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Cost-Comparison of Alternative Delivery Routes for Glucagon-Like Peptide-1 Receptor Agonists (GLP-1RA) in the English National Health Service (NHS)

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BACKGROUND

- The prevalence of obesity in the UK is rising, posing a significant burden on individuals, healthcare systems, and society with over 65% of adults in England estimated to be overweight or living with obesity in 2023-2024[1]
- While GLP-1RA (and other incretins) licensed for obesity treatment have been approved for use in the NHS in England, public access remains severely restricted due to capacity constraints, a vast eligible patient population and associated high budget impact.
  - According to the eligible cohort outlined by the National Institute for Health and Care Excellence (NICE), around 3.4 million people would be eligible for funded access to tirzepatide, posing substantial financial and logistical challenges[2]
  - NHS England was therefore granted an extension to the mandated 90-day implementation period combined with a phased approach to patient eligibility
  - Only 220,000 patients will be eligible to access treatment on the NHS in the next 3 years, which starkly contrasts to the excess of 1.4 million people already accessing these treatments privately by self-funding
- The estimated cost of tirzepatide implementation could reach £3.1 billion in the first year, encompassing drug acquisition and delivery expenses
  - Furthermore, it could necessitate over 700 million additional annual appointments across various healthcare professionals, including general practitioners (GP), nurses, pharmacists, and psychologists, placing immense pressure on NHS services[3]

OBJECTIVE

- The objective of this study was to explore alternative delivery methods of GLP-1RAs (i.e. tirzepatide) in the NHS that could reduce the financial burden and capacity constraints associated with the current pathways.

METHODS

- A simple cost-comparison of the primary care delivery route, as defined in the tirzepatide NICE appraisal (TA1026)[4], compared to a potential future community pharmacy delivery route was constructed
- Double-blinded interviews with community pharmacists were conducted to validate the community pharmacy model, understand the potential barriers to switching from the primary care delivery pathway, and to identify additional healthcare professional resource needs for the community pharmacy model based on clinical need and risk stratification
- The potential community pharmacy model was also informed by current practice in the private sector and the oral contraception delivery model, since this successfully shifted administration from primary care to the community pharmacy
- Two potential hybrid models were developed as scenario analyses to test the additional cost impact (Table 1):
  - Hybrid model 1: Community pharmacy led for maintenance dosing only
  - Hybrid model 2: Community pharmacy led with additional HCP resources for a holistic care delivery model in line with the primary care model
- Resource use and costs were derived from TA1026 and the tirzepatide regulatory label requirements for the primary care and pharmacy routes, respectively
  - A monthly community pharmacist appointment to monitor and dispense the next dose, with adjustments as necessary, was assumed
  - Pharmacy costs were derived from the oral contraception community pharmacy delivery model[5]
  - Treatment costs and new service set-up costs were not considered given the focus on delivery routes, commercial pricing strategies and lack of available data
- An additional hypothetical scenario analysis was conducted to assess the total cost of each pathway from managing 3.4 million patients, assuming an 80% compliance rate and 65% persistence rate applied year on year

Table 1. Cost-comparison analysis inputs (patient pathway scenarios)

Profession	Slot time (mins)	Cost (per slot)	Year 1 appointments	Year 2 appointments	Year 3 appointments
Current NHS pathway (TA1026)					
GP	10	£41.00	21	3	3
Nurse	10	£18.55	4.5	3	3
HCA	10	£7.14	1	0	0
Nurse group	10	£18.55	3	0	0
Clinical pharmacist	10	£11.29	3	3	3
Dietician	30	£27.19	5	4	4
Psychologist	30	£33.88	5.5	3	3
Scenario 1 - Community pharmacy only					
Pharmacist	N/A	£25.00	12	12	12
Scenario 2 - Hybrid model 1: GP led for initiation/dose titration, pharmacy for maintenance					
GP	10	£41.00	17	0	0
Nurse	10	£18.55	0	0	0
HCA	10	£7.14	1	0	0
Nurse group	10	£18.55	2	0	0
Dietician	30	£27.19	5	0	0
Psychologist	30	£33.88	5	0	0
Pharmacist	N/A	£25.00	6	12	12
Scenario 3 - Hybrid model 2: Pharmacy led with additional holistic care					
Pharmacist	N/A	£25.00	12	12	12
Dietician	30	£27.19	5	4	4
Psychologist	30	£33.88	5.5	3	3

