# THE IMPACT OF DEMOGRAPHIC FACTORS IN REDUCING BMI IN CHILDREN PARTICIPATING IN A WEIGHT MANAGEMENT INTERVENTION IN THE UK

BACKGROUND

Childhood obesity is a major health challenge in the UK* and rates continue to rise. Many local authorities have initiatives to support children who are identified as being overweight along with their families. However, weight management interventions typically have poor retention rates. An understanding of the factors that affect retention and BMI decrease will enable more effective targeting of resources.

METHOD
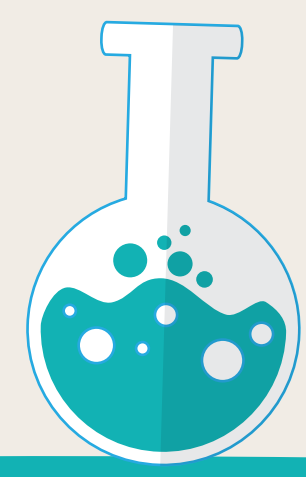
Demographic and anthropometric data on patients who completed the BeeZee Families programme between 2010-2019 (n=871, mean age: 10.1) were analysed. Data had been collected when families completed the programme and has been analysed retrospectively.

Possible associations between change in BMI and the sociodemographic factors below were investigated using univariate statistical tests. Analyses were conducted using SPSS Version 25.

CHANGE IN BMI

- GENDER
- AGE
- MARITAL STATUS
- DISABILITY STATUS
- COMPLETION STATUS
- QUINTILE OF DEPRAVATION
- WAIST CIRCUMFERENCE

AIM

This study aimed to explore the demographic factors which affect the successes of families on the BeeZee Families programmes.

CONCLUSION

The results indicate that we need to investigate the potential reasons for the difference in BMI reduction between males and females, and the attrition rate in children with a higher BMI.

