

Dr Foster's case notes

Obesity and type 2 diabetes in children, 1996-7 to 2003-4

Rising levels of obesity and type 2 diabetes mellitus in children and adolescents are an increasing cause for concern in the UK and worldwide.²¹⁻²³

We used hospital episode statistics to investigate the rates of admission of children aged 0-18 years to English hospitals for obesity and type 2 diabetes.

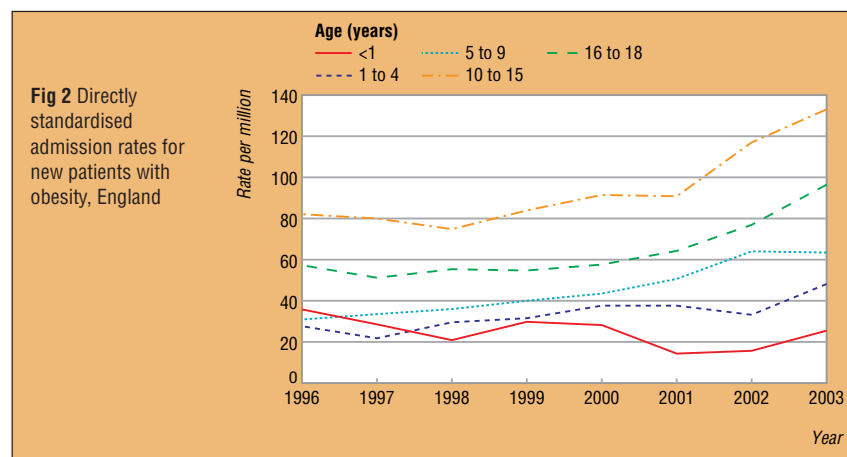
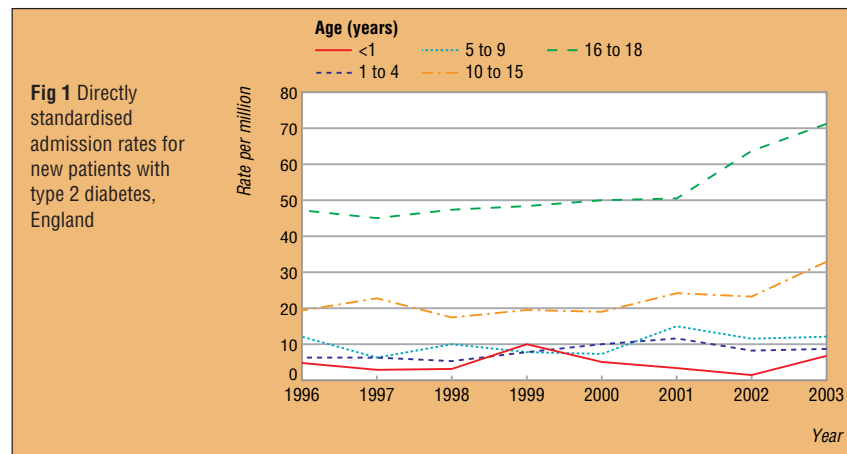
The bottom line

- Numbers of new patients aged 0 to 18 years admitted to hospital with obesity and type 2 diabetes mellitus have risen significantly, especially since 2001

We looked at first admissions in patients aged 18 years and under who were admitted to hospital with a primary or secondary diagnosis of obesity or type 2 diabetes. The numbers for just the primary diagnosis are lower than if both primary and secondary diagnoses are used, but the patterns are similar (see tables 3 and 4 on bmj.com). If patients were admitted several times between 1996-7 and 2003-4 then only their first admission was used for analysis. Admission rates were directly standardised by age and sex against national mid-year population estimates.^{w4}

The admission rate for first admissions for obesity increased 63.5% from 52 per million to 85 per million ($P < 0.001$) from 1996-7 to 2003-4, and the admission rate for new diabetes cases rose 44.4% from 18 per million to 26 per million ($P < 0.001$). The first admission rate for diabetes between the ages of 10 and 18 years and for obesity between 1 and 18 years increased significantly ($P < 0.001$; figures). The number of admissions for type 2 diabetes in children aged under 5 years were small (between 16 and 30 per year); the number of admissions for obesity were between 74 and 126 per year.

Possible explanations for increases in admissions for diabetes and obesity include better recording of these conditions. The depth of diagnosis coding has increased over time, with more information now being included in secondary diagnosis fields.^{w5} Changes in treatment patterns, including the introduction of specialist obesity units, may also have contributed to a rise in admissions. The trends may also be a consequence of a real increase in the



incidence of these conditions. Our results are consistent with recent publications describing increases in obesity and type 2 diabetes in children.^{w3 w6 w7} If our results are due to an actual increase in cases, then the patients seen in hospitals will represent only a small fraction of an increasing population of young people affected by obesity and type 2 diabetes.

The basic figures

- In 2003-4, 498 patients aged 18 and under were admitted for type 2 diabetes and 1604 were admitted for obesity

- Crude first admission rates were 28 per million for obesity and 87 per million for type 2 diabetes
- Between 1996-7 and 2003-4, the number of new type 2 diabetes patients increased 54% from 213 to 328, and the number of patients admitted for the first time with obesity increased 70% from 604 to 1025
- First time patients with a primary diagnosis of type 2 diabetes increased 31% from 115 to 151; new patients with a primary diagnosis of obesity increased 176% from 135 to 372

Dr Foster's Case Notes are compiled by Paul Aylin, Susan Williams, and Alex Bottle of the Dr Foster Unit at Imperial College. Dr Foster is an independent research and publishing organisation created to examine measures of clinical performance.



References, methodology, tables and a figure are available on bmj.com

