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## Navigating coverage: A qualitative study exploring the perceived impact of an insurance company policy to discontinue coverage of antiobesity medication

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#### ABSTRACT

*Introduction:* Obesity rates continue to rise in the United States. Treatment includes modification of diet, exercise, behavioral modification and medical consideration including anti-obesity medications. However, multiple highly effective anti-obesity medications are expensive and with that we see insurers opting out of coverage of these medications. This has led to patients having to abruptly stop treatment with these medications. The purpose of this study is to explore the impact of non-medical discontinuance of obesity medication among patients in medical weight management programs.

*Methods*: This is a qualitative descriptive study. Semistructured interviews were completed with participants in an academic medical weight management clinic. Interviews were recorded and transcribed. Themes were identified by members of the study team through qualitative content analysis. Participants were on or about to start anti-obesity medications and were from a single insurance company which cut coverage to all anti-obesity medications.

Results: Twenty-two insured patients from across the state either currently taking or intending to take antiobesity medications, participated. All participants were female. Few participants said they could afford the cost of the medication. Four main themes emerged: 1) Feelings of hope replaced by hopelessness upon loss of medication coverage, 2) Anger regarding the perceived injustice of anti-obesity medication coverage termination, 3) Perceptions of past and present stigma within the healthcare system and insurance company, 4) Generational influences on obesity treatment.

Conclusion: Patients perceive the discontinuation of anti-obesity medication coverage as stigmatizing and unjust, leading to feelings of hopelessness and fear. With more insurance companies denying coverage for these costly medications more information is needed to identify best ways to address the loss of coverage with patients. Clinical management of these patients should incorporate evidence-based obesity treatments while navigating insurance constraints.

#### 1. Introduction

Obesity rates continue to rise in the United States, with West Virginia leading the nation with the highest prevalence of obesity [1,2]. The

current guideline-based treatment for obesity, declared a chronic disease in 2013 [1] combines behavioral modification, nutrition, exercise, and medical considerations [3,4]. The medical treatment of obesity includes a broad review of a patient's medical history, with practitioners

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identifying medical contributors to obesity, providing alternatives to weight-promoting medications, and utilizing antiobesity medication prescribing and metabolic and bariatric surgery options [4].

Antiobesity medications are highly effective [5–7] and safe for weight reduction. Typical outcomes of these medications include up to a 20 % reduction in total body weight when used appropriately and in conjunction with lifestyle change [5,6]. This surpasses intense lifestyle-only trials, which resulted in up to five to seven percent loss [8, 9]. In highly controlled clinic trials, the effectiveness of these medications is known; however, pragmatic prescribing of these medications in the clinical setting has been complex in relation to effectiveness outcomes. Effectiveness studies in pragmatic settings have limitations secondary to low insurance coverage of obesity treatment and shortages of many antiobesity medications [10,11]. Studies have shown that these drugs also effectively treat other chronic medical conditions. Glucagon-like peptide-1 receptor agonists (GLP-1 agonist) effectively treat other diseases, such as diabetes, and semaglutide reduces cardiac risk in high-risk patients [12].

Two classes of medications used for obesity treatment are the GLP-1 agonist and glucose-dependent insulinotropic polypeptide (GIP) combined with glucagon-like peptide-1 (GIP/GLP-1) receptor agonists (both are called GLP-1 agonists). These include semaglutide and tirzepatide, which are known to have weight loss outcomes of 15–20 % of total body weight [5,6], making them some of the most effective pharmaceuticals for treating obesity. GLP-1 agonists promote weight reduction via delayed gastric emptying, which increases satiety (i.e., sensation of fullness), and by decreasing hunger by activating GLP-1 receptors located in the hypothalamus of the brain. GLP-1 agonists also enhance insulin secretion and suppress glucagon secretion after meals and thus help improve glucose metabolism by mitigating hyperglycemia [13]. However, this effectiveness comes with a significant cost, with the retail price of these medications over \$1000 per month [14,15].

