Mapping the measurement gap: Patient-reported outcomes across the obesity care continuum in GLP-1 era

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Background

+ The emergence of glucagon-like peptide-1 (GLP-1) receptor agonists has transformed obesity treatment, necessitating comprehensive frameworks to guide clinical practice.
+ Mozaffarian et al.'s (2025) joint advisory[1] outlines eight key stages in GLP-1 therapy: patient-centred initiation, baseline nutritional assessment, management of gastrointestinal (GI) side effects, navigation of dietary preferences, prevention of nutrient deficiencies, preservation of muscle/bone mass, and promotion of supportive lifestyle measures.
+ However, the deployment of patient-reported outcome (PRO) measures across these stages remains unmapped. We examined how current PROs align with this framework and identified critical measurement gaps.

Methods

We systematically mapped validated obesity-specific PROs against Mozaffarian et al.'s GLP-1 treatment framework, categorising their roles as:

- Evaluation tools for treatment effects
- Screening or stratification instruments
- Implementation feedback loops
- Equity gap identifiers

For each framework stage, we assessed PRO availability, validation status, and development needs. Instruments evaluated included:

- Established obesity PROs – e.g. the Impact of Weight on Quality of Life – Lite – Clinical trials (IWQOL-Lite-CT)[2] inventory; BODY-Q[3]
- Symptom measures – such as the Patient-Reported Outcomes version of the Common Terminology Criteria for Adverse Events (PRO-CTCAE)[4]
- Behavioural tools – including the Patient Health Questionnaire (PHQ-9)[5], Generalised Anxiety Disorder scale (GAD-7)[6] and the Binge Eating scale (BES)[7]
- Nutritional screeners – such as the Mini Eating Assessment Tool (Mini-EAT)[8] and the Diet Risk Score[9]

Results

Major gaps emerged across all four PRO roles (Table 1)

As evaluation tools for treatment effects:

+ No validated GLP-1-specific symptom inventories exist for gastrointestinal effects or food aversions
+ Measures for "food noise" and hedonic shift remain undeveloped
+ Patient-defined success metrics lack standardisation.

As instruments for screening or stratification

+ Nutritional risk assessment tools inadequately capture protein adequacy or sarcopenia risk
+ Behavioural readiness measures miss GLP-1-specific barriers.

As implementation feedback loops

+ Implementation feedback loops are absent for group medical visits, dietitian counselling effectiveness, and Food-is-Medicine program satisfaction.

As equity gap identifiers

+ Equity-focused PROs addressing cultural congruence, discrimination, and financial toxicity in GLP-1 access are entirely missing.

Other gaps include measures for emerging phenomena (satiety-driven identity changes, loss of food pleasure) and tools validated for diverse populations and off-label use scenarios.

+ None of the instruments assessed fulfilled all the treatment framework criteria outlined by Mozaffarian et al. (2025) (Table 2) – measures capturing nutrient deficiencies and preservation of bone and muscle mass were particularly scarce.
+ Measures which were able to capture wider impacts of obesity and weight loss tended to miss more specific GI side effects, nutritional deficiencies and medical history, and vice versa.

Table 1. Gaps in existing PROs in relation to Mozaffarian et al.'s treatment framework

Area	Existing PROs	Gaps
GLP-1-specific symptom burden	Few, mostly generic GI PROs	Development and need for nausea-satiety-craving axis
Food preference changes	None validated	Development needed to track hedonic shift and "food noise"
Muscle/bone symptom monitoring	Some PROMIS items	No GLP-1-relevant fatigue-function loss screener
Emotional detachment from food	No coverage	New tools needed, especially around identity and pleasure
Cultural food fit and satisfaction	Rarely captured	Needs integration into Food Is Medicine and dietary adherence PROs

Table 2. Red/amber/green ratings for each PRO relating to their suitability across the eight key stages of GLP-1 therapy outlined by Mozaffarian et al. (2025). Red shading corresponds to limited/no relevance; Amber shading corresponds to partial relevance; Green shading signifies full relevance.

PRO tool	Framework stage							
	Patient-centred initiation	Baseline nutritional assessment	Management of GI side effects	Managing dietary preferences	Prevention of nutrient deficiencies	Preservation of bone and muscle mass	Maximising weight reduction efficacy	Promotion of supportive lifestyle measures
IWQoL-Lite-CT[2]								
Body-Q[3]								
PRO-CTCAE[4]								
PHQ-9[5]								
GAD-7[6]								
BES[7]								
Mini-EAT[8]								
Diet Risk Score[9]								

Conclusions

+ Current PROs inadequately support the multifaceted roles required in comprehensive GLP-1 obesity care.
+ Strategic PRO deployment requires new instruments spanning symptom monitoring, behavioural assessment, implementation evaluation, and equity tracking.

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