However, the gap has increased again this year. This observation should be interpreted with caution as the numbers of children in each category are lower than for the other LHBs and, therefore, more fluctuation is to be expected. Furthermore, there are only two post pandemic measurements to date.

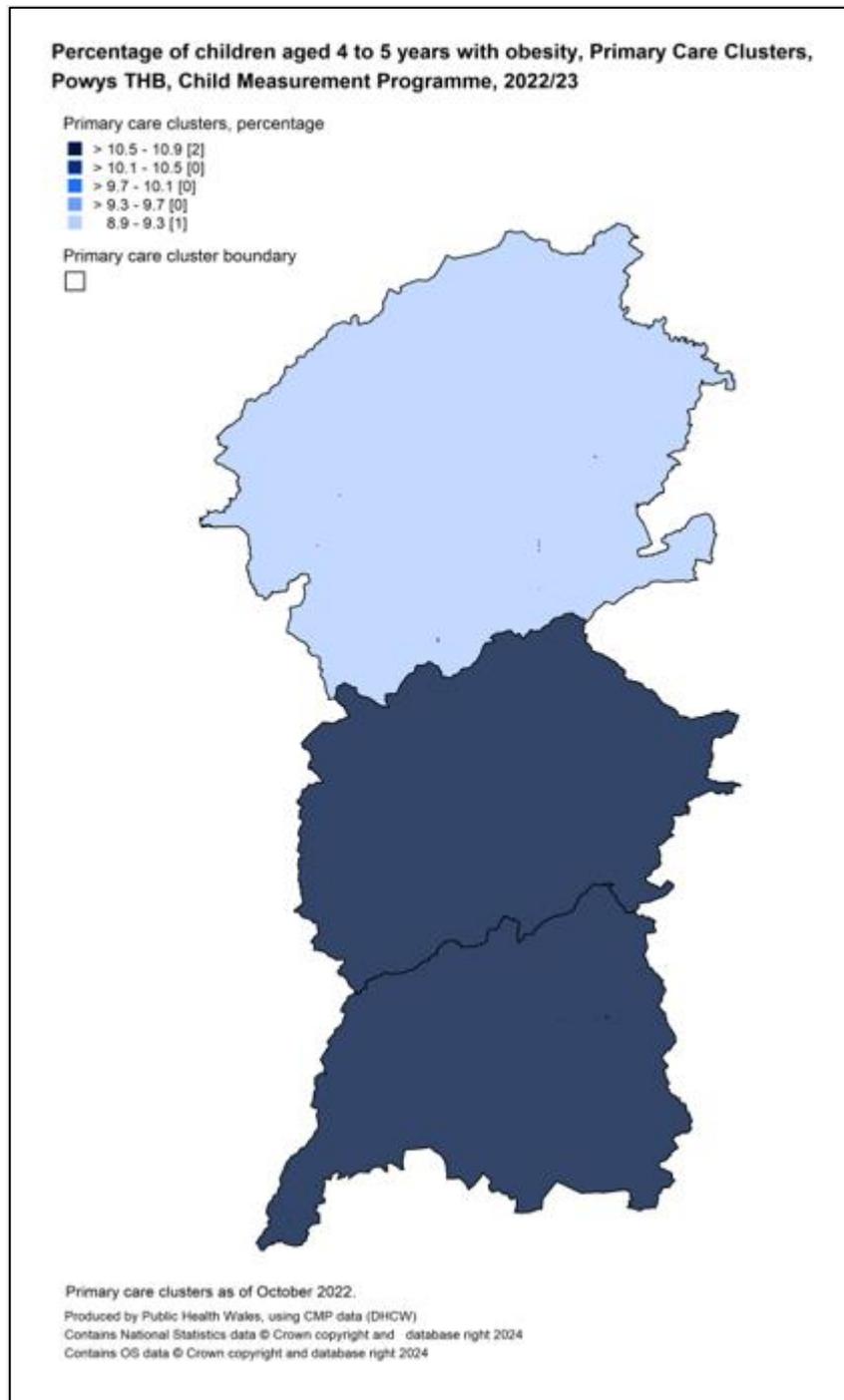
Figure 14:



Primary Care Clusters

The participation proportion was at least 86% for all PCCs. The proportion of children with obesity varied somewhat between the primary care clusters, as shown in the thematic map (Figure 15) with a range from 8.9% (95% CI 6.7-11.6) in North Powys to 10.9% in both Mid and South Powys (95% CIs 7.4-15.6 and 8.1-14.5 respectively).

Figure 15:



Hywel Dda University Health Board

The overall participation proportion was 93% across Hywel Dda University Health Board (HDdUHB), up from 88.2% last year, however, not quite back to the 95.8% reported for 2018/19. There were 26 (0.7%) children that opted out of the programme, somewhat higher than the 7 (0.2%) last year. The participation proportion breakdown by LA regions were: Ceredigion 93.7%; Pembrokeshire 92.4%; Carmarthenshire 93.1%.

With underweight and healthy weight

The numbers of children categorised as experiencing underweight were small and represented 0.7% (95% CI 0.5-1.0), similar to last year at 0.6% (95% CI 0.4-0.9). The proportion of children categorised as having a healthy weight was 70.5% (95% CI 68.9-72.0), also similar to last year at 70.3% (95% CI 68.7-71.8) and similar to pre-pandemic at 70.6% (95% CI 69.1 to 72.0) in 2018/19.

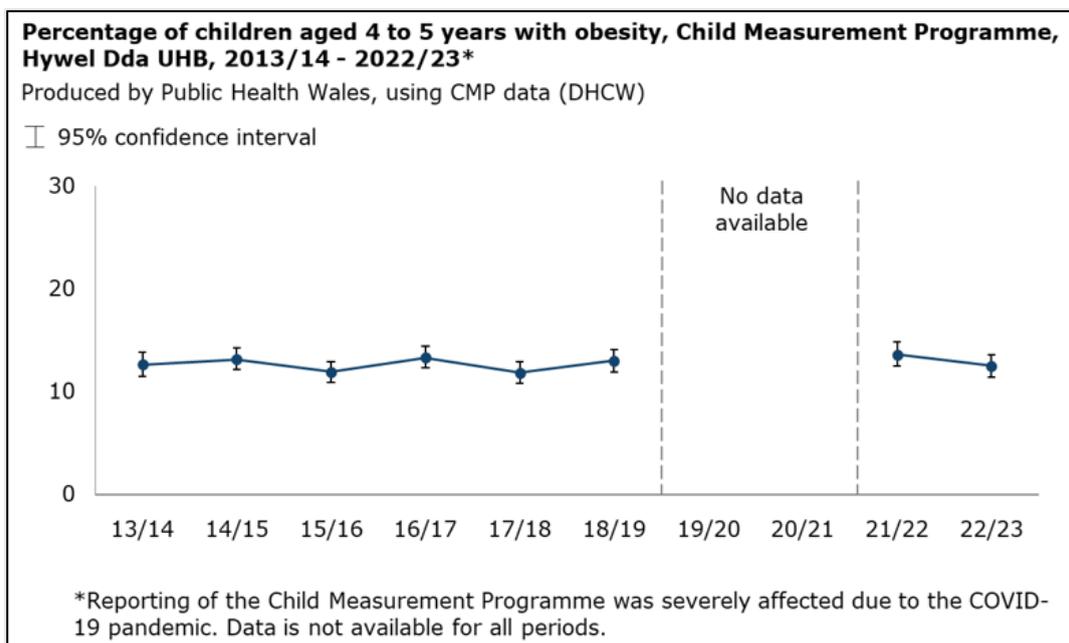
With overweight not obesity

The proportion of children categorised as experiencing 'overweight not obesity' was slightly higher at 16.4% (95% CI 15.2-17.7) compared with 15.6% (95% CI 14.4-16.9) last year, and was similar to the proportion of 16.2% (95% CI 15.0 to 17.4) observed pre-pandemic in the 2018/19 report.

