Strategic Policy, Planning and Performance Report

Public Health Intelligence

Public Health Jersey

Subject:	Jersey Child Measurement Programme 2022/2023
Date of report:	05 October 2023

Introduction

Childhood obesity and excess weight are significant health issues for children and their families. They can result in serious implications for a child's physical and mental health, which can continue into adulthood[1]. The Jersey Child Measurement Programme (JCMP) data enables the government to monitor progress and plan services to tackle child obesity.

This report presents findings from the JCMP for the 2022/2023 academic year and compares them to historical trends and to England[2].

The height and weight of children in Reception (Year R: 4 to 5-year-olds) and Year 6 (10 to 11-year-olds) are measured annually through the Jersey Child Measurement Programme (JCMP). The total number of children measured in 2022/2023 was around 2,025 (95% of all eligible children). The proportion of children measured was similar to that measured in the 2021/2022 programme (96%). The report contains analyses of Body Mass Index (BMI) classification rates by age, sex as well as geographic analyses.

Body Mass Index (BMI) can be calculated for each pupil from their height and weight measurements. Individuals are categorised as either 'underweight', 'healthy weight', 'overweight', 'obese' or 'severely obese'. As BMI does not measure body fat directly, it cannot be used as a diagnostic tool. BMI can be used as a measure to track weight status in populations and as a screening tool to identify *potential* weight problems in individuals. The proportions of Jersey's population that are of healthy weight or exceeding healthy weight and therefore at increased risk of poor health is calculated – see Notes for further information.

In this report, the term 'prevalence of obesity' is used to describe the proportion of children classified as 'obese' or 'severely obese'.

[1] *Childhood obesity: applying All Our Health - GOV.UK (www.gov.uk)*

[2] *Data presented in this report for England 2021/2022 is taken from the NCMP report*

Summary

- in Reception, the prevalence of obesity was marginally lower in 2022/2023 (9%) compared to the previous year (12% in 2021/2022); in Year 6, obesity prevalence was statistically similar in 2022/2023 (18%) to the previous year (19% in 2021/2022)
- one in four children in Reception (24%) was overweight or obese, whilst around three in ten children in Year 6 (32%) was overweight or obese
- the proportion of Reception children classified as overweight or obese increased to 27% between 2017/2019 and 2021/2023, having remained at around 20% over the previous 20 years, based on the 3-year rolling average
- the prevalence of children classified as overweight or obese in Year 6 (around 33%) has remained statistically unchanged over the last 11 years, based on the 3-year rolling average
- the proportion of children categorised as overweight or obese in both Year R and Year 6 was similar for females and males
- children living in rural areas in Year 6 were less likely to be overweight or obese than those living in urban areas
- over a three-year-period, a higher proportion of children who attended non-fee-paying schools in Reception were overweight or obese (28% of children), than those who attended fee-paying schools (22%); similarly, a higher proportion of children who attended non-fee-paying schools in Year 6 were obese (38%) compared to those attending fee-paying schools (22%)
- the proportion of children in Reception categorised as overweight and obese was similar in Jersey (24%) as in England (22%); the proportion of children in Year 6 categorised as overweight and obese was lower in Jersey (32%) than that in England (38%)

1. By age and sex

In the 2022/2023 academic year:

- around three in four (76%) of Reception children had height and weight measurements that classified them as having a healthy weight, a marginally higher proportion than children in Year 6 where 68% were a healthy weight
- obesity prevalence in Reception (9%) was lower compared to that in Year 6 (18%), (see Table 1 and Figure 1)
- one in four Reception children (24%) were overweight or obese, compared to three in ten children in Year 6 (32%) (see Table 1 and Figure 2)

Table 1. BMI classifications, percentages, Jersey, 2022/2023

	Reception	**Year 6**
Underweight	<1	1
Healthy weight	76	68
Overweight	14	13
Obese	7	13
Severely Obese	2	5
Combined Obese & Overweight	*24*	*32*

Note: percentages rounded to the nearest integer

Figure 1. BMI categories by year group, Jersey, 2022/2023

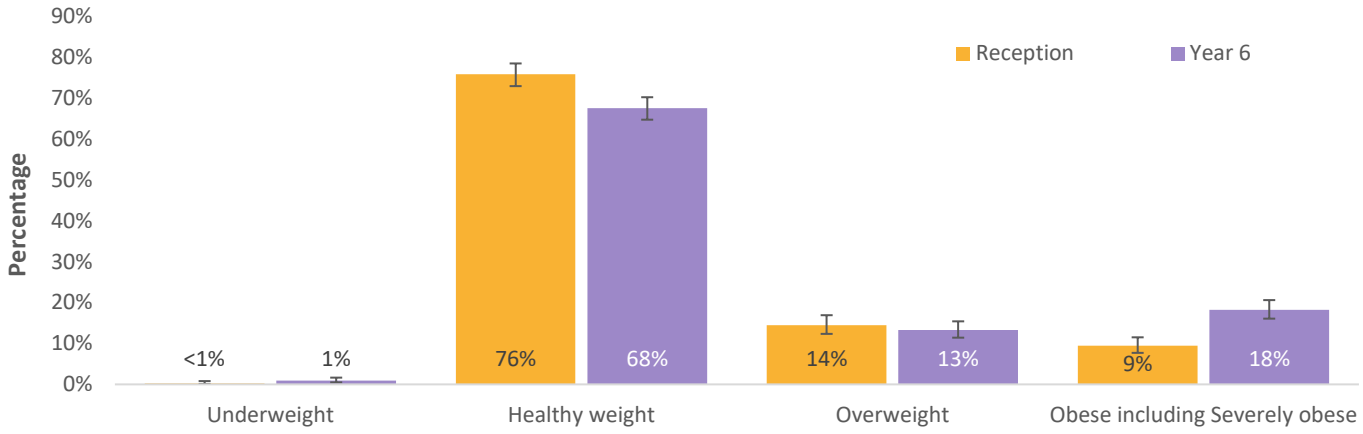
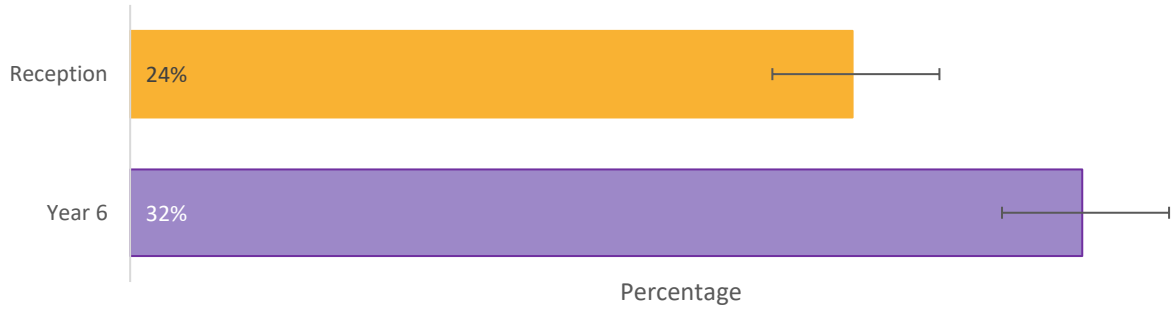