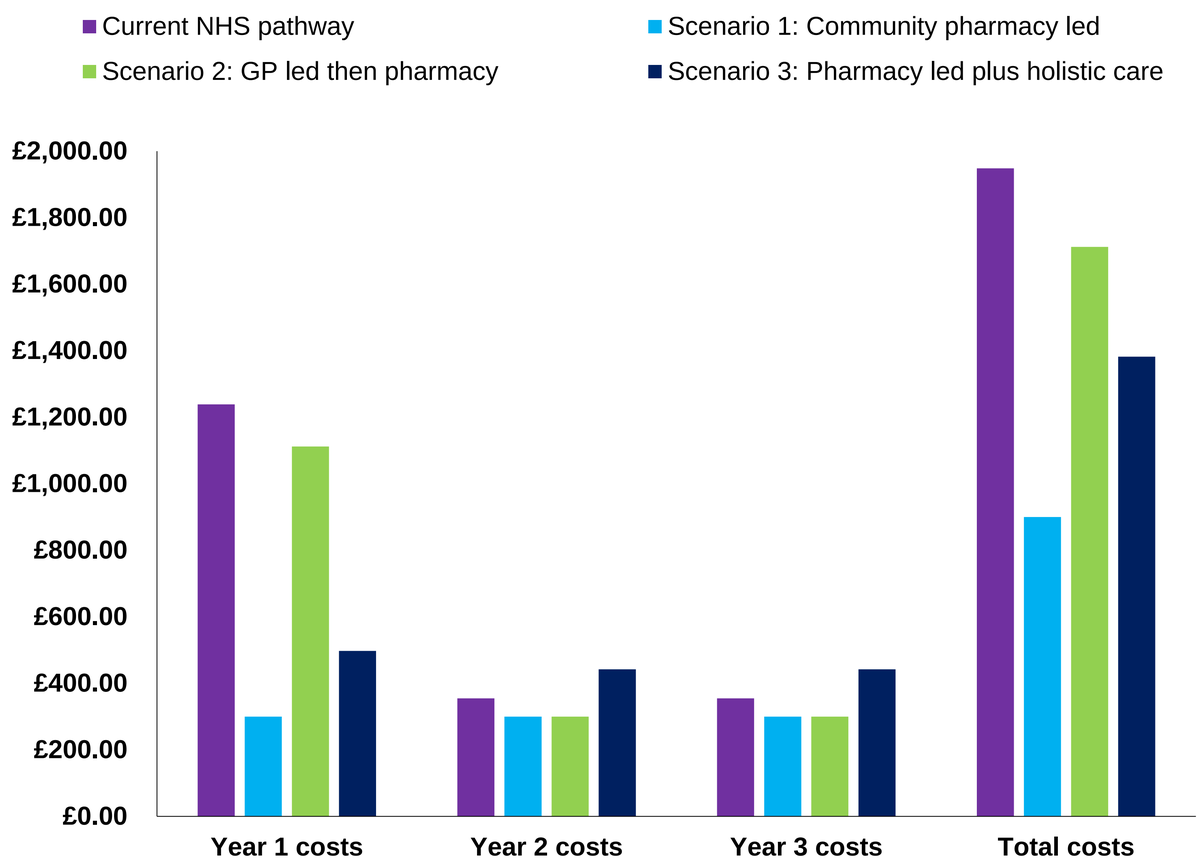
Abbreviations: HCA, healthcare assistant

RESULTS

Cost-comparison analysis

- The greatest per patient cost over a 3 year period was incurred by the current NHS pathway (£1,948)
- Although costs were lower for each of the three scenarios, total per patient cost for Scenario 2 (hybrid model 1) was only marginally lower (£1,712) than the current NHS pathway cost
  - Costs were lowest for Scenario 1 (£900) followed by Scenario 3 (hybrid model 2) (£1,382)
- The high number of GP appointments in the first year was the main cost driver for both the current NHS pathway and Scenario 2 (hybrid model 1)

Figure 1. Cost per patient by pathway



Epidemiology scenario

- A hypothetical scenario analysis taking into account the cost of treating the 3.4 million patient cohort deemed eligible for tirzepatide by each pathway is presented in Table 2
- Treatment via the current NHS pathway over 3 years would cost over £5 billion
- Scenarios 1–3 are associated with % reductions in the total cost by 64%, 11% and 44%, respectively

Table 2. Epidemiology hypothetical scenario: Cost of treating 3.4 million patients by each pathway

Pathway	Year 1 costs	Year 2 costs	Year 3 costs	Total costs
Total number of patients*	3,400,000	1,768,000	919,360	-
Current NHS pathway	£4.21b	£0.63b	£0.33b	£5.16b
Scenario 1: Community pharmacy led	£1.02b	£0.53b	£0.28b	£1.83b
Scenario 2: GP led then pharmacy	£3.78b	£0.53b	£0.28b	£4.59b
Scenario 3: Pharmacy led plus holistic care	£1.69b	£0.78b	£0.41b	£2.88b

*Assuming 80% compliance rate and 65% persistence rate applied year on year

CONCLUSIONS

- As part of the 10-year plan, the UK government is keen to expand access to weight management services and treatments, including delivery of obesity treatments through innovative delivery models which may involve community pharmacies and other primary care settings[6]
- Furthermore, the UK government in partnership with Eli Lilly is planning to invest in projects aimed at improving innovative community and primary care based weight management pathways[7]
- The current analysis demonstrates that delivering GLP-1RAs through community pharmacies could alleviate NHS capacity constraints and significantly cut costs
- These savings could accelerate NHS access to obesity medication for eligible patients, also allowing the eligible pool to be increased
- Further research is needed on the long-term impact and cost savings of wider GLP-1RA access, particularly concerning the appropriate management of weight-related comorbidities

DISCLOSURES

This project was sponsored by Roche Products Ltd.

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