However, those from more deprived areas and different ethnicities showed no statistical significance in BMI reduction. Interestingly, the results indicate that BeeZee Bodies can achieve comparable programme completion and BMI change in families from the most deprived communities to the most affluent, as well as demonstrating no significant differences between ethnicities. These are markers of supporting the wider public health aim of reducing inequalities in some of the most significant predictors of childhood obesity.
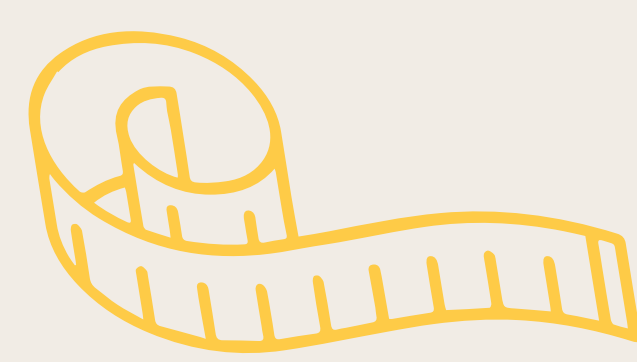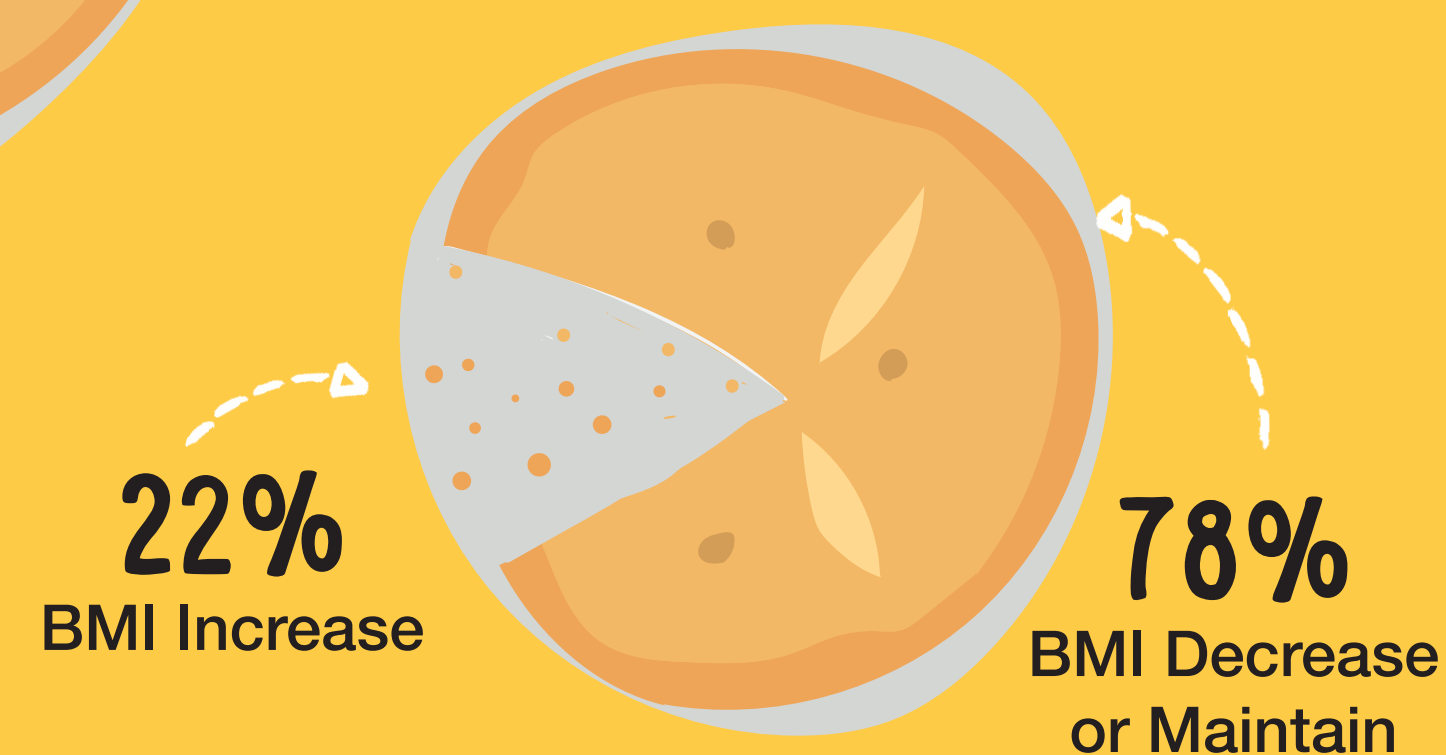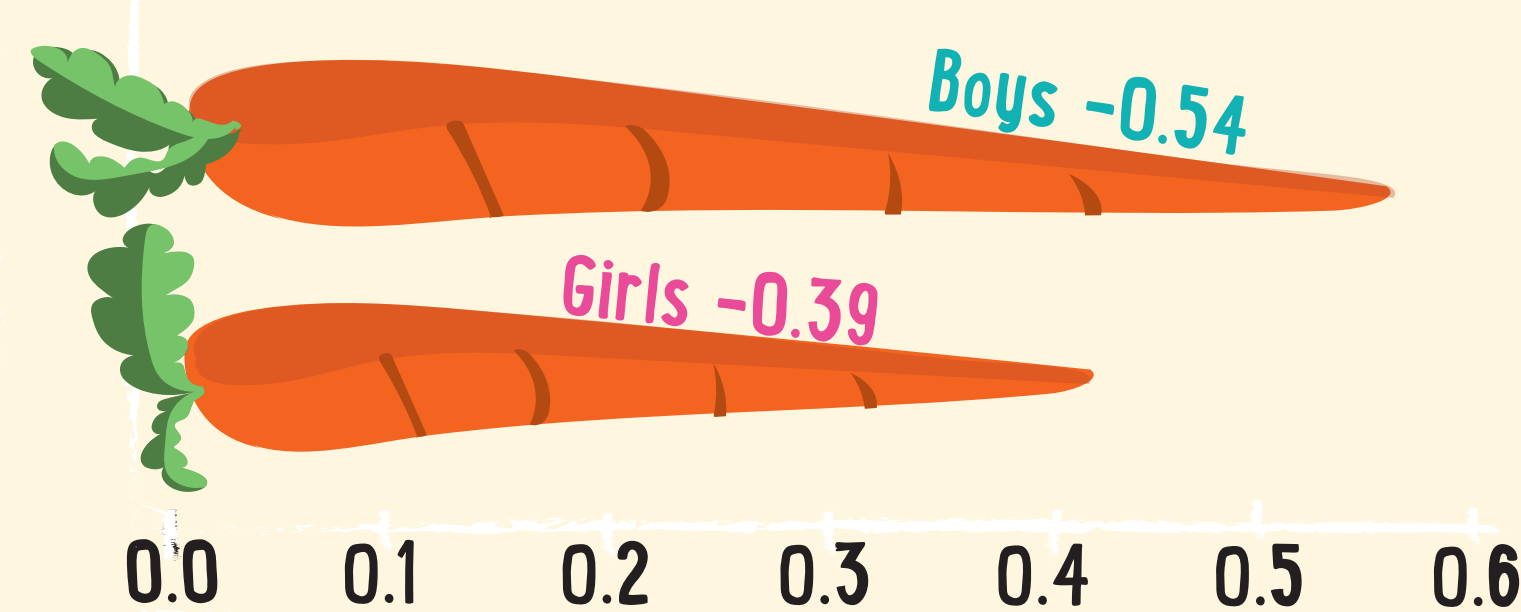
RESULTS