Figure 2. Prevalence of combined overweight and obesity by year group, Jersey, 2022/2023



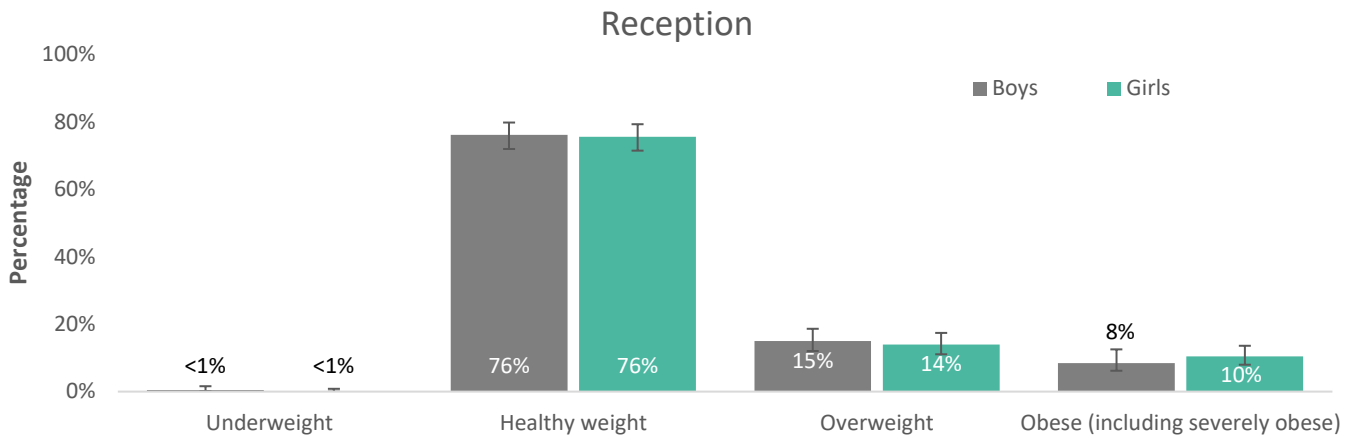
- in both Reception and Year 6, the proportions of females categorised as overweight or obese were similar to males (see Table 2)
- in Reception, 76% of boys and girls were healthy weight; in Year 6, a similar proportion of boys (66%) were healthy weight as girls (69%)
- in Reception, the proportion of females categorised as overweight or obese (24%) was similar to males (23%) (Table 2 and Figure 3)

Table 2. BMI classifications by sex, percentages, Jersey, 2022/2023

	Reception		***Year 6***	
	Boys	Girls	Boys	Girls
Underweight	<1	<1	1	<1
Healthy weight	76	76	66	69
Overweight	15	14	13	14
Obese	7	8	13	13
Severely Obese	2	2	7	3
Combined Obese & Overweight	*23*	*24*	*33*	*30*

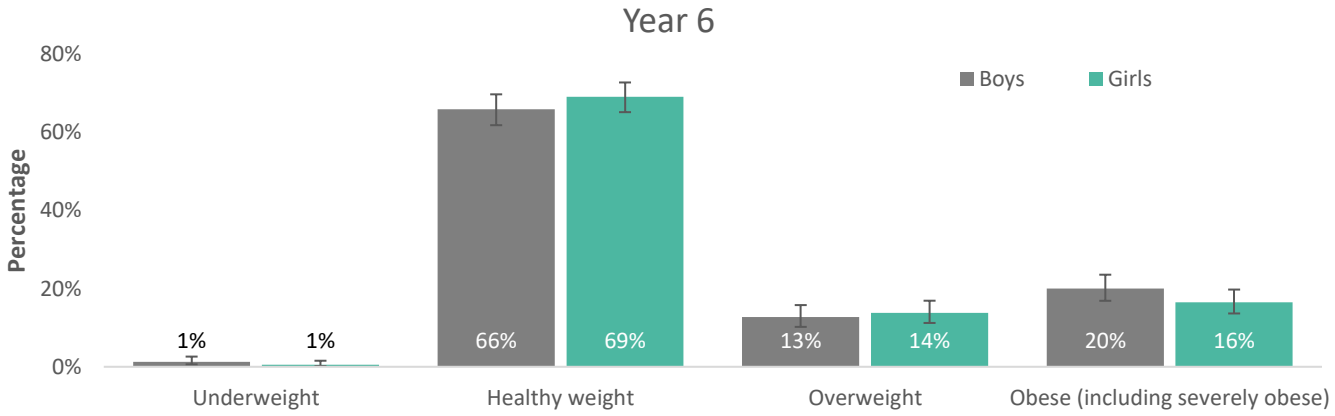
Note: percentages rounded to the nearest integer

Figure 3. Proportion of Reception children classified as underweight, healthy weight, overweight and obese by sex, Jersey, 2022/2023



- in Year 6, the proportion of females categorised as overweight or obese (30%) was similar to males (33%), (see Table 2 and Figure 4)

Figure 4. Proportion of Year 6 children classified as underweight, overweight, and obese by sex, Jersey, 2022/2023



