



### Type 2 Diabetes & Childhood Obesity

#### What we know

In healthy people, the pancreas produces a hormone called insulin which breaks down sugar and turns it into energy. However, some people either do not produce enough insulin, or are incapable of using the insulin that is produced. This is known as type 2 diabetes.

It is estimated that up to 3.5 million people in the UK live with type 2 diabetes. We know that there is a link between obesity and type 2 diabetes in adults. Given the rise in obesity in children, we wanted to know if childhood obesity is also linked with the onset of this disease.



9 out of 10

adults with diabetes have the type 2 form



£25,000

is spent every minute by the NHS on diabetes treatment



3 in 5

cases of type 2 diabetes can be prevented by weight loss and improved diet

#### Type 1 diabetes

Type 1 diabetes happens when the body's own defence system attacks and destroys the insulin-producing cells in the pancreas. We do not yet fully understand why this happens.

#### Type 2 diabetes

Type 2 diabetes is far more common and can usually be managed through diet, exercise, and self-monitoring blood sugar, at least in the first few years after diagnosis.

## What we did

We looked at electronic health records from the UK Clinical Research Datalink, one of the largest healthcare databases in the world. We examined body mass index (BMI) measurements, diabetes diagnosis records and other data for 369,362 children between the ages of 2 and 15.

## What we found:

- Children with obesity are four times more likely to be diagnosed with type 2 diabetes by the age of 25 than children with a healthy BMI;
- There were an average of 33 new diagnoses of type 2 diabetes per 100,000 children between 2009 and 2013, compared to just 6 per 100,000 between 1994 and 1998;
- A total of 654 children and teenagers were diagnosed with the condition between 1994 and 2013.



“Given that diabetes and obesity are preventable from early life, our findings and other research will hopefully motivate the public and policymakers to invest and engage in diabetes prevention efforts.”

Dr Ali Abbasi, lead author from the Division of Health and Social Care Research at King's College London.

## About the Study

The study was supported by the NIHR Biomedical Research Centre at Guy's and St Thomas' and King's College London



This research snapshot has been put together in collaboration with our Public and Patient Involvement (PPI) Advisory Group.

## Further Information

This research was carried out by Ali Abbasi, Dorota Juszczuk, Martin Christopher Gulliford and Cornelia H. M. van Jaarsveld

Journal article: [bit.ly/ChildhoodObesityBRC](http://bit.ly/ChildhoodObesityBRC)

[www.nhs.uk/Conditions/Diabetes-type2/pages/introduction.aspx](http://www.nhs.uk/Conditions/Diabetes-type2/pages/introduction.aspx)

To find out more about how you can work with us to improve healthcare through research contact [brcppi@gstt.nhs.uk](mailto:brcppi@gstt.nhs.uk)

## About Us

Our NIHR Biomedical Research Centre is a partnership between Guy's and St Thomas' NHS Foundation Trust and King's College London.

We develop and deliver new medicines and diagnostics to patients, drive research and innovation into the NHS, and provide national systems leadership for maximum impact to our patients.

[www.guysandstthomasbrc.nihr.ac.uk](http://www.guysandstthomasbrc.nihr.ac.uk)