



THE COMPLICATIONS OF EXCESS WEIGHT SEEN IN 32 TIER 3 PAEDIATRIC WEIGHT MANAGEMENT SERVICES ACROSS ENGLAND



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INTRODUCTION

Living with excess weight in childhood is associated with a plethora of complications, which can persist into adulthood. Early intervention may limit excess weight gain and prevent the onset of associated long-term health conditions. Complications of Excess Weight (CEW) clinics are tier 3 paediatric weight management services, set up in 2021, run across England by the National Health Service. CEW clinics use a holistic approach to treating conditions related to severe obesity in children and young people.

AIM

The aim of this work was to highlight the demographics, and frequency of complications/comorbidities, of patients able to access CEW clinics in England.

RESULTS

Since 2021, 4,784 patients have been registered at 32 CEW clinics across England. Available data, as of April 2025, is presented for their characteristics (Table 1) and complications of excess weight/comorbidities (Table 2).

Table 1. Patient characteristics

Sex	Male: 52.9%, n=2529, Female: 47.1%, n=2249
Age, years	12.4 (8.9–14.7), n=4736
Weight, kg	96.7 (66.5–119.0), n=4240
BMI, kg/m ²	36.7 (31.6–42.2), n=4213
BMI-SDS	3.73 (3.39–4.09), n=4210
Body fat, %	46.3 (41.2–51.8), n=2437
Waist circumference, cm	110 (97–124), n=2332
Ethnicity (n = 3665)	n (%)
White British	2197 (59.9)
Any other ethnic group	278 (7.6)
Asian or mixed white and Asian	423 (11.5)
Any other white background	323 (8.8)
Mixed white and black Caribbean	84 (2.3)
Black or black British – African	169 (4.6)
Mixed white and black African	53 (1.4)
Black or black British – Caribbean	81 (2.2)
Black or Black British – Any other Black background	48 (1.3)
White Irish	9 (0.2)

Data are presented as median (IQR), except n (%) for sex and ethnicity

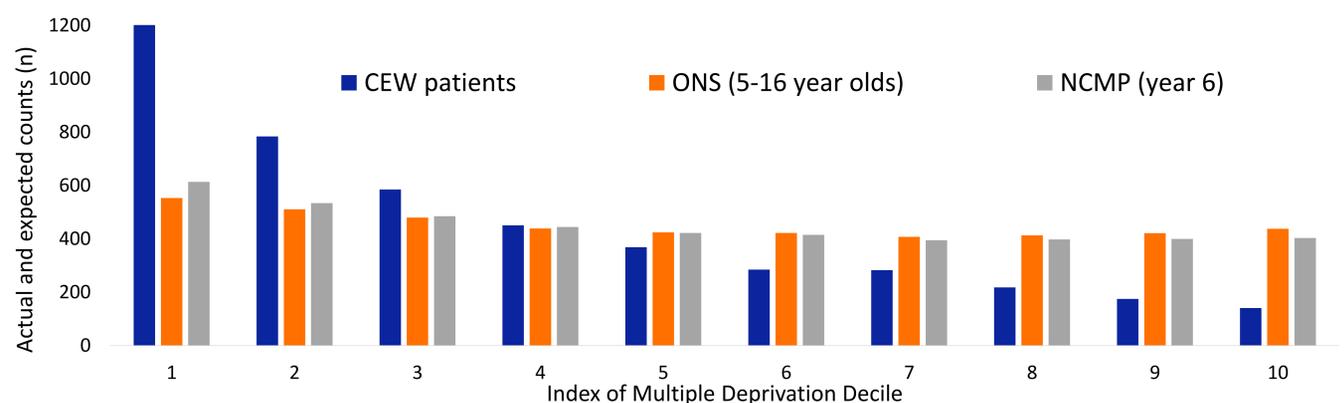
The distribution of children attending a CEW clinic differs significantly across deprivation deciles compared to the expected distribution based on 606,000 children measured in the National Child Measurement Programme¹ (NCMP) in year 6 in 2023/2024 ($\chi^2 = 1193$, $P < 0.001$), and also compared with 8,240,816 children aged 5-16 in 2020 Office for National Statistics data² ($\chi^2 = 1497$, $P < 0.001$). Children in the most deprived deciles (1–3) were significantly over-represented in CEW clinics, while those in the least deprived deciles (6–10) were significantly under-represented.

Children who identified as black and minority ethnic groups were significantly overrepresented in CEW clinics compared with children of a white ethnicity, when using expected distributions based on 465,742 year 6 children measured in the 2023/2024 NCMP¹ ($\chi^2 = 30.7$, $P < 0.001$), and 8,176,006 children aged 5-16 in 2020 Office for National Statistics data³ ($\chi^2 = 122$, $P < 0.001$).

Table 2. Complications of excess weight/comorbidities

	Percentage diagnosed (number with complication/ total assessed*)
Hypertension	21.3 (614/2876)
Type 2 diabetes	8.2 (183/2237)
Dyslipidaemia	21.2 (188/888)
Metabolic dysfunction-associated steatotic liver disease (MASLD)	30.0 (1014/3274)
Obstructive sleep apnoea (OSA)	21.4 (588/2747)
Use of non-invasive ventilation	8.2 (180/2177)
Idiopathic intercranial hypertension	3.3 (106/3257)
Neurodevelopmental disorders	
Autism spectrum disorder (ASD)	24.0 (914/3810)
Learning disability	23.1 (757/3270)

*Assessment completed prior to, within, or as a result of CEW service



METHOD

The national operation of CEW clinics is ongoing; therefore, data is being collected continuously. Baseline demographic data was collected for all new patients seen at 32 CEW clinics across England. Patients were screened for multiple complications of excess weight and neurodevelopmental disorders.

CONCLUSIONS

This data illustrates the complexity of complications resulting from high levels of excess weight in children and young people in England. The NHS Complications of Excess Weight clinics are serving a typically underserved demographic. A substantial proportion of patients were diagnosed with complications such as MASLD, OSA, and ASD. These data highlight the clinical need for tier 3 weight management services at a young age.

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