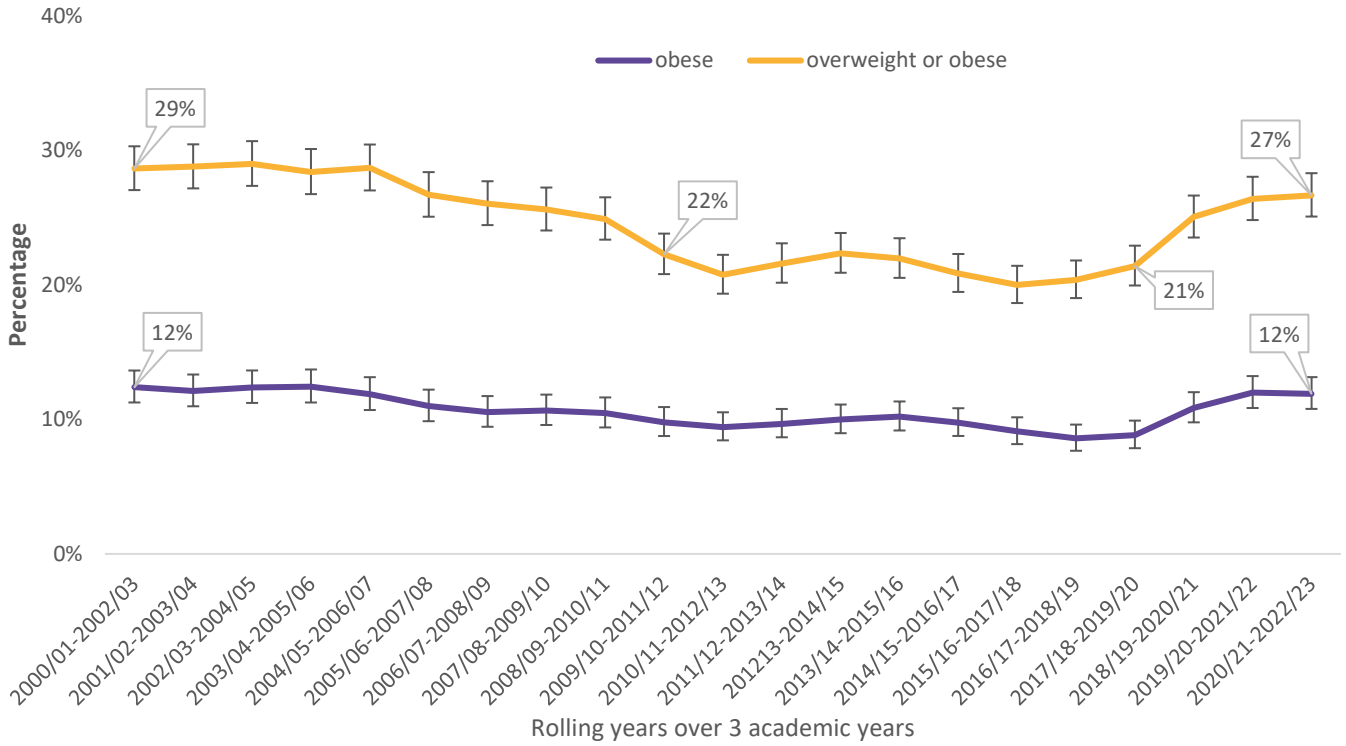
2. Trends over time

Note: In sections 2 to 4, data is considered as a rolling average over a period of three academic years, with the most recent three-year period shown being 2020/21-2022/23. The three-year combined data is more robust than a single year, and better for overall trend analysis.

Reception

- the proportion of Reception children classified as overweight or obese had been relatively stable since 2009/10-2011/12, before a rise of 6 percentage points between 2017/18-2019/20 and 2020/21-2022/23 (from 21% to 27%)
- the proportion of children classified as obese in 2020/21-2022/23 (12%) is similar to that in 2000/01-2002/03 (12%)

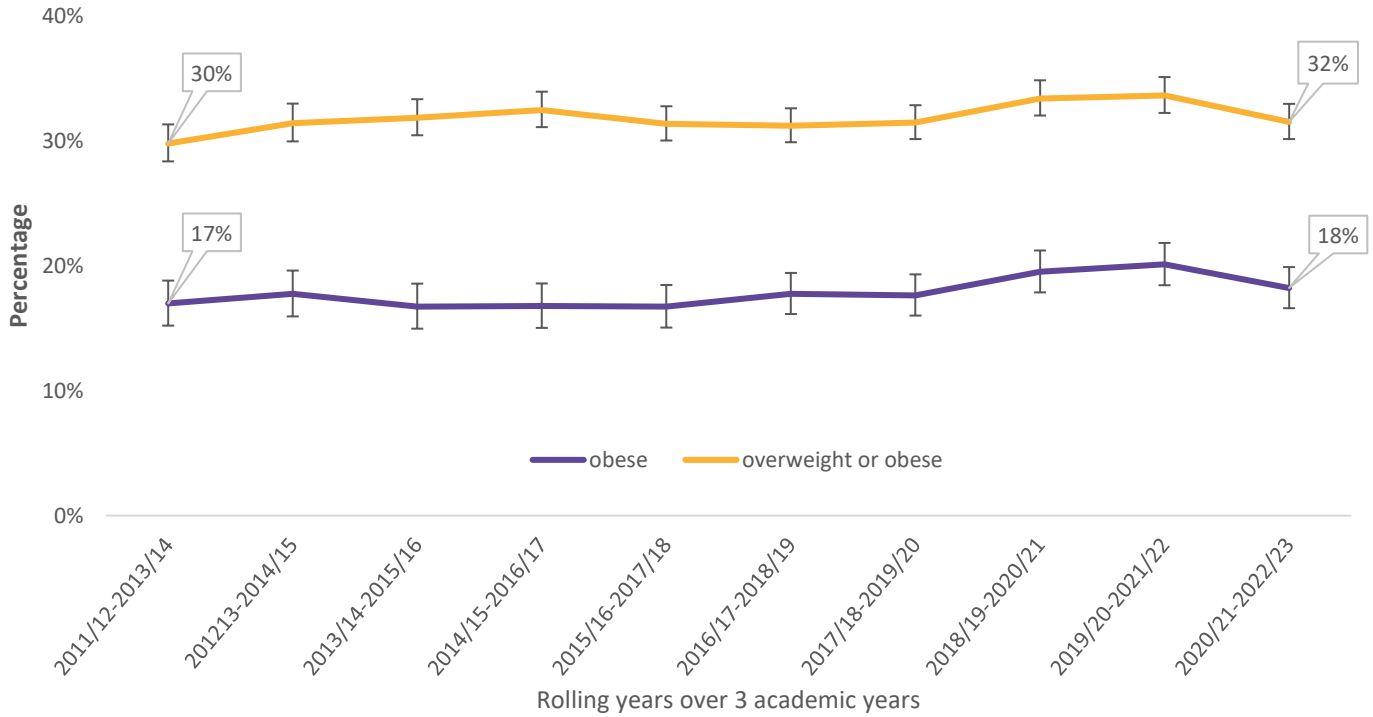
Figure 5. BMI classifications for Reception, rolling three-year averages, Jersey, academic year 2000/01-2022/23