Insurance coverage for antiobesity medications varies. Medicare does not cover GLP-1 agonists for an obesity indication, while Medicaid coverage varies by state [16]. Employer-based commercial insurance is not mandated to cover these medications for obesity. By default, they are not covered unless the employer opts for additional coverage to add antiobesity medications. Insurance companies that previously approved coverage for these medications sometimes stop covering the medicines later. The reason often given for discontinuation of coverage of antiobesity medications is the cost associated with covering the medications. When this happens, patients often have to pay for these medications as an out-of-pocket expense or stop the treatment abruptly. The purpose of this study is to explore the impact of policy-based, non-medical discontinuance of obesity medication among patients in a West Virginia-based medical weight management program.

#### 2. Methods

We conducted semi-structured interviews with 22 patients enrolled in a medical weight loss management program in West Virginia whose insurer had recently decided to discontinue coverage of anti-obesity medications including GLP1 agonist medications. All participants had the same health insurance and were prescribed GLP1 agonist medications for weight loss. Patients were recruited using Facebook posts on closed groups administered by the medical weight loss management clinics and public posts by an obesity medicine physician practicing at one of the included clinics.

Participants were contacted by phone or email to confirm eligibility and review the cover letter consent. Telephone interviews were scheduled after informed consent. All interviews were conducted by one research nurse trained in qualitative methods and who had experience conducting qualitative interviews. All interviews were completed in March 2024 from a private office at the convenience of the participants. No compensation was offered to the participants. This study received West Virginia University Institutional Review Board approval (protocol

number 2403936898).

An interview guide was initially created by multiple members of the study team (TH, JB, PD). The interview guide centered on two areas: 1) patient general understanding of their insurance coverage before and after the decision to discontinue their medication coverage; and 2) the perceived impact this decision will have on their use of medical weight loss medications, physical health, and well-being – including the anticipated effect on job security and future employment. The interviews were digitally audio recorded and transcribed using an AI automatic transcription application [17]. The interviewer reviewed the transcripts for accuracy using the audio recordings and field notes. The interviews lasted between 20 and 60 min. Member checking for clarification of information was done real-time during the interview using clarifying questions. A debrief was conducted with the first participant to request feedback and assess the applicability of the interview guide.

A qualitative content analysis, as described by Hsieh and Shannon [18], guided the data analysis. This method helps analyze exploratory data and involves the "subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns" [18]. Three investigators read the transcripts and then group compiled and discussed the inductive codes. The analysis continued in an iterative process as relationships between the various codes were identified. The process continued with merging and refining codes until the investigators agreed on the resulting themes. Study reporting was verified using the Consolidated Criteria for Reporting Qualitative Studies (COREQ) [19].

#### 3. Findings

All 22 participants were female and held the same state employee insurance carrier who made a policy change to discontinue coverage of antiobesity medications. Insurance is one of the benefits available to state employees. All participants had been informed that their insurance coverage was changing and their previously covered anti-obesity medications would no longer be covered. This decision affected all anti-obesity medications though patients interviewed were on GLP1 agonist medications. Most reported successful weight loss with their antiobesity medications except for one participant who was declined coverage of the medication at the pharmacy for her first dose. Use of GLP1 agonist medications ranged from declined first dose to two years of use. Findings from the analysis were organized under four overarching themes

 a) Feelings of hope replaced by hopelessness upon loss of medication coverage.

The participants described how the medication was effective and gave them hope in treating obesity. Many expressed how obesity was a lifelong struggle for them, and despite numerous attempts with conventional obesity treatment, they had been unsuccessful in significant and sustained weight loss. The participants described recent success with weight loss related to this medication as life-changing. They expressed relief that there was finally an effective medication to assist in meaningful weight loss.

"I have hope now with this medicine. And I'm really kind of antimedication. I don't like to take a lot of medicines, and I was really I was leery to take this at first but when I saw what a difference it made, I'm so glad that I decided to do it." (001)

"It's been a god's send to me it really has because I've struggled with my weight my entire life." (002)

These feelings of success and hope were attributing motivations to other significant changes in healthy lifestyles and behaviors.