With obesity

The proportion of children categorised as having obesity was 12.5% (95% CI 11.4-13.6) and lower than the proportion of 13.6 (95% CI 12.5-14.8) reported last year. The time trend is shown in Figure 16, however, with only two post pandemic data points to date it is too soon to draw any firm conclusions. At LA level the proportion with obesity in Carmarthenshire was higher at 14.1% (95% CI 12.5-15.8) compared with the two other LAs.

Figure 16:



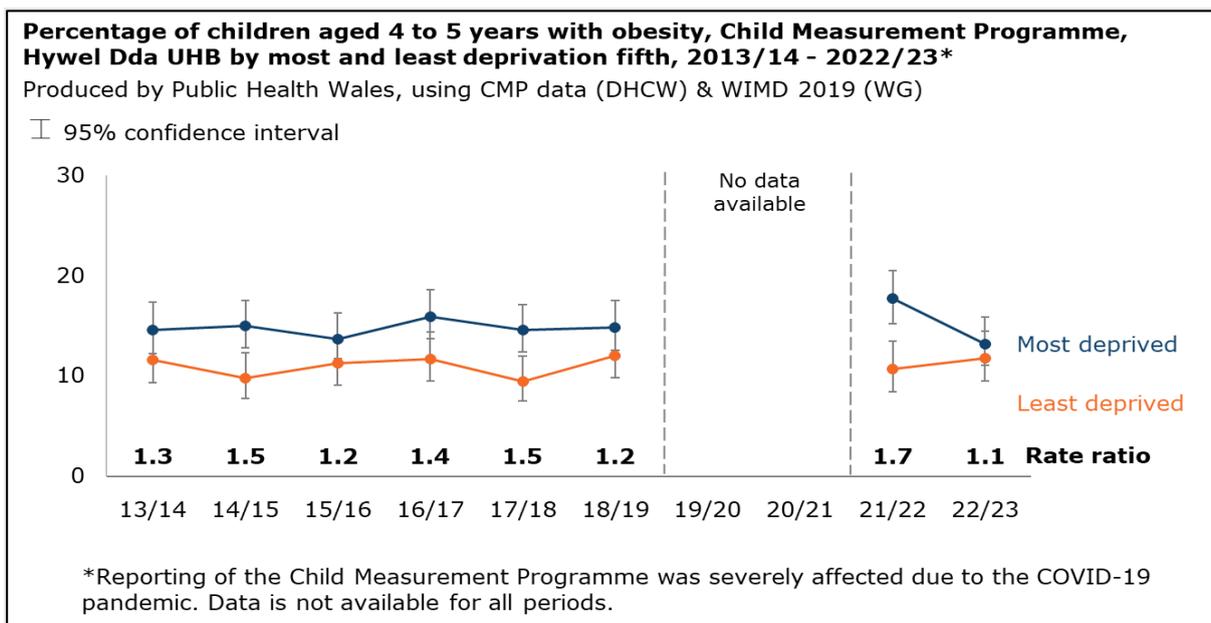
Sex

Most proportions across weight measurement categories were similar for boys and girls at LHB level. However, the proportion with obesity was higher for boys compared with girls at 13.3% (95% CI 11.8-15.0) versus 11.6% (95% CI 10.2-13.3) respectively.

Deprivation

At LHB level the proportion categorised as having obesity in the most deprived quintile was 13.2% (95% CI 11.1- 15.8) compared with 11.8% (95% CI 9.5-14.5) in the least deprived. The proportions of children with obesity in the least deprived versus the most deprived quintiles over time are shown in Figure 17. The rate ratio provides a relative estimate for the gap between the least and most deprived quintiles. There is some variation in gap over time, with an observed widening last year. However, the gap seems to have closed again in 2022/23. This result should be interpreted with caution as we only have two data points since the pandemic.

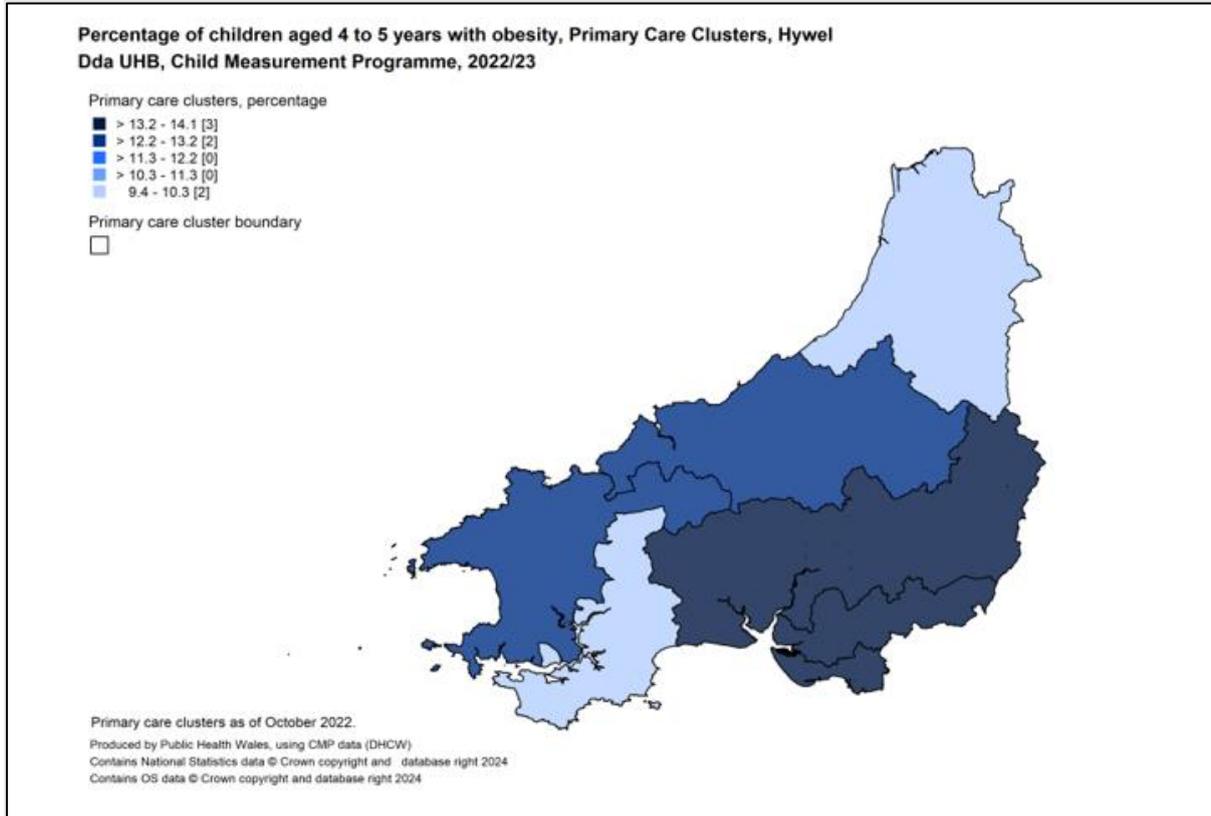
Figure 17:



Primary Care Clusters

The participation was at least 92% for each PCC. The proportion of children with obesity varied across primary care clusters, as shown in the thematic map (Figure 18) with a range from 9.4% (95% CI 7.1-12.5) in South Pembrokeshire to 14.1% (95% CI 11.5- 17.1) in Amman/Gwendraeth.