Year 6

- the proportion of overweight or obese children in Year 6 has remained stable over the past 10 years 2011/12-2013/14 (30%), 2020/21-2022/23 (32%)
- a similar proportion of children are obese in 2020/21-2022/23 (18%) as in 2011/12-2013/14 (17%), with no statistical change over the past 10 years

Figure 6. BMI classifications for Year 6, three-year averages, Jersey, academic year 2011/12-2022/23

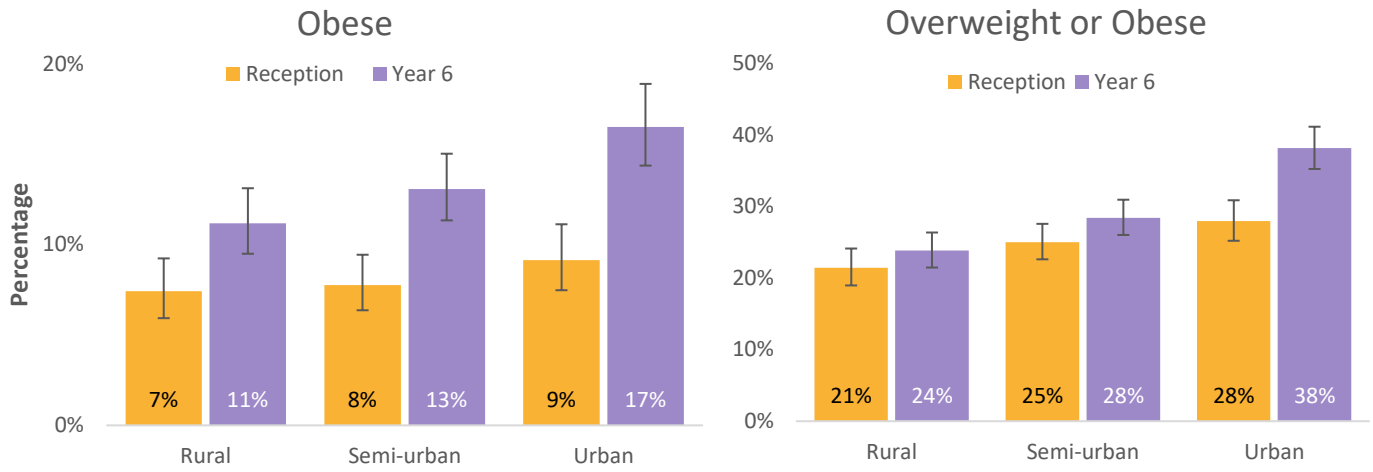


3. By parish of residence

The parish of residence of each child was categorised as 'urban', 'semi-urban' or 'rural'[3]

- the proportion of children classified as overweight or obese in 'urban' parishes in Year R (28%) was higher than the proportion in 'rural' areas (21%) as seen in previous years
- in 'urban' parishes in Year 6 the prevalence of children classified as overweight or obese was higher (38%) than the proportion in 'rural' (24%) and 'semi-urban' (28%) areas
- a similar proportion of children living in 'urban' parishes in Year R were obese (9%) compared to those living in 'rural' and 'semi-urban' areas (7% and 8% respectively)
- for year 6 children living in 'urban' parishes a higher proportion were obese (17%) compared to those living in 'rural' and 'semi-urban' areas (11% and 13% respectively)

Figure 7. BMI classifications by parish type, Jersey, 2020-2022 (three-year average), based on parish of child



4. By type of school attended

The school type of each child was categorised as 'fee-paying' or 'non-fee-paying'[4]

- in both Year R and Year 6, a higher proportion of children who attended non-fee-paying schools were overweight or obese (28% in Year R and 38% in Year 6), compared to children who attended fee-paying schools (22% and 22%, respectively) (Figure 8)
- the gap between obesity prevalence of children in Year 6 in fee-paying and non-fee-paying schools has been widening over the last nine years

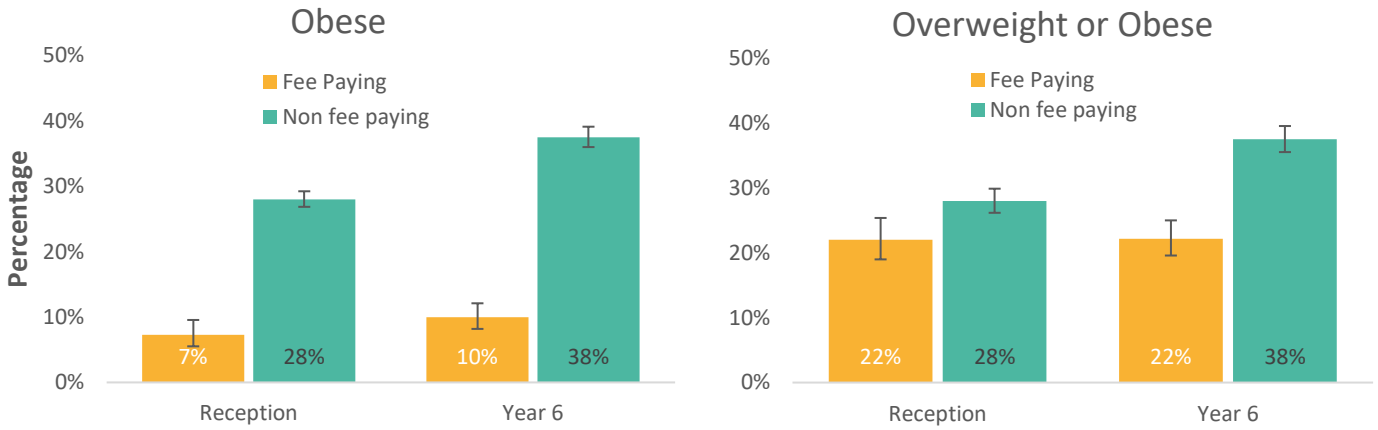
[3] The parish of residence of each child was classified into:

- *Urban* – St Helier
- *Semi-urban* – St Brelade, St Clement, St Saviour
- *Rural* – Grouville, St John, St Lawrence, St Martin, St Mary, St Ouen, St Peter, Trinity

[4] School attended by each child were classified into: *Fee-paying* – Beaulieu, De La Salle, FCJ, Helvetia House, JCG Preparatory, St. George's, St. Michael's, Victoria College Preparatory

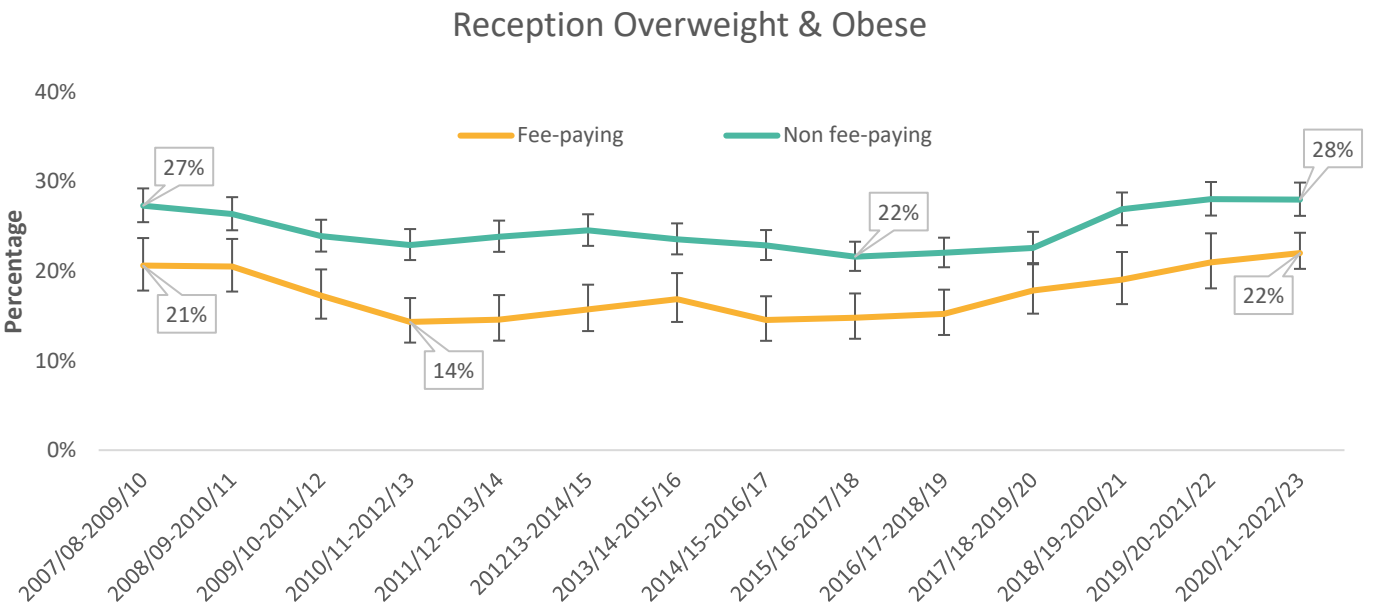
Non-fee-paying – Bel Royal, D'Auvergne, First Tower, Grands Vaux, Grouville, Janvrin, La Moye, Les Landes, Mont Nicolle, Plat Douet, Rouge Bouillon, Samares, Springfield, St. Clement, St. John, St. Lawrence, St. Luke, St. Martin, St. Mary, St. Peter, St. Saviour, Trinity

Figure 8. BMI classifications by school type, percentage, Jersey, 2020-2022 (three-year average)