"I was getting braver and walking more, and my husband, I would go for walks and I'd use my walker, instead of the wheelchair, I would T. Haggerty et al. Obesity Pillars 11 (2024) 100120

go in stores with my walker instead of a wheelchair, and just walking down stairs and stuff." (001)

"I don't know whether I can do this without this medicine. This has given me the Jumpstart that I need." (005)

Some participants shared how the news of the discontinued insurance coverage for their medication left them feeling anxious, and most were confused about the motivations underpinning this decision. Additionally, many shared their concerns regarding their mental health and the impact this might have on their future wellness.

"I can tell you, it's already affecting my emotional well being. You know, I've been very frustrated, I've been very angry. I'm kind of grieving. I'm anxious about all the work that I've done. And if I stopped the medication, the weight just coming back on despite eating well, and exercising." (006)

"And I just feel myself getting really anxious, knowing that I'm about to pick up my last month anxious and depressed because I feel like I have hope for the first time in years." (001)

"I have a lot of fear about that in the future. Am I going to age well, and will I not be a burden to my family If how I'm doing gets worse?" (008)

"I'm afraid for my mental health. It's tough to be in a situation where you're never right. And it doesn't matter what you do, it's not going to work and then to have just a glimmer of hope a little spark of hey, look, this might help. And for someone else to take that away from you for no reason. I don't what am I supposed to do." (009)

"It sounds overwhelming and depressing. But I think somebody in Charleston needs to hear my story and I'm sure I'm not alone." (009)

b) Anger regarding the perceived injustice of antiobesity medication coverage termination.

Participants expressed anger at the decision, which was perceived as unjust and unfair. Coverage for this type of medication was still available, but only if patients had diabetes, not solely for obesity. Many felt covering these medications before people with obesity developed comorbidities would be cost-effective and reduce the health care burden overall.

"They can pay for heart attacks, they could pay for me to have a stroke, they could pay for me to have diabetes, but they won't let me have this one medicine that could take all of that away. Makes no sense." (005)

"Why do you cover drugs and treatment programs for smokers? Or treatment programs for addicts? You know, isn't that just a lack of willpower? But, you know, you're not applying those same principles to obesity." (006)

"Somebody who has diabetes isn't told, Oh, look, your blood sugar is in the normal range. You don't get you don't need your insulin anymore. Nobody is told that for another condition. So why people who are dealing with or struggling with their weight are told this, I don't understand." (010)

Additionally, the cost of paying out of pocket for these medications was a barrier to access for most people. It appeared to the study participants that the insurance company prioritized financial gain over health and wellness. However, people offered to increase their prescription co-pay if it meant continued coverage.

"I could not afford that. I don't know very many just regular people who could and especially being a state employee, because the salaries are not that wonderful and not very competitive with other markets." (012)

"But I would be willing to pay a little more for it but I couldn't afford \$100. It would put a little bit of a strain on my finances." (012)

"There's no way I can afford it. I actually had a dose malfunction in week four and it was too early to refill. I couldn't access it. There was a savings card that caused me not to be able to get the meds. Because we're not to be able to pick up the prescription and use the savings that you allows me to get it for \$25 a month. They wanted \$550 out of pocket for the medication and that was the only way I could get it. I was like, no, I'll just wait a week." (016)

"I would pay 50 to \$75 a month. I wouldn't mind that but I do think I think the BMI should be taken into consideration." (13)

Patients felt the communication regarding the change in coverage was inadequate. Most had received notice of this decision through a Facebook group. Few received any notification from their insurance, and those who called to inquire reported hearing mixed messages regarding the decision. Eventually, after the change in coverage date, some participants received an official letter informing them of the change. The insured patients felt hurt and offended by this lack of communication.