COMPLETION RATES

21% Left Early
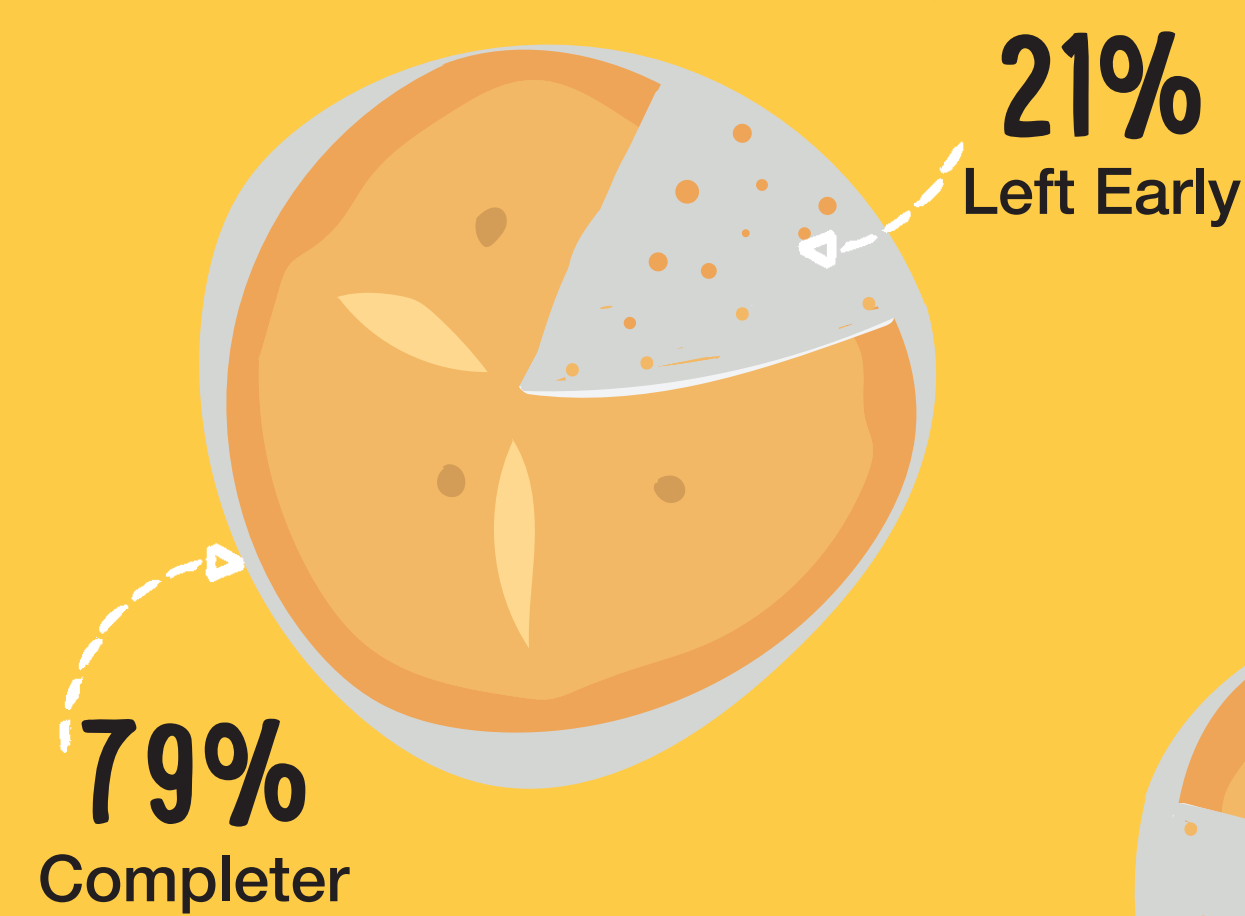
79% Completer

BMI CHANGE IN COMPLETERS

22% BMI Increase

78% BMI Decrease or Maintain

TOTAL NUMBER OF FAMILIES	871
NUMBER OF FAMILIES COMPLETING	692
NUMBER OF FAMILIES DECREASING /MAINTAINING BMI	511

BMI CHANGE BASED ON GENDER

Boys -0.54

Girls -0.39

0.0 0.1 0.2 0.3 0.4 0.5 0.6

There was **no significant difference** between families from different quintiles of deprivation (QOD) (p=0.608) regarding BMI change.

There was **no significant difference** between different ethnicities (p=0.678) regarding BMI change.

Children with an initial higher BMI are statistically more likely to drop off the programme (p=0.007)

On average, decrease in BMI was greater for boys than for girls (p=0.019)

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beezee bodies

BeeZee Bodies is a tier 2 service specialising in adult and child weight management primarily focusing on behaviour change. The BeeZee Families programme designed for children and families incorporates behavioural economics, sociological factors and implementing our 'Habit before the habit' methodology to elicit real-life change, beyond the factors stated in the 'Whole Systems Approach to Obesity'*.

* PHE (2019)