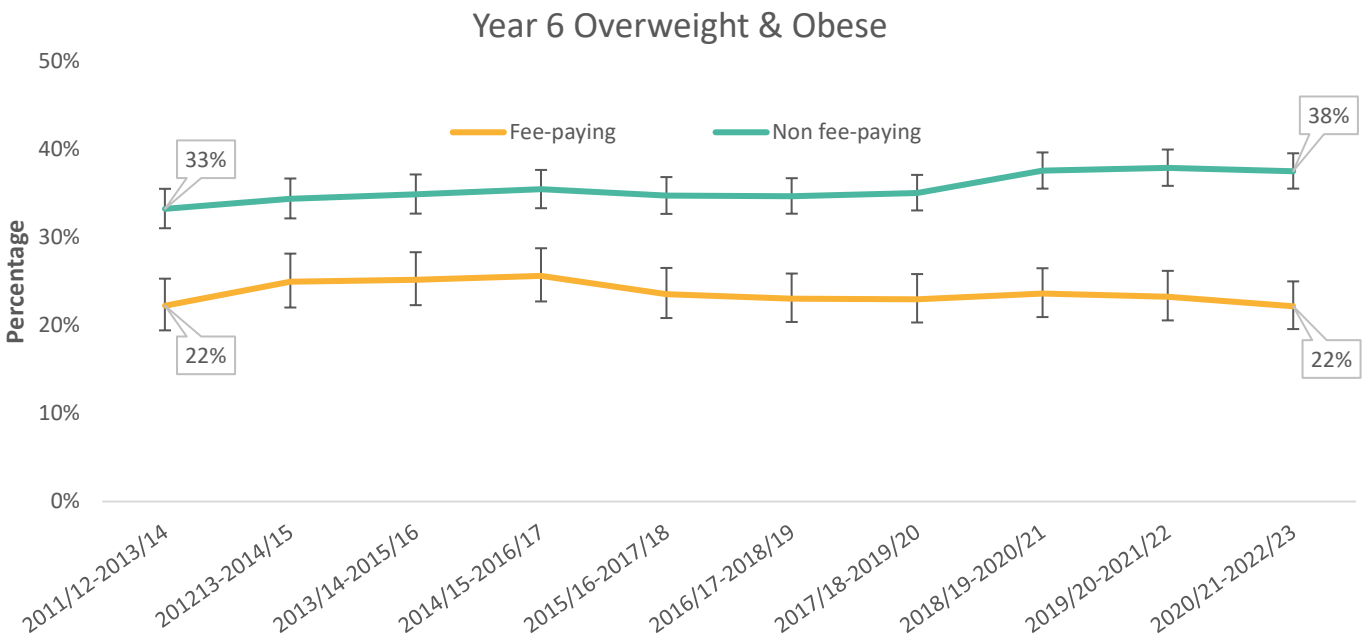
- in Year R the prevalence of overweight or obese children in non-fee-paying schools fell from 27% in 2007/08-2009/10 to 22% in 2016/17-2018/19; there was then a 6 percentage points increase in the prevalence of overweight or obese children between 2016/17-2018/19 and 2020/21-2022/23 to 28%
- over the period 2007/08-2019/20, the prevalence of children in Year R classified as overweight or obese and attending fee-paying schools fell from 21% in 2007/08-2009/10 to 14% in 2010/11-2012/13; the prevalence gradually increased to 22% in 2020/21-2022/23.

Figure 9a. Proportion of children in Reception who were overweight or obese, by school type, Jersey, academic year 2007/08-2022/23 (three-year averages)



- in Year 6 there has been a small but statistically significant rise in the prevalence of children classified as overweight or obese in non-fee-paying schools between 2011/12-2013/14 (33%) to 2020/21-2022/23 (38%)
- the prevalence of children in Year 6 who are overweight or obese and attend fee-paying schools in Year 6 has not changed significantly between 2011/12-2013/14 and 2020/21-2022/23

Figure 9b. Proportion of children in Year 6 who were overweight or obese, by school type, Jersey, academic year 2007/08-2022/23 (three-year averages)



5. Group changes

Children in Year 6 in the academic year 2022/2023 were previously in Year R in 2016/2017. Table 3 compares the BMI classifications for those children measured in Year R in 2016/2017 in Jersey, with those measured in Year 6 in 2022/2023 in Jersey. Due to inward and outward migration between the two time points, not all of the same children in Year 6 will be included in the Year R data, and vice versa.

- a lower proportion of the group (20%) were overweight and obese when in Year R in 2016/2017 compared to the group when in Year 6 in 2022/2023 (32%)
- the prevalence of obesity (including severely obese) was lower in the Year R group in 2016/2017 (8%) compared to the Year 6 group in 2022/2023 (18%)

Table 3. BMI classifications, percentages, Jersey

	2016/2017 Year R	***2022/2023 Year 6***
Underweight	*1*	*1*
Healthy weight	*80*	*68*
Overweight	*11*	*13*
Obese	*6*	*13*
Severely Obese	*2*	*5*
Combined Overweight & Obese	*20*	*32*

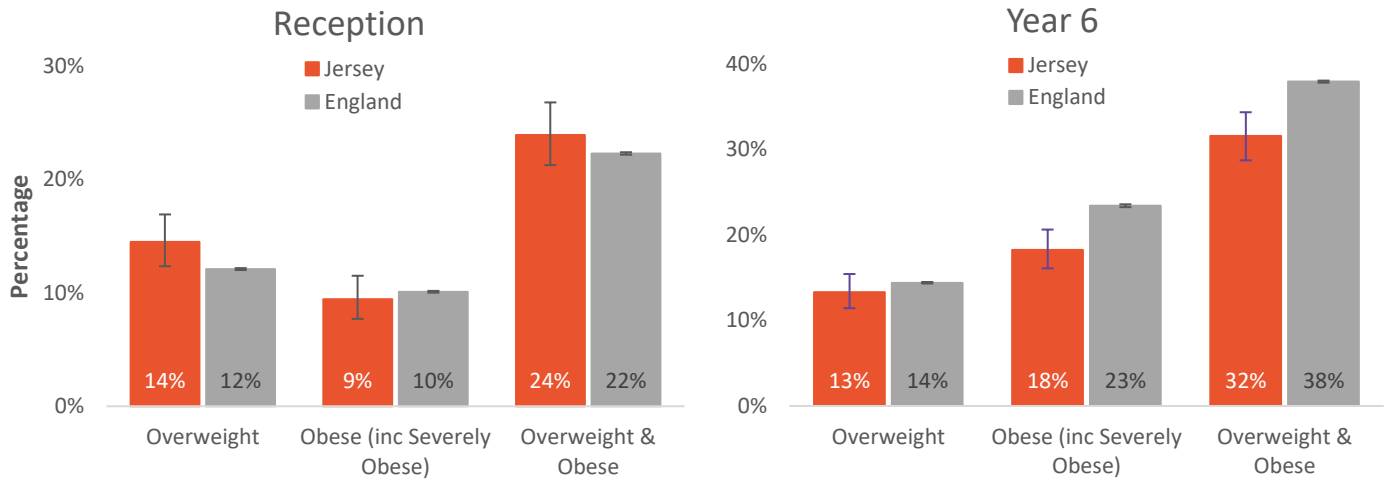
Note: percentages rounded to the nearest integer

6. Comparison to England

The National Child Measurement Programme (NCMP) in England also measures the height and weight of children in Reception class (aged 4 to 5) and Year 6 (aged 10 to 11), to assess overweight and obesity levels in children within primary schools[5], the 2022-23 English data is not yet published, comparisons are made to the 2021-22 data (the latest available).