"Have some sort of open conversation with the people who are under the plan before they just automatically say, No, we're not doing this anymore. It's over. I mean, some justification would really be great." (012)

"If they're going to do this pretty soon, why don't you let people know so they can start looking for alternatives to continue on their weight loss journey. That that would be very nice at least be told instead of all of a sudden, sorry, no more." (012)

"Not from (the insurance company). They haven't notified me. I have found out via the grapevine, but they have not notified me." (013)

"My center has done a great job because they were notified. They started notifying us because clearly we didn't get any notification from (the insurance company)." (009)

"It is actually quite offensive, that they (the company) write me these form letters and pretend that that is at all equivalent to the life changing medication that I had." (015)

c) Perceptions of past and present stigma within the healthcare system and insurance company

Participants shared their thoughts about how a general bias against persons with obesity, coupled with a specific lack of understanding of obesity as a disease, may have influenced the decision of their insurance company to discontinue coverage for their medications. Most participants have had obesity for many years and tried numerous times to lose weight, with varying results. All chose to seek support through a medical weight loss clinic. Participants agreed that the use of these new medications is often perceived as addressing matters of vanity, rather than perceived as effective treatment of the disease of obesity.

"I'm not trying for vanity. I'm way too old to be a Victoria's Secret model. I'm not trying to do it to be cute and skinny and hot. I just want to make it through a day of work and not be exhausted." (009)

"I feel like fat is the last thing that you're still allowed to discriminate against. You can't discriminate obviously, against people of color, or sexual identity or religion, but fat, it's okay, we can still discriminate against them, because they're less than because they are overweight." (001)

"I feel like it's discrimination against people who are overweight or were overweight. And I don't really understand it." (002)

"It's expensive and because obesity is viewed as an impulse control problem, as opposed to a medical problem." (010)

This participant included medication stigma surrounding the use of GLP1 medication.

"People think it's the easy way out. But you have to change how you're eating. You have to change how you're doing things, along with taking this medicine. And so it's not like I'm not eating cupcakes every day and taking [tirzepatide]. I'm eating healthy foods and doing the work. But [tirzepatide] was helping me to accomplish that." (007)

Stigma from health care providers was discussed surrounding more conventional weight loss ideas.

"I think that there are so many I hate saying old school physicians out there that they think, Oh, you know, a little less eating a little more exercise. And that's how you're gonna lose weight. I think so many of them see it as a moral failing, or you're lazy or you're not doing what you're supposed to be doing." (007)

#### d) Generational influences on obesity treatment.

Participants shared how the treatment of obesity extended beyond the individual and impacted their spouse, parents, and children. Some children would also be losing coverage of their medication as dependents on their parent's insurance. The benefits from treatment the patients were experiencing positively influenced family members to make healthy changes in their lifestyle.

"He is on medication. He's on a GLP1 ... He's (her son) really tore up over it, because he's only 21. Clearly, he's on our insurance right now and we usually pay his prescriptions. I mean, no, nobody can afford \$550 for a month of shots." (003)

"He's (her son) 12, he's five foot one. and he weighs 160 pounds." (004)

"I'm married and my husband, since I've started this medicine, he's been eating better. He's been eating what I eat, and he's been losing weight as well." (007)

A few participants described how they planned to cope with the impending discontinuance of their medication. Behaviors such as skipping doses, reducing the dose, sharing medications, and changing to less regulated compounded medications from 'spas" or online pharmacies were shared as "workarounds" to maintain some of their weight loss. For example, this patient shared her diabetic mother's medication.

"My mother, she takes [semaglutide]. And she said pretty much we could switch you over. We looked into it and stuff and she said I have some extra. She said I don't want you to go without your medicine. So now I share medicines with my mother. This is not beneficial for my mother, because she in turn feels that she doesn't use her medication as much as she wants to, because she's trying to save it for me- if that makes any sense. So sometimes she's like, Oh, I just forgot mine this week. And I'm like, Mom, you really can't forget it. She's like, it's okay. It's no big deal, knowing good and well, she needs it." (021)

"I found the stuff (obesity medication) from CVS (pharmacy) is really so good that I can often go for two weeks on one pen." (022)

"There are other options, even right now with like, the compounded medicine that doctors warn against that, because they don't know exactly what's in it. It would be more affordable to me, but I would really prefer to take the real thing." (016)

