

Childhood Obesity in Birmingham

longitudinal study using NCMP data

Widening health inequalities through primary school years

26,728

child measurements from Reception and Year 6 2006-2015

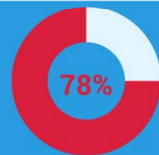
Linear relationship between Reception BMI and Year 6 BMI



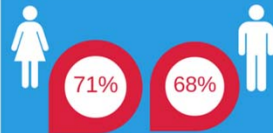
BMI and obesity prevalence similar in Reception



Greater increases by Year 6 for most deprived, boys & BME children

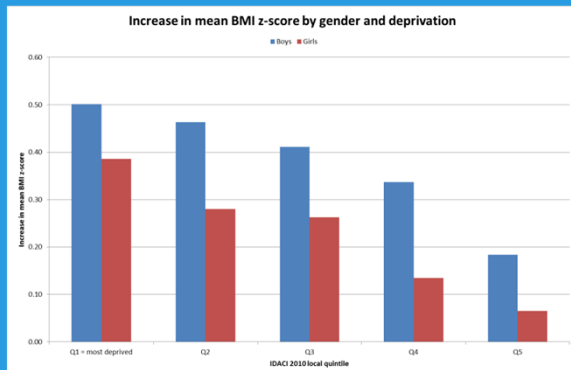


children obese in Reception remain obese in Year 6



remain a healthy weight during primary school

Gap widens between most deprived and most affluent through primary years



Background

- Childhood obesity more than doubles between the start and end of primary school (ages 4-11).
- National Child Measurement Programme (NCMP) measuring primary school children in Birmingham each year since 2006/07.
- Individual children tracked through primary school to understand changes in obesity levels during this period.

Aims

Examination of BMI and weight status during primary school:

- Describing changes in BMI z-score and weight status between Reception and Year 6.
- Describing differences by gender, ethnicity and deprivation.
- Testing for a linear relationship between Reception year and Year 6 BMI z-scores.
- Investigation of whether there is a school effect on obesity during primary school.

Methodology

- Longitudinal study using NCMP data 2006-2015.
- Analysis by gender, ethnicity and deprivation on BMI z-scores and changes in weight status.
- Mixed effect multi-linear modelling of BMI z-scores.
- Multi-level linear and logistic regression of school characteristics on obesity prevalence adjusting for individual ethnicity and deprivation.

Results

- BMI z-scores almost treble and obesity prevalence more than doubles during primary school.
- 55% of the children obese in Year 6 had been overweight or obese at school entry.
- Only 1 in 10 of those initially obese moved to a healthy weight status.
- Markedly higher increases in BMI for boys, those living in deprived areas and minority ethnic children.
- Strong linear relationship (69%) of BMI z-score at Reception to that at Year 6.
- Greater obesity prevalence in schools with high proportion of disadvantaged pupils after adjusting for individual deprivation, gender and ethnicity.

Conclusions

- Health inequalities widen through primary years.
- Greatest increases in most deprived areas.
- Poorer health outcomes for certain ethnicities and boys.
- Need for targeted interventions early in primary school years.

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