- in Reception the proportion of overweight and obese children was similar in Jersey (24%) compared with England (22%), (see Figure 10)
- in Year 6 the proportion of overweight and obese children was lower in Jersey (32%) compared with England (38%), (Figure 10)

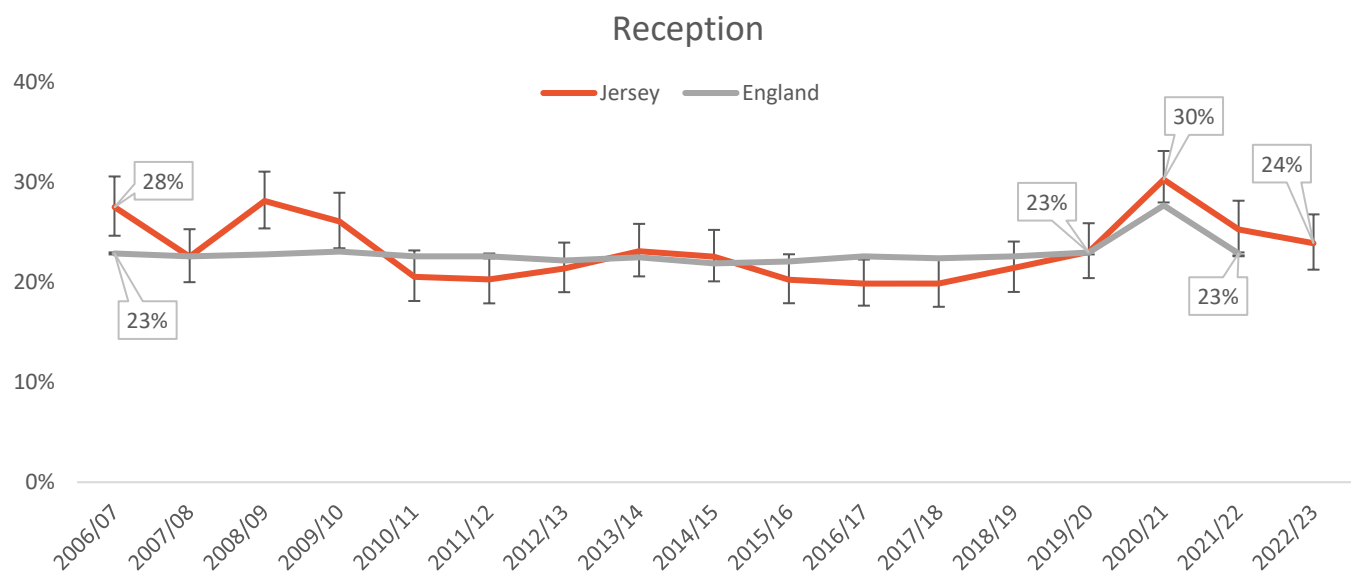
Figure 10. Prevalence of overweight and obesity, comparison Jersey 2022/2023 to England 2021/2022



- the prevalence of overweight and obesity in Jersey for Year R children had been relatively stable since 2010/2011; there was a 7 percentage point increase from 23% in 2019/2020 to 30% in 2020/2021, the data shows this has decreased in 2022/2023, and returned to 24%
- England followed a very similar trend during the period 2019/2020 to 2021-2022 (Figure 11)

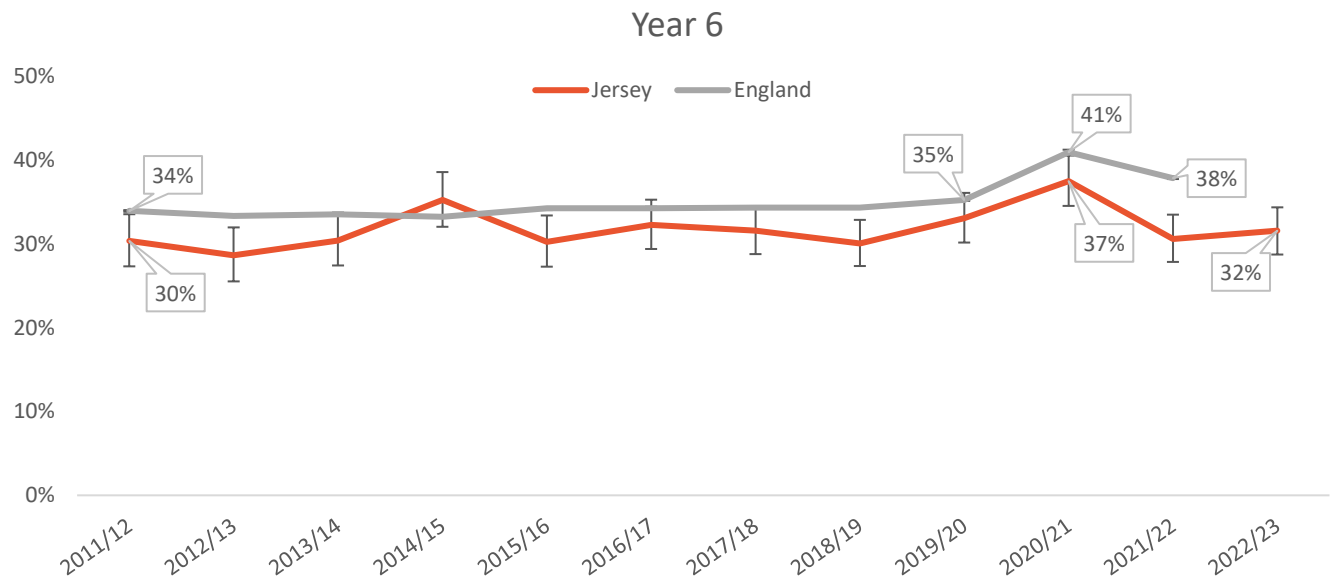
[5] *National Child Measurement Programme - NHS Digital*

Figure 11. Prevalence of overweight and obesity, Year R comparison Jersey (2006-2023) to England (2006-2022)