Figure 18:





Swansea Bay University Health Board

The overall participation proportion was 90.8% across Swansea Bay University Health Board (SBUHB), similar to last year at 90.5%. For Swansea and Neath Port Talbot LA regions the participation proportions were 90.2% and 91.9% respectively. The absolute number of children that opted out of the programme were too low to report. The participation has not yet reached the pre-pandemic proportion of 95.4% achieved in 2018/19.

With underweight and healthy weight

The numbers of children categorised as experiencing underweight were small and identical to last year at 0.8% (95% CI 0.5-1.1) of the cohort. The proportion of children categorised as having a healthy weight was 73.8% (95% CI 72.3-75.2). This was higher than the 71.0% (95% CI 69.5-72.4) observed last year.

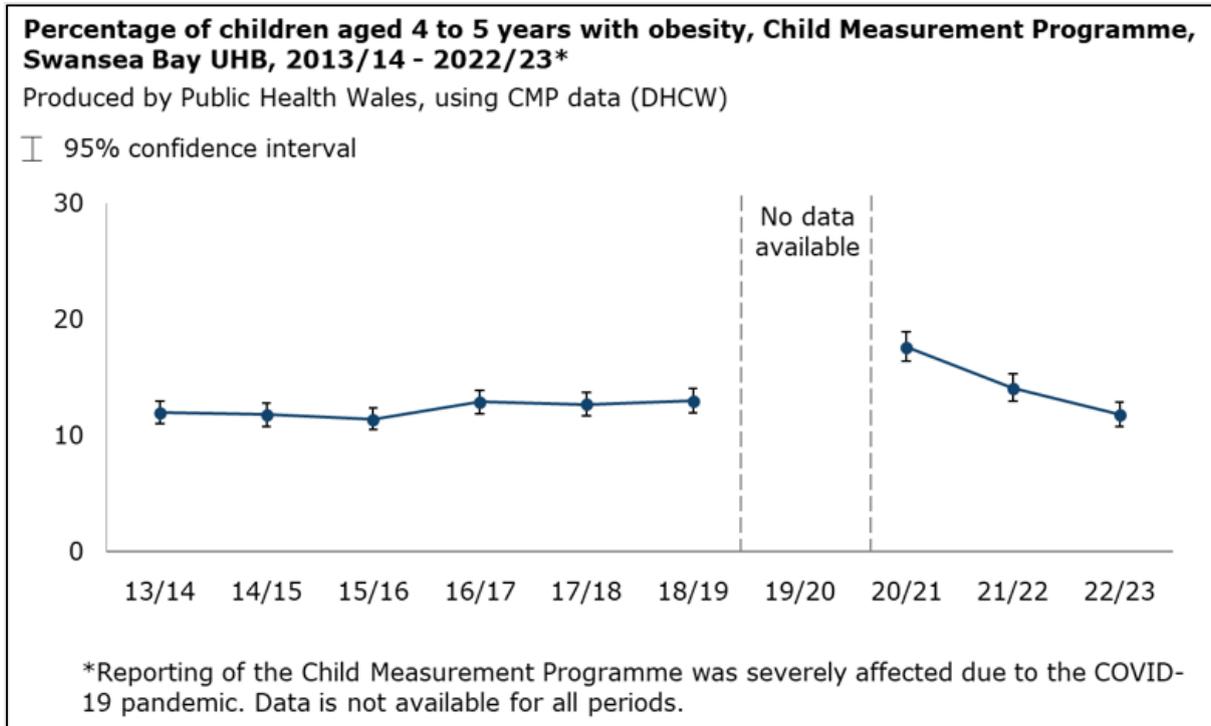
With overweight not obesity

The proportion of children categorised as experiencing 'overweight not obesity' was slightly lower at 13.7% (95% CI 12.6-14.8) compared with 14.2% (95% CI 13.0-15.3) last year. The proportion with overweight not obesity in 2022/23 was higher in Neath Port Talbot at 15.8% (95% CI 13.9-17.8) compared with Swansea at 12.5% (95% CI 11.2-13.9).

With obesity

The proportion of children categorised as having obesity was 11.8% (95% CI 10.8-12.9). This was statistically significantly lower than last year at 14.1% (95% CI 13.0-15.3). It was also lower than the pre-pandemic reported proportion of 13.0% (95% CI 12.0 to 14.1) in 2018/19. The time trend is shown in Figure 19. The trend from 2020/21 appears to be a stark reduction. However, the 2020/21 observations were during the pandemic where a rise in proportions with obesity was noted. Therefore, this post pandemic trend must be interpreted with caution until further data observations are added in future years.

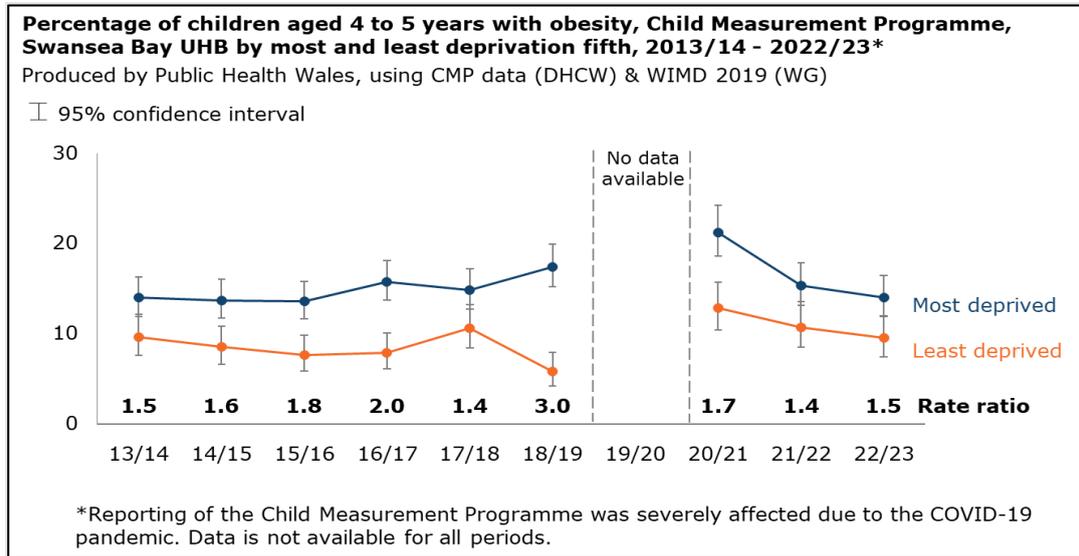
Figure 19:



Sex
 The proportions across weight measurement categories were similar for boys and girls at LHB level. However, the proportion of boys with obesity was slightly higher at 12.6% (95% CI 11.1-14.1) compared with girls at 11% (95% CI 9.6-12.5).

Deprivation
 At LHB and LA levels there was a trend that a higher proportion of children were categorised as having obesity in the most deprived quintile compared with the least deprived. At Swansea LA level this trend was statistically significant with 8.5% (95% CI 6.1-11.7) in the least deprived quintile versus 14.5% (95% CI 11.9-17.5) in the most deprived quintile. The proportions of children with obesity in the least deprived versus the most deprived quintiles over time are shown in Figure 20. The rate ratio provides a relative estimate for the gap between the least and most deprived quintiles. There was variation in the relative gap over time, with the largest relative gap observed at the pre-pandemic measurement in 2018/19. The relative gap observed in 2020/21 was lower than pre-pandemic, with a further reduction for 2021/22. However, a slight widening was noted this year (2022/23). Given the prior fluctuation and limited post pandemic data points these findings should be interpreted with caution.