#### 4. Discussion

With the emergence of GLP1 and GLP1/GIP agonists and their subsequent Food and Drug Administration (FDA) approval for treating obesity, physicians and patients have greater options regarding effective non-surgical treatment of obesity. The non-surgical treatment of obesity is highly desired, leading to increased demand for these medications. Unfortunately, insurance companies have been slow to begin covering these medications, and others have decided to rescind coverage after an initial period of coverage. The outcomes of this study have highlighted that when patients lose access to these medications, they lose hope, feel anger at the perceived injustice, and view the decisions as stigmatizing. This loss of coverage plays a significant role and extends through family ties, expressed as a loss of hope for effective treatment for their loved ones or risky medication use behaviors to treat themselves or others.

Participants shared their concerns about regaining weight after stopping their medication. Studies have shown that people who discontinue their once-a-week dosing of semaglutide and lifestyle interventions regain an average of two-thirds of their prior weight loss within a year [20]. When treated with other weight-neutral or weight-negative medications, participants often still have significant weight regain [21]. When looking at adjunct positive health outcomes associated with GLP1 agonists [22], it has been shown that the cardiometabolic improvements reverted to baseline [20]. However, with the continuation of these medications, participants continue to maintain weight-related benefits from the medications [23]. These results indicate that long-term use of antiobesity medicines is needed to continue the health benefits of maintaining long-term weight loss [20].

Along with losing health benefits with stopping antiobesity medications, it can take patients on antiobesity medications months to identify improvement in their obesity metabolic and fat mass complications. Changing or discontinuing medicines for non-medical reasons, such as cost, can increase adverse events for patients, worsen conditions, and impact outcomes, all leading to higher overall costs [24].

Additionally, as patients regain all or some of the weight they lost while on these medications, there are concerns that their metabolism may not recover to its previous level, as seen in studies of considerable weight loss [25]. While short-term trials on weight regain following discontinuation of these medications have indicated a return to previous metabolic state over the course of one year following discontinuation [26], further research is indicated to evaluate the long-term effects of discontinuation of these medications more fully. While more challenging to quantify, the impact of the loss of productivity/economic strain, mental health, and quality of life on the loss of these medications should be studied.

Patients identified feeling angry because they believe this decision is steeped in injustice and fueled by the weight stigma that is prevalent in North America and many Western societies. Weight stigma stems from a wide variety of negative stereotypes regarding individuals with obesity, including that they are at fault for their weight, lazy, lacking motivation and willpower, and are non-compliant with treatment regimens [27]. Weight stigma has been documented to occur across a wide variety of healthcare professionals, including those who specialize in obesity, and consequently, over half of adults enrolled in weight management report experiencing stigma. Evidence from meta-analyses and systematic reviews points to many adverse health outcomes as a result of weight stigma, such as suicidality, weight gain, and increased risk of mortality, among others [27]. The deleterious impacts of weight stigma are so extensive that weight stigma is being increasingly recognized as a public health issue in its own right. This study illuminates the clear need for additional research on structural weight stigma and insurance coverage policy.

Further considerations should explore the ethics of insurers continuing or adding coverage for some of the same medications for common yet less stigmatized conditions such as diabetes but declining to cover these medications for obesity. These decisions have been implicated as rooted in stigma. Patients voiced an understanding of stigma, which is noted in the analysis of this study. This stigma does play a role in health outcomes and is associated with lower psychological and physiological health outcomes in the setting of obesity [28,29].

#### 5. Limitations

The present study has limitations. The participants could represent a biased sample. This was a small study with 22 participants. Also, every participant was previously eligible for coverage of their obesity medication and was recently notified that this coverage was ending, leading to feelings of anger and confusion within this group. The study's Principal Investigator is a well-known obesity medicine specialist in the state. This status may contribute to a social desirability bias whereby the participants responded to the questions in a way they felt the investigators would view favorably [30]. Additionally, all participants were receiving obesity treatment, and thus, findings may not be generalizable to other chronic diseases. Also, all patients were female, which