GLP-1 medications and NHS readiness: Promise vs preparedness

PREDICTING NHS READINESS AND EQUITY FOR THE COMING GLP-1 EXPANSION

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Introduction

6 in 10 adults in the UK are overweight or living with obesity

Project Overview

Prescriptions for new weight-loss drugs like **semaglutide** and **tirzepatide** have surged in the NHS. These medicines can transform treatment for obesity and diabetes, but if rollout isn't fair, they could widen health inequalities. This project looked at NHS prescribing patterns, local service availability, and wider health needs to ask: **is the NHS ready to deliver these drugs fairly**?

Background

Obesity is a major challenge for the NHS. In 2022, almost **2 in 3 adults** in the UK were overweight or living with obesity, costing the NHS around **£6.5 billion each year**. The NHS has made tackling obesity a priority, including expanding access to new **GLP-1 medicines**.

Objective

To assess whether the NHS can provide equitable access to GLP-1 medicines through specialist weight-management services. This included analysing prescribing trends, NHS infrastructure, digital referral systems, and how local inequalities might shape delivery.

England's Obesity Hotspots and the Equity Challenge Ahead

Regional disparities are evident, with higher prevalence generally observed in the North East, West Midlands, and parts of Yorkshire and the Humber — areas often associated with higher deprivation. In contrast, lower prevalence rates are concentrated in London and the South East

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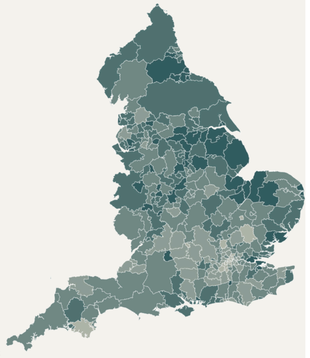


Source: Office for Health Improvement and Disparities • This map shows the proportion of adults aged 18 and over classified as living with obesity across local authorities in England, using data from the Office for Health Improvement and Disparities (OHID).

What are GLP-1 medications?

GLP-1s (Glucagon-like peptide-1 receptor agonists) are a new type of medicine used for:

Diabetes – helping the body lower blood sugar
Weight loss – reducing appetite and helping people feel full sooner

Examples: **Semaglutide** (Wegovy, Ozempic) and **Tirzepatide** (Mounjaro)

They are usually taken by injection once a week and can lead to 10–15% weight loss when combined with diet and lifestyle support.

Weight-management services

Tier 1: Universal prevention (population health)
Tier 2: Community lifestyle services
Tier 3: Specialist multi-disciplinary weight management (NHS-commissioned; dietitians, psychological support, weight-loss medications)
Tier 4: Bariatric surgery

NHS

Findings from data

DATA SELECTION

Prescribing data: OpenPrescribing.net (May 2020 – Mar 2025)
Population health data: Health Survey for England, QOF, Diabetes Audit
Deprivation data: IMD quintiles (mapped to ICBs)
Policy sources: NICE guidance (TA875), NHS 10-Year Plan, Obesity Health Alliance

DATA PROCESSING

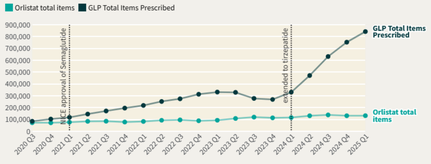
- Merged GLP-1 prescribing data with obesity and IMD scores by ICB
- Standardised timeline into quarterly periods
- Created comparative time-series plots against diabetes, orlistat, and metformin

DATA ANALYSIS

- Investigated correlation between prescribing volumes and obesity/deprivation rates
- Regional variation mapping
- Reviewed US trends for forecasting NHS pressures
- Analysed digital pathway readiness and potential equity gaps

GLP-1 prescriptions now significantly supersede traditional weight-management medication, Orlistat

The plateau in Orlistat prescriptions in England reflects its modest effectiveness and side-effect profile, limiting uptake despite decades of availability. While GLP-1 drugs work better and faster, with higher costs and bigger system demands, their success raises tough questions about equity, sustainability, and what the NHS can afford to prioritise.



Source: OpenPrescribing.net, Bennett Institute for Applied Data Science, University of Oxford, 2025 • This time series shows the surge in NHS England prescriptions for semaglutide and tirzepatide (GLP-1 receptor agonists) since 2020, plotted against prescribing levels of Orlistat, a traditional anti-obesity medication. Following the NICE approval of semaglutide in 2021 and tirzepatide guidance in early 2024, GLP-1 prescribing surpassed Orlistat by a wide margin, growing by over 700% from 2020 to 2025.
Data ranges from May 2020 - June 2025

GLP-1 prescribing has surged past Orlistat since 2020

There is no correlation between local obesity rates and weight-loss medication prescription

This scatter plot visualises GLP-1 prescription volume (as a % of total items) against adult obesity prevalence (%) across English local authorities, colour-coded by Index of Multiple Deprivation (IMD). Despite expectations, the analysis found no consistent correlation between prescribing levels and obesity burden. Some areas with high obesity rates recorded low prescribing levels, while areas with lower obesity prevalence showed comparatively high use of GLP-1s.

Source: OpenPrescribing.net, Bennett Institute for Applied Data Science, University of Oxford, 2025, IMD

No clear link between local obesity rates and GLP-1 prescribing

The Full Care Burden: What 70% Uptake of Tirzepatide Means for NHS Services

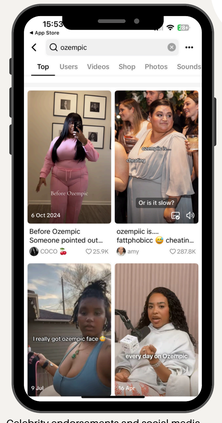
Delivering more than 700 million additional appointments each year across GPs, nurses, pharmacists, dietitians, psychologists and healthcare assistants would put immense pressure on NHS services that are already stretched to their limits.

If 70% eligible patients use GLP-1s, demand on NHS services will rise sharply

⚠️ *The NHS only approved GLP-1 medicines for weight management this year, so prescribing data is still limited. This makes it difficult to draw firm conclusions. However, by combining early trends with cost models and lessons from other NHS case studies, we can begin to understand the scale of future challenges and opportunities.*

Discussion

- NHS obesity care may be shifting towards a **drug-first model**, raising concerns that lifestyle and prevention programmes get sidelined.
- **Sustainability is uncertain**: patients often regain weight once treatment stops, creating potential long-term dependency on costly drugs.
- **Equity is uneven**: access depends on local NHS capacity and digital systems, with some regions unable to accept new referrals.
- **Commercial pressures** (media hype, private clinics, pharma marketing) risk influencing NHS prescribing more than public health priorities.



Celebrity endorsements and social media hype fuel private demand

Key takeaways

💊 **Prescribing is rising fast** – tripled since 2020, but not aligned with where obesity is most common.
⚖️ **Equity is at stake** – without careful planning, we risk a postcode lottery or a two-tier system.
🌍 **Drugs alone cannot solve obesity** – social factors like poverty, food access, and urban design also drive the epidemic.
❓ **The bigger question**: Can the NHS harness GLP-1s as a tool for public health, or will they become another costly fix that outpaces the system designed to deliver them?

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