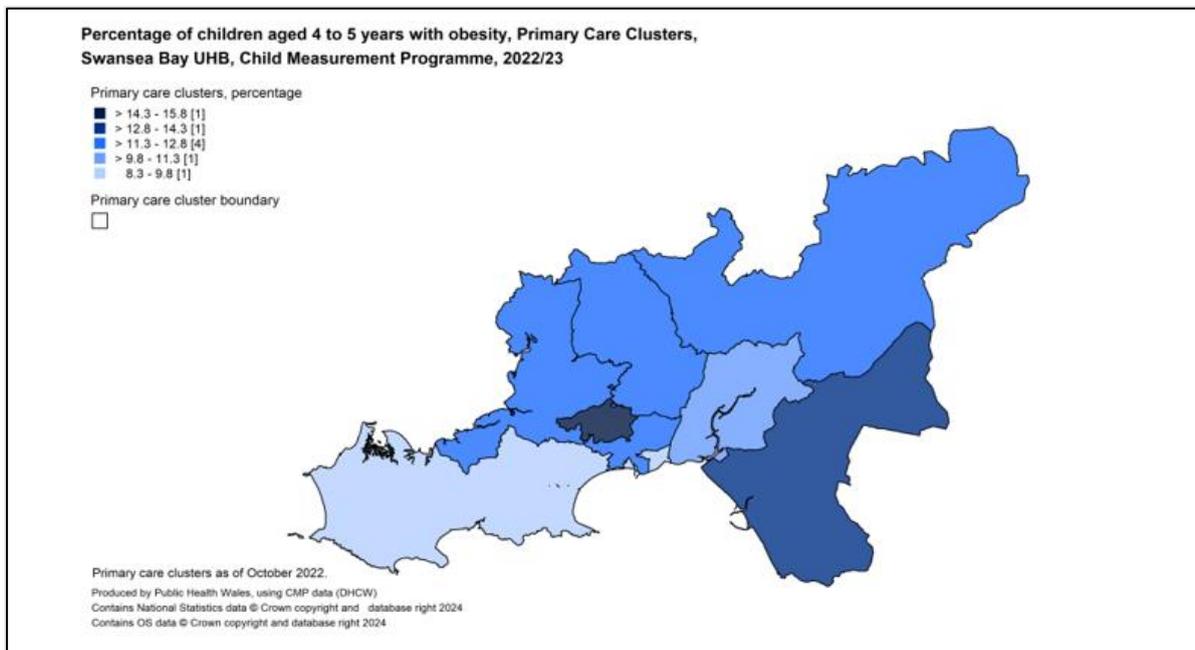
Figure 20:



Primary Care Clusters

The proportion of children with obesity varied across primary care clusters, as shown in the thematic map (Figure 21), with a range from 8.3% (95% CI 6.3- 11.1) in Bay Health to 15.8% (95% CI 12.6-19.5) in Penderi. This was a statistically significant difference.

Figure 21:



Cwm Taf Morgannwg University Health Board

This was the first reporting year for Cwm Taf Morgannwg University Health Board (CTMUHB) since the 2018/19 pre-pandemic year. The overall participation proportion was 89.5% across CTMUHB, lower than the 95.5% observed pre-pandemic in 2018/19. The participation by LA region was: Rhondda Cynon Taf 89.6%; Merthyr Tydfil 86.3%; Bridgend 90.7%. The number of children that opted out of the programme was 12 (0.3%).

With underweight and healthy weight

The numbers of children categorised as experiencing underweight were small at 1% (95% CI 0.8-1.4) of the cohort. This was higher than the 0.4% (95% CI 0.2-0.8) observed in 2018/19. However, this should be interpreted in the context of low numbers of children within this category. The proportion of children categorised as having a healthy weight was 72.0% (95% CI 70.7-73.3). This was higher than the 69.4% (95% CI 67.5-71.2) observed in 2018/19.

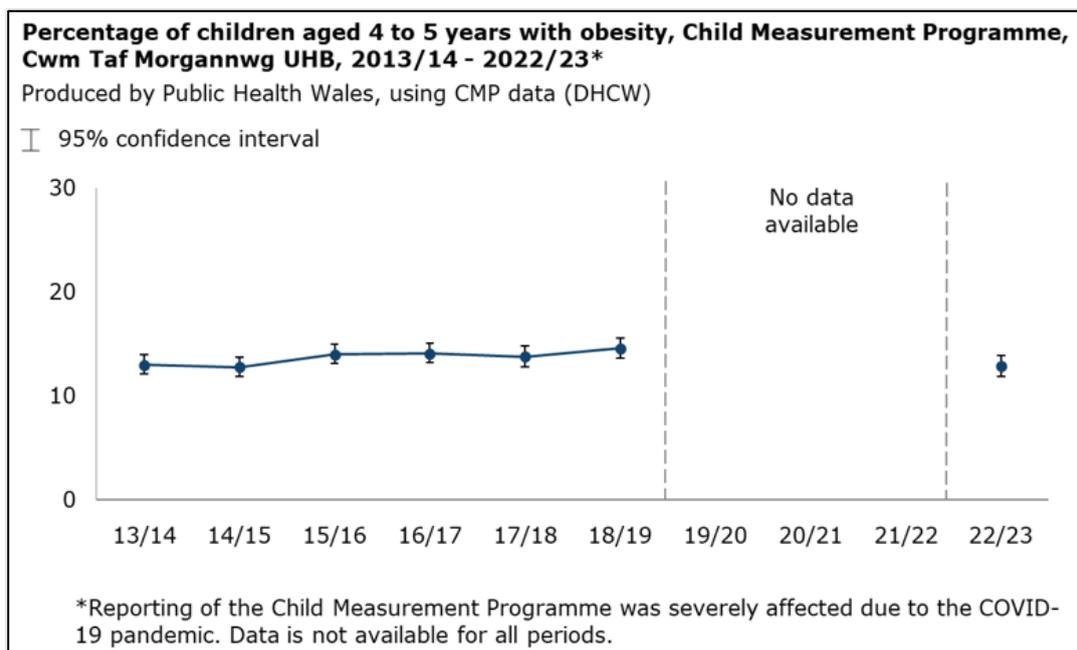
With overweight not obesity

The proportion of children categorised as experiencing 'overweight not obesity' was slightly lower at 14.1% (95% CI 13.1-15.1) compared with 15.0% (95% CI 13.6-16.5) observed in 2018/19. The proportion with overweight not obesity was higher in Merthyr Tydfil at 15.8% (95% CI 13.1-18.9) compared with the other two LAs.

With obesity

The proportion of children categorised as having obesity was 12.9% (95% CI 11.9-13.9). This was lower than the 15.2% (95% CI 13.8-16.7) observed in 2018/19. The time trend is shown in Figure 22. There was an upward trend pre-pandemic. However, the 2022/23 observation is lower. This should be interpreted with caution as there is only one observation since the pandemic.

