

**Under embargo until 00:01am on
Tuesday 20th August 2024**

*Healthcare costs surge over 60% for
those with the highest obesity rates and
nearly quadruple for individuals with
obesity and comorbid conditions, LCP
health study reveals*

20 August 2024 – Lane, Clark & Peacock (LCP), [a leading healthcare analytics firm](#), has published a novel series of real-world evidence (RWE) studies in the journal Diabetes, Obesity and Metabolism.

Previous studies have estimated the costs of living with obesity. Still, there has been limited knowledge about how healthcare resource usage (such as primary care appointments and prescriptions) and costs vary by BMI, obesity class or the impact that obesity-related complications (ORCs) have on these costs. However, these studies are the first to reveal how healthcare costs increase with higher BMI and obesity levels, especially when specific ORCs are present. They also highlight the economic impact of obesity and variation in costs across people living with obesity.

The first study, based on a UK real world dataset - Discover, included more than 1.4m people with overweight or obesity, found that healthcare costs increased for people living with obesity by approximately 35% from 2015 to 2019. Costs also increased with higher BMI, for example costs were 64% higher in those with obesity class III (BMI >40 kg/m²) at £1,871 per person per year (PPPY) in 2019 compared to overweight (BMI ≥25-30 kg/m²) at £1,143. Whilst primary care appointments were the most common healthcare resource usage, inpatient admissions accounted for the largest share of costs followed by prescriptions.

The second study assessed the presence of multiple-ORCs – ‘ORC multimorbidity’ and how this impacted healthcare costs. There are many ORCs that people with obesity are more likely to develop, such as heart disease, stroke, liver disease, type 2 diabetes, and osteoarthritis. ORC multimorbidity was more common with higher BMI, as nearly 1 in 3 people living with obesity class III (BMI ≥40 kg/m²) had 2 or more ORCs compared to 1 in 4 of those in the overweight category. Certain high-cost ORCs such as heart failure and

obstructive sleep apnoea were 3-5x more common in the highest obesity class (BMI ≥ 40 kg/m²). Healthcare costs increased over time, with the largest increases observed in those with higher BMI/obesity class and those with ORCs.

Other key findings included:

- Costs in obesity are strongly skewed, with 20% of people living with obesity accounting for 72% of all costs, with average cost per person per year at £4,670 for the highest cost quintile. This group tended to have higher rates of ORCs, for example, type 2 diabetes and depression being nearly 5x as common compared to the lowest cost quintile.
- Healthcare costs varied substantially according to the presence of ORCs. Those with obesity incurring the highest annual costs also had heart failure (£3651–£4320 PPPY across BMI groups), chronic kidney disease (£2943–£4161), cardiovascular disease (£2685–£3492) and atrial fibrillation (£2474–£3124).
- ORCs increased substantially over time, with depression doubling and chronic kidney disease increasing by as much as 4 x over 10 years of follow-up.
- Those living with obesity and three or more ORCs had approximately double the healthcare costs of those living with just one or more ORCs.

Dr Jonathan Pearson-Stuttard, Lead Author of the Studies and Head of LCP's Health

Analytics team: "Our studies highlight that healthcare costs increase with BMI and are greatest in those living with more severe obesity and those living with common comorbidities such as heart disease, type 2 diabetes and depression. Effective action to control the risk for those living with obesity through holistic weight-management as well as prevent obesity onset, prevent progression to more severe obesity and prevent the onset of obesity related complications could have substantive benefits to patients, healthcare systems and the wider economy."

On the understudied area of people living with obesity and obesity related complication risk, **Sara Holloway, Author and Senior Consultant at LCP commented:** "Real world datasets such as that used in this study shed light on the unequal impact of living with obesity on healthcare usage and presence of obesity-related complications. This can provide more timely and granular insights to enable more effective preventive and treatment measures to treat people living with obesity and other chronic conditions."

Notes to editors

Both papers will be available to access using the following links after 00:01am on Tuesday 20th August 2024:

<https://dom-pubs.onlinelibrary.wiley.com/doi/10.1111/dom.15836>

<https://dom-pubs.onlinelibrary.wiley.com/doi/10.1111/dom.15785>

About the study

The LCP team was led by Dr Jonathan Pearson-Stuttard, Sara Holloway, and Dr Andrew Thompson. The work was funded by Novo Nordisk, a Danish manufacturer of diabetes and obesity medications. The research team analysed more than ten years' worth of deidentified healthcare data from more than 1.4 million adults in the Discover database, a research database holding comprehensive primary and secondary care records of patients in North-West London.

Key facts about the study:

- People living with obesity (body mass index [BMI] ≥ 30 kg/m²) are at risk of obesity-related complications (ORCs), which include cardiovascular disease (CVD) and type 2 diabetes (T2D) and are also at a higher rate of multimorbidity (2 or more chronic conditions).
- Whilst US patient populations have been studied, previously less was known about the prevalence and multimorbidity burden of people living with obesity in the UK.
- Dr Jonathan Pearson-Stuttard from Lane Clark & Peacock, London, UK, led the study together with colleagues from Novo Nordisk, Denmark, a manufacturer of diabetes and obesity medications and sponsor of the study.
- Researchers analysed at least ten years of deidentified health care data from 429,358 adults (aged 18 or older) in the Discover database, which holds information on 2.8 million patients from linked primary and secondary care records in North-West London, who had been diagnosed with obesity or were living with overweight and obesity and at high cardiovascular risk between 2004 and 2019.
- Adults with obesity were divided into class 1 (BMI of 30–35 kg/m²; 278,782 individuals, average age 43 years, 51% women), class II (BMI of 35–40 kg/m²; 80,621 individuals, average age 43 years, 61% women), or class III (BMI of 40 kg/m² or more; 42,642 individuals, average age 41, 65% women).
- The studies are being published on 20th August in the peer-reviewed journal Diabetes, Obesity and Metabolism.

The LCP Health Analytics Team

[LCP's Health Analytics department](#) was founded in 2020 by [Dr Jonny Pearson-Stuttard](#), Chair of the Royal Society for Public Health, who leads the department alongside continuing his NHS work as a Public Health Consultant and Chair of the Health Inequalities Programme Board at Northumbria Healthcare NHS Foundation Trust.

The team currently has approximately 50 people, including clinicians, epidemiologists, statisticians, data scientists, and technology experts. The team's work covers evidence-generation approaches with pharmaceutical companies and third-sector organisations, helping to identify the variation in health needs of patients with given chronic conditions, using datasets including Discover-NOW (HDRUK dataset) UK Biobank and the SAIL (Wales). The team's analytical expertise and novel approaches to working with big datasets have uncovered new insights, highlighting the potential of RWD and clinical insights to understand the total costs and impacts of diseases for medicines value assessments.

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