- for Year 6 in England, the prevalence of obesity increased slowly from 2010/2011 to 2019/2020 and then increased by 6 percentage points in 2020/2021; data shows this has decreased in 2021/22 to 38%
- for Year 6 in Jersey, the prevalence of obesity also remained relatively similar from 2011/2012; the prevalence of obesity reached 37% in 2020/2021, and decreased in 2021/2022 to 32%
- Jersey has been lower or similar than England for the prevalence of children who were overweight or obese in Year 6 (Figure 12)

Figure 12. Prevalence of overweight and obesity, Year 6 comparison Jersey (2011-2023) to England (2011-2022)



- findings from the 2021/2022 NCMP data for England show decreases in the proportions of children who are overweight and obese compared to 2020/2021; decreases in the proportion of overweight and obese children are seen in both Year R and Year 6

Notes

The Jersey Child Measurement Programme began in 1995, measuring the heights and weights of children attending Jersey schools in Year R. It was extended in the 2011/2012 academic year to include measuring the heights and weights of Year 6 children. Children who attend independent and special schools are excluded. The children are measured by the FNHC School Nursing during the school year with the programme running between September and August each year to coincide with the academic year offering support if needed. This evidence based programme focuses on prevention and early help, the School Nursing team is focused on reducing inequalities in health and promoting inclusion.

BMI categories

The height and weight measurements of children are used to calculate their Body Mass Index (BMI)

$$\text{BMI} = \frac{\text{weight (kg)}}{\text{height (m)} \times \text{height (m)}}$$

The BMI is then converted into a centile, which can be used to classify each child into **underweight, healthy weight, overweight, obese, or severely obese**.

This calculation uses age and sex as well as height and weight to take into account different growth patterns in boys and girls at different ages. A child's BMI centile is a measure of how far a child's BMI is above or below the average BMI value for their age and sex in a reference population. The JCMP uses the British 1990 growth reference (UK90) to define the BMI classifications. This approach is recommended by The National Institute for Health and Care Excellence (NICE).

The **epidemiological** definition is used for the majority of this report for summaries of whole cohort and population groups.

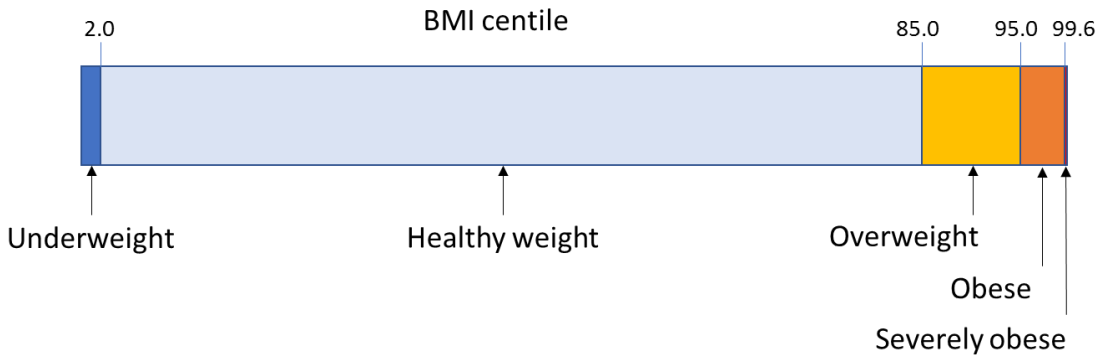
The **epidemiological** classification system uses the British 1990 growth reference (UK90)[6] to determine weight status according to a child's age and sex and is used for this report for summaries of whole cohort and population groups.

The **epidemiological** definition is as follows:

- BMI centile <=2: Underweight
- BMI centile >2 and <85: Healthy weight
- BMI centile >=85 and <95: Overweight
- BMI centile >=95: Obese
- BMI centile >=99.6 Severely obese. Note: "Severely obese" is a subset of "Obese". Children with a BMI centile of between 95 and 100 are classified as "Obese" and those with a BMI centile of between 99.6 and 100 are classified as "Severely obese"

[6] *'Growth monitoring with the British 1990 growth reference'. Cole Arch Dis Child.1997; 76: 47-49 as used by ONS in the National Child Measurement Programme.*

Figure 13: Centile boundaries for each weight category – epidemiological



Participation

Participation in the JCMP is not compulsory and each year a small number of parents choose for their children not to take part.

Potential bias due to non-participation was investigated for the English National Child Measurement Programme by NHS Digital, who found that obesity prevalence was underestimated by around 1 percentage point. This bias was found to decrease as the participation rate increased[7]. Any potential effect from non-response bias in the JCMP is anticipated to be of a similar magnitude given the high participation rates observed.

Confidence intervals, significance, and disclosure control

Confidence intervals are quoted in the publication and included in the tables to indicate this variation.

Comparisons between groups and over time have been statistically tested to determine whether differences are likely to be genuine (i.e., statistically significant) or the result of random natural variation. Only statistically significant differences have been described with terms such as “higher”, “lower”, “increase” or “decrease”. When a comparison does not show a statistically significant difference, this will be described using terms such as “similar to” or “the same as".

In the statistical publication text and excel tables, percentages are rounded. Differences are calculated from the rounded figures in the Excel tables and then shown in the text.

Ethnicity

Ethnicity is not used as a variable of analysis in this report, as the ethnicity data held is not currently of suitable quality. The lack of standardized, self-identified race and ethnicity is a critical limitation of the available data.

[7] *For a participation rate of 80 per cent in 2006/2007, it was estimated that the obesity prevalence was underestimated by 1.3 percentage points (pp); and for a participation rate of 88 per cent in 2007/2008, the underestimate of obesity prevalence reduced to 0.8 pp*

Data Validation

The accuracy and reliability of the dataset underpinning the analyses in the report is ensured by a validation procedure.

Submitted records are 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., children's height and weight measured at different times) are rejected.
- Unexpected data items (e.g., "extreme" heights) generate warning flags that require FNHC confirmation.
- measurements should not be rounded to the nearest whole or half kilogram or whole or half a centimetre; the proportion of records where the recorded height is exactly a centimetre or half a centimetre should not exceed 20%

Contact details - Please forward any comments or feedback to the Public Health Intelligence Team: healthintelligence@gov.je