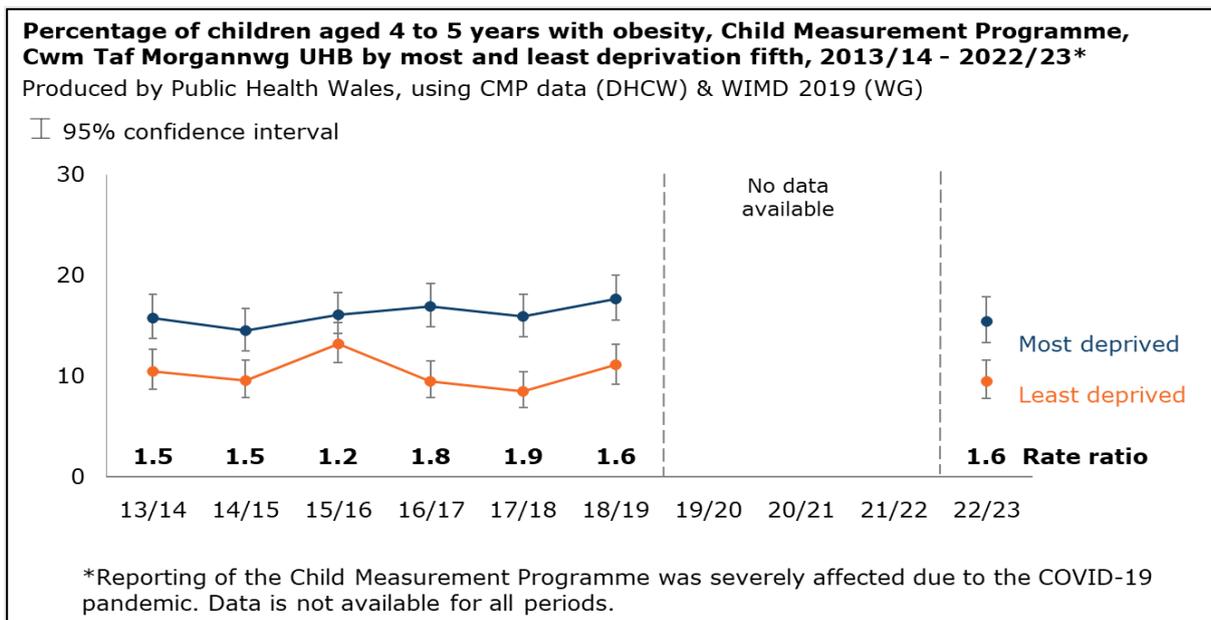
Figure 22:



Sex
 The proportions across weight measurement categories were similar for boys and girls at LHB level. However, the proportion of boys with obesity was slightly higher at 13.9% (95% CI 12.6-15.5) compared with girls at 11.7% (95% CI 10.4-13.2).

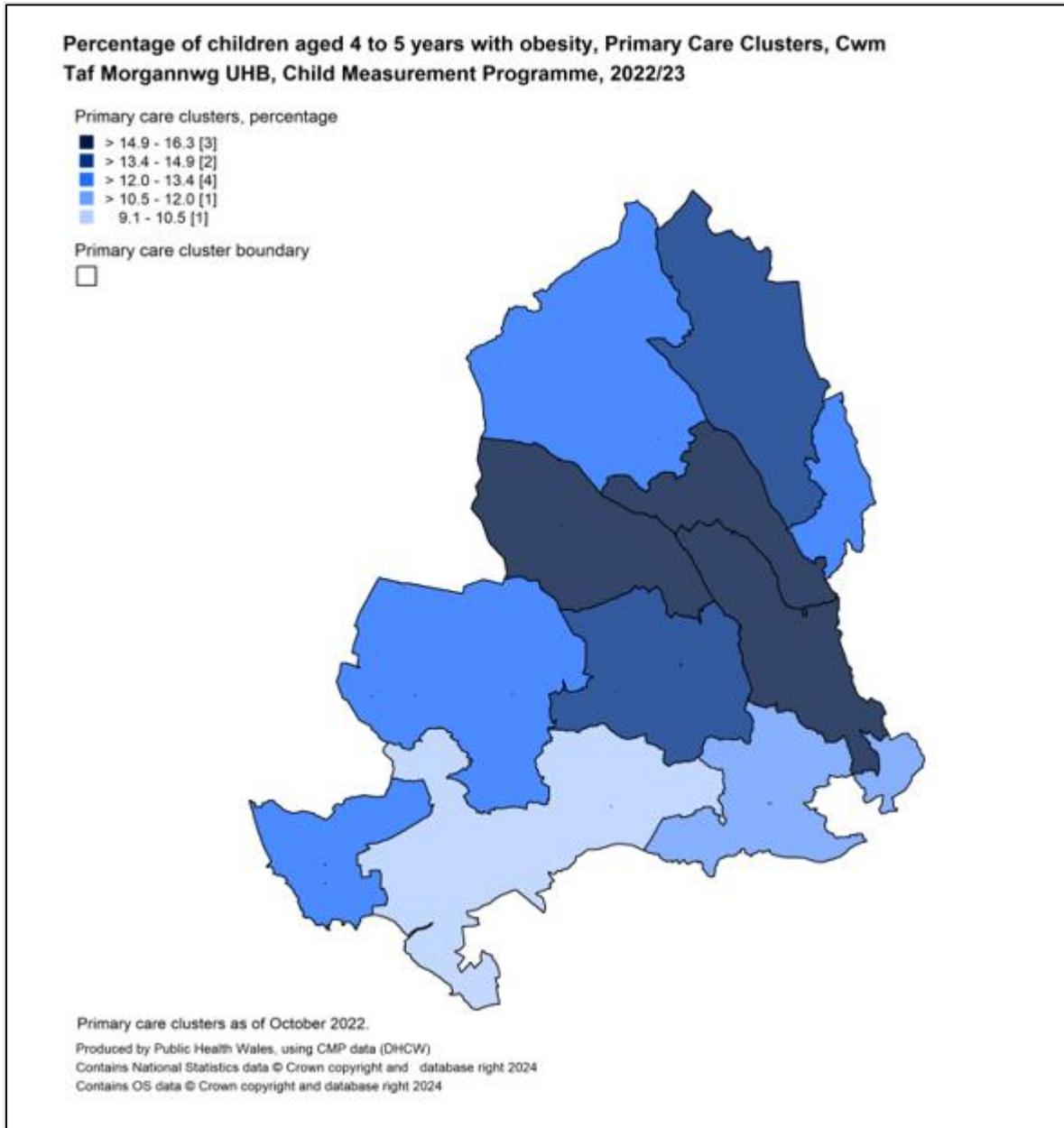
Deprivation
 At LHB and LA levels there was a trend that a higher proportion of children were categorised as having obesity in the most deprived quintile compared with the least deprived. At CTMUHB level this was statistically significant with 9.5% (95% CI 7.8-11.6) in the least deprived versus 15.4% (95% CI 13.3-17.9) in the most deprived quintiles. At Bridgend LA level this trend was also statistically significant with 5.6% (95% CI 3.4-9.2) in the least deprived versus 14.8% (95% CI 11.2-19.3) in the most deprived quintiles. The proportions of children with obesity in the least deprived versus the most deprived quintiles over time are shown in Figure 23. The rate ratio provides a relative estimate for the gap between the least and most deprived quintiles. Pre-pandemic there was variation in the relative gap over time, with the largest relative gap observed in 2017/18. The 2022/23 gap observed now is similar to the pre-pandemic gap noted in 2018/19.

Figure 23:



Primary Care Clusters
 The proportion of children with obesity varied across primary care clusters, as shown in the thematic map (Figure 24) with a range from 9.1% (95% CI 7.3-11.3) in Bridgend East Network to 16.3% (95% CI 12.8-20.5) in North Rhondda. This was a statistically significant difference.

Figure 24:



Cardiff and Vale University Health Board

The overall participation proportion was 90.6% across Cardiff and Vale University Health Board (CAVUHB), up from 72.1% last year and higher than the 82.7% in 2018/19. There were 12 (0.2%) children that opted out of the programme, lower than the 23 (0.4%) last year. The participation proportion breakdown by LA regions were: Vale of Glamorgan 90.4%; Cardiff 90.6%.

With underweight and healthy weight

The numbers of children categorised as experiencing underweight were small and were identical to last year at 1.3% (95% CI 1.0-1.7) of the cohort. This proportion was similar to the 2018/19 data of 1.4% (95% CI 1.1 to 1.8). The proportion of children categorised as having a healthy weight was 77.5% (95% CI 76.3-78.6) and was statistically significantly higher than last year at 74.6% (95% CI 73.2-75.9).

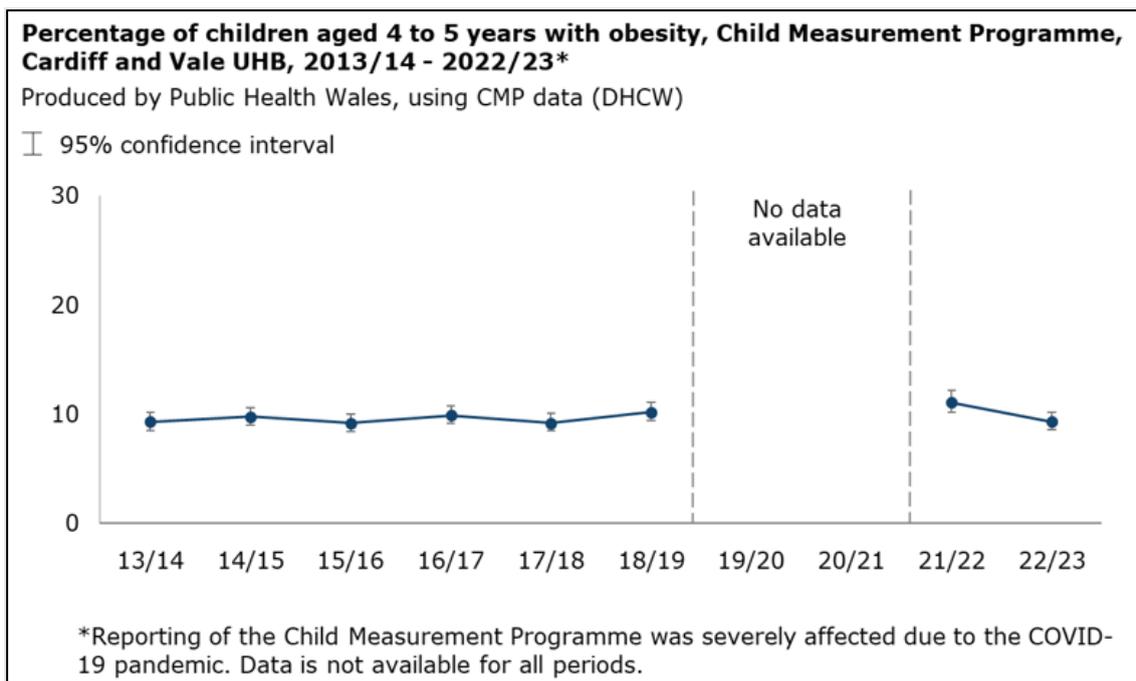
With overweight not obesity

The proportion of children categorised as experiencing 'overweight not obesity' was 11.9% (95% CI 11-12.8). This result was slightly lower than last year at 13.0% (95% CI 12.0-14.1), and similar to the pre-pandemic 2018/19 report of 11.7% (95% CI 10.8 to 12.6).

With obesity

The proportion of children categorised as having obesity was 9.3% (95% CI 8.6-10.2). This was lower than observed last year at 11.1% (95% CI 10.2-12.2) and pre-pandemic at 10.2% (95% CI 9.4-11.1) reported in 2018/19. The time trend is shown in Figure 25. The post pandemic drop must be interpreted with caution as there are only two data points.

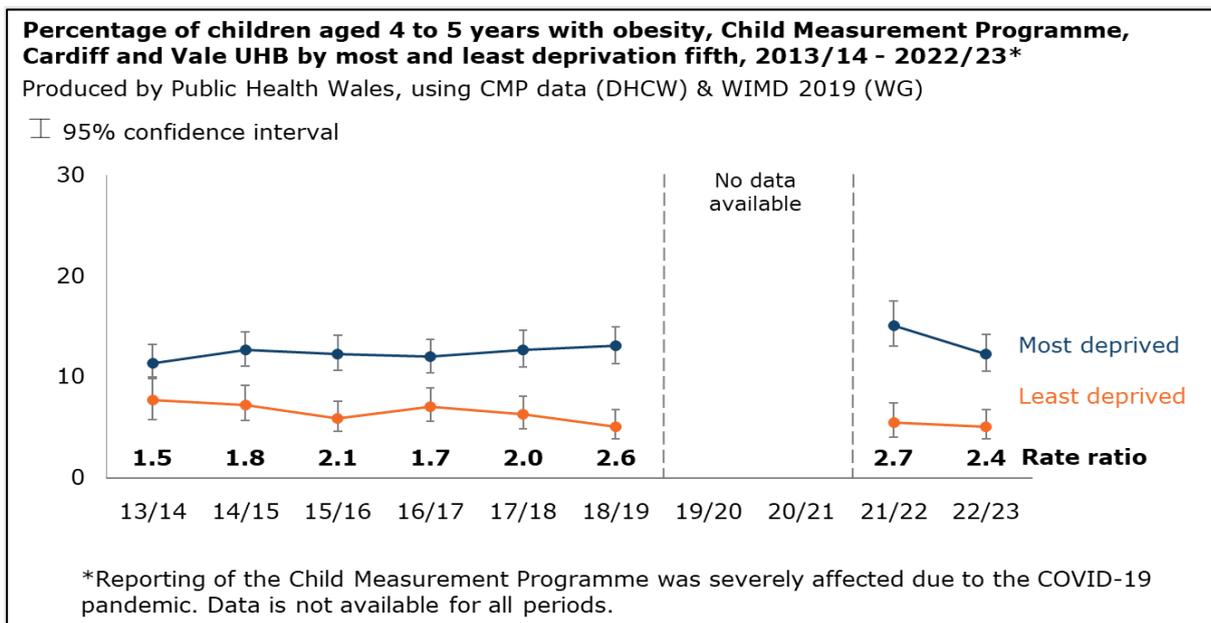
Figure 25:



Sex
 The proportions across all weight measurement categories were generally similar for boys and girls at LHB and LA levels. However, there was a difference in the proportion with obesity in the Vale of Glamorgan LA region, with a higher proportion of girls at 9.2% (95% CI 7.3-11.6) compared with boys at 7.4% (95% CI 5.6-9.7) categorised as having obesity.

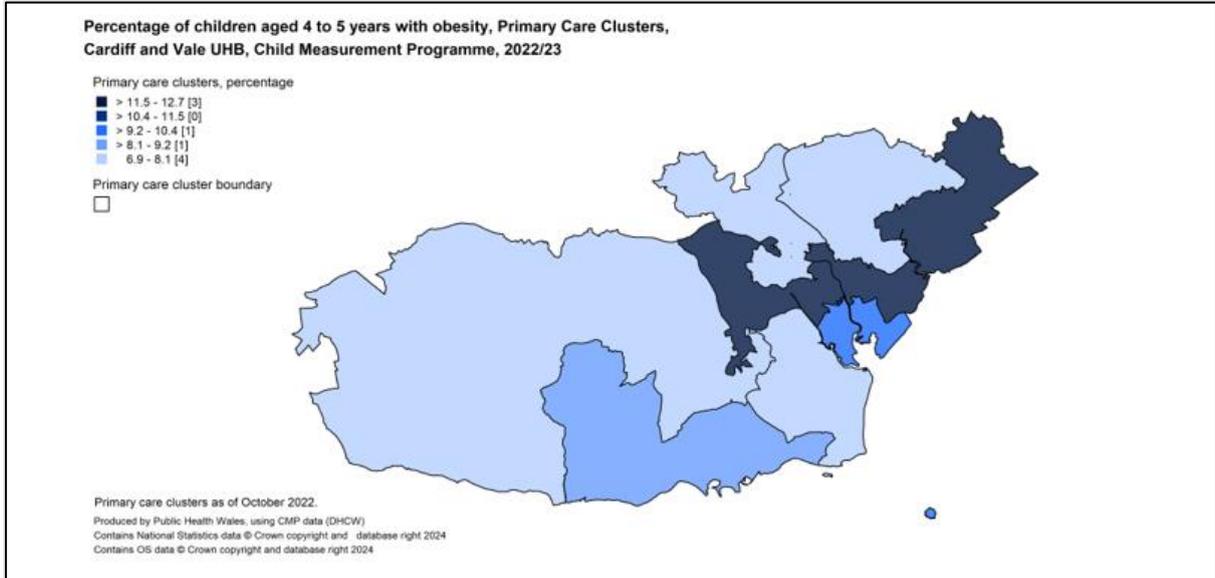
Deprivation
 At Health Board level there was a statistically significantly higher proportion categorised as having obesity in the most deprived quintile (12.3%, 95% CI 10.6-14.2) compared with the least deprived (5.1%, 95% CI 3.9-6.8). A similar trend was observed for the Local Authority areas, that was statistically significant for Cardiff: 4.7% (95% CI 3.4-6.5) least deprived versus 13.4% (95% CI 11.4-15.6) most deprived quintile. The proportions of children with obesity in the least deprived versus the most deprived quintiles over time are shown in Figure 26. The rate ratio provides a relative estimate for the gap between the least and most deprived quintiles. There was some variation in gap over time. The gap had widened since 2018/19 and remained wide in 2021/22. However, it has narrowed somewhat this year. This finding should be interpreted with caution as we only have two data points reported since the pandemic.

Figure 26:



Primary Care Clusters
 For those primary care clusters with adequate coverage the proportion of children with obesity varied, as shown in the thematic map (Figure 27), with a range from 6.9% (95% CI 4.5-10.3) in Eastern Vale to 12.7% (95% CI 10.4-15.5) in Cardiff East. This difference was statistically significant.

Figure 27:





Aneurin Bevan University Health Board

The overall participation proportion was 94.0% across Aneurin Bevan University Health Board (ABUHB), similar to the 93.7% achieved last year. There were 137 (2.1%) children that opted out of the programme. The opt out proportion was also high last year at 127 (1.9%). These are large numbers of opt outs compared with every other LHB region and account for 66.2% of all opt outs across Wales. The participation proportion breakdown by LA regions were: Caerphilly 94.5%, Blaenau Gwent 94.9%; Torfaen 95.1%; Monmouthshire 93.8%; Newport 92.9%.

With underweight and healthy weight

The numbers of children categorised as experiencing underweight were small and represented 1.2% (95% CI 0.9-1.5) of the cohort. This proportion was similar to the 0.9% (95% CI 0.7-1.2) observed last year. The proportion of children categorised as having a healthy weight was 75.7% (95% CI 74.8-76.9). This was statistically significantly higher than the 73.2% (95% CI 72.1-74.3) observed last year.

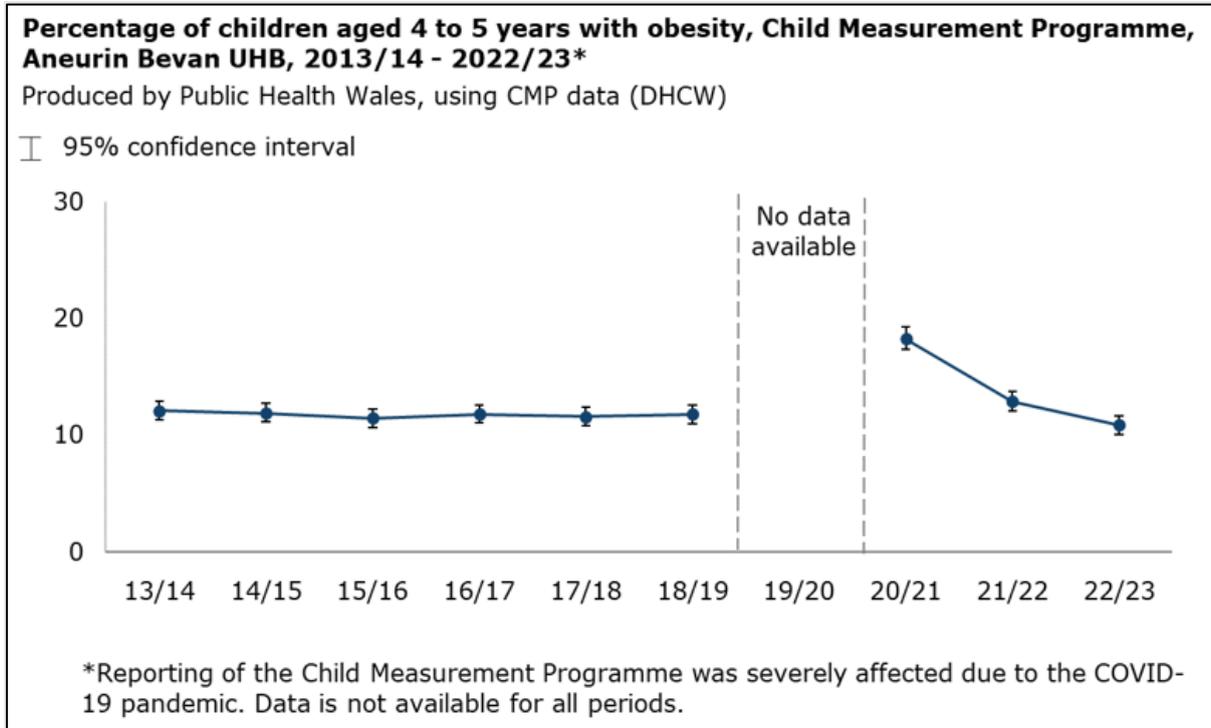
With overweight not obesity

The proportion of children categorised as experiencing 'overweight not obesity' was 12.1% (95% CI 11.3-12.9), slightly lower than last year at 12.9% (95% CI 12.1-13.8). The proportion of children with 'overweight not obesity' in Torfaen at 14.7% (95% CI 12.6-17) was statistically significantly higher than observed for Newport at 10.9% (95% CI 9.5-12.4).

With obesity

The proportion of children categorised as having obesity was 10.9% (95% CI 10.1-11.7) and was statistically significantly lower than the proportion of 12.9% (95% CI 12.1-13.8) observed last year. It is also lower than the pre-pandemic proportion of 11.8% (95% CI 11.0 to 12.6) reported in 2018/19. The time trend is shown in Figure 28. The trend from 2020/21 appears to be a stark reduction. However, the 2020/21 observations were during the pandemic where a raise in proportions of children with obesity was noted. This post-pandemic trend must be interpreted with caution until further data observations are added in future years.

Figure 28:



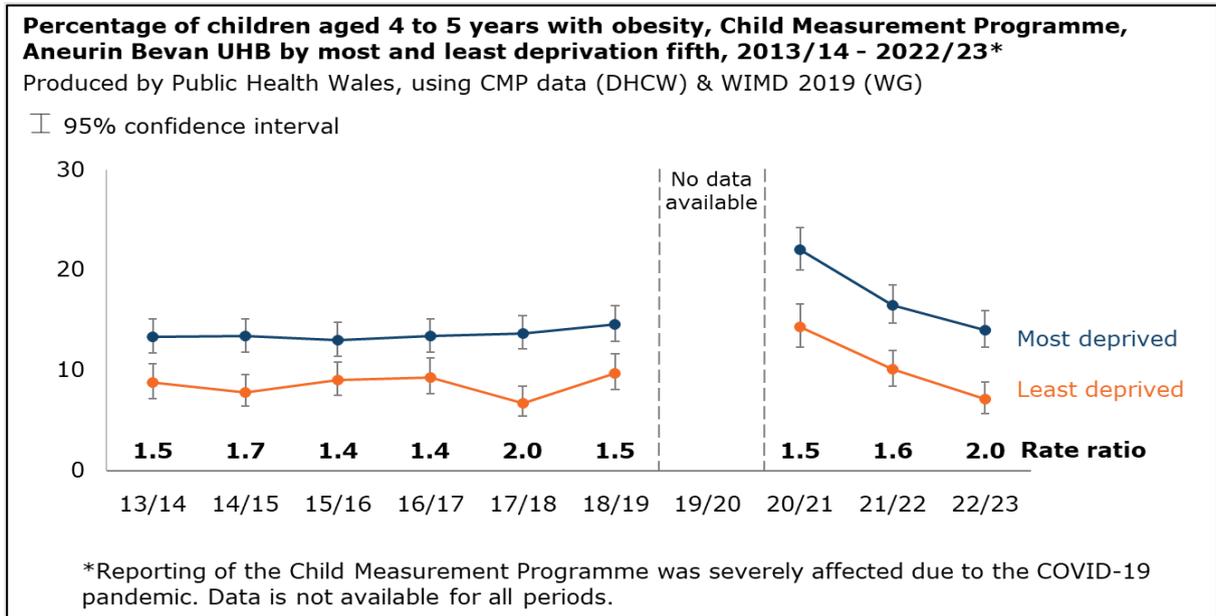
Sex

The proportions across all weight measurement categories were similar for boys and girls at LHB level. There were some small differences observed at LA level. These can be viewed in the data tables available on the CMP website.

Deprivation

At Health Board level the proportion of children with obesity in the least deprived quintile was statistically significantly lower at 7.1 % (95% CI 5.7-8.8) compared with the most deprived at 14% (95% CI 12.3-15.9). A similar pattern was noted for all LA regions with a statistically significant difference also observed for Caerphilly (6%, 95% CI 4-8.9 versus 13.3%, 95% CI 10.3-17) and Newport (6.3%, 95% CI 3.9-10.1 versus 14%, 95% CI 11-17.6) LAs. The proportions of children with obesity in the least deprived versus the most deprived quintiles over time are shown in Figure 29. The rate ratio provides a relative estimate for the gap between the least and most deprived quintiles. There was some variation in gap over time pre-pandemic. Initially post-pandemic it did not appear that this gap had widened. However, the 2022/23 observation has shown a wider gap. This finding must be interpreted with caution as there are not yet enough data points to confirm a trend.

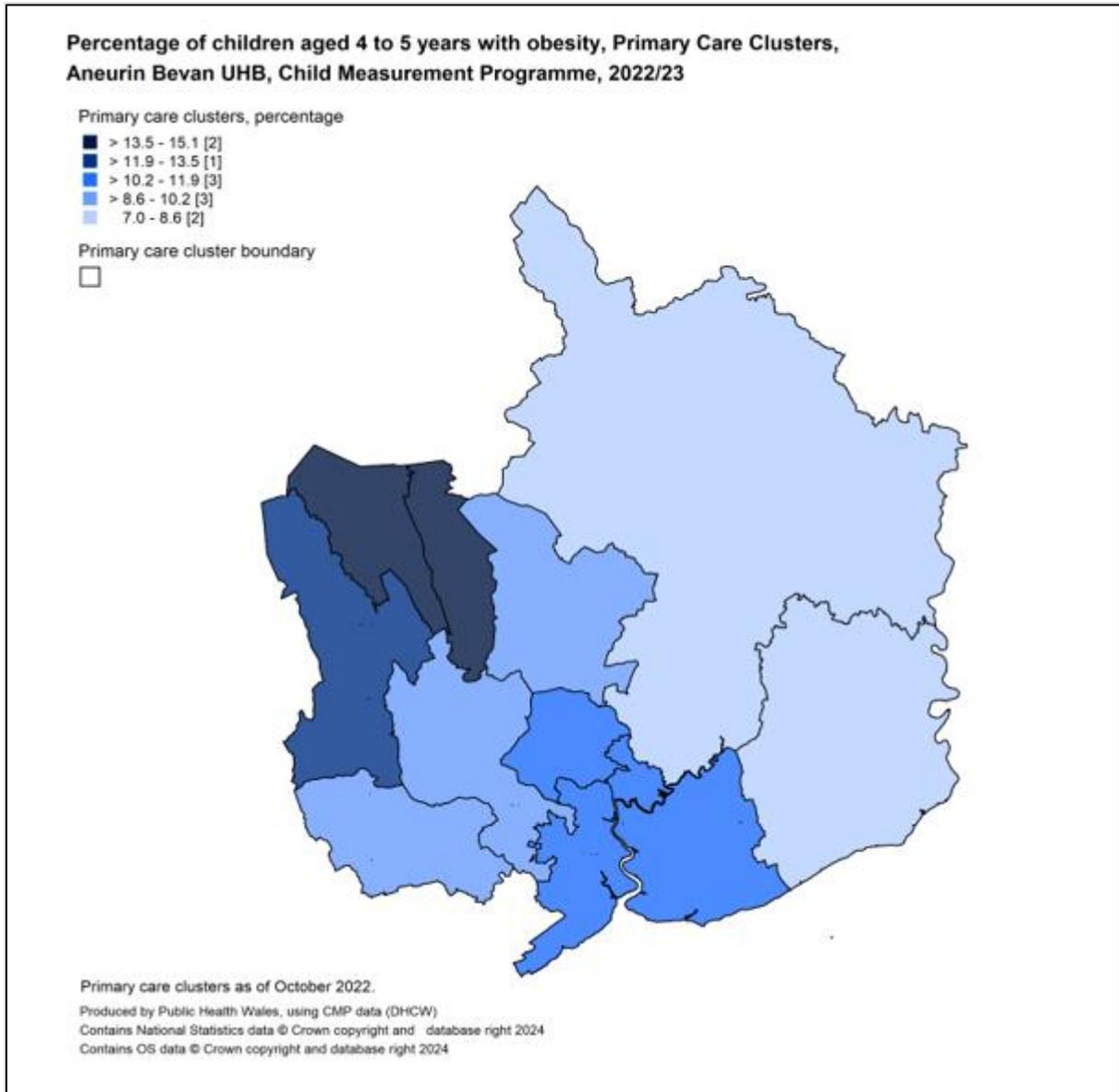
Figure 29:



Primary Care Clusters

The proportion of children with obesity varied across primary care clusters as shown in the thematic map (Figure 30), with a range from 7.0% (95% CI 4.9-10.0) in Monmouthshire South to 15.1% (95% CI 11.8-19.1) in Blaenau Gwent West. This was a statistically significant difference.

Figure 30:



More information

This report provides a summary of the analysis of the child measurements taken for the Child Measurement Programme in Wales. More comprehensive information displayed as tables can be found on our website at [Child Measurement Programme NHS Wales](#). For specific enquiries beyond the information available online, the team can be contacted via e-mail at publichealth.cmp@wales.nhs.uk. For more information about tackling childhood obesity please go to the Public Health Wales Health Improvement website at: <https://everychildwales.co.uk/> and follow the link to the “10 steps to a healthy weight” information.

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Wales

Gweithio gyda'n gilydd
i greu Cymru iachach

Working together
for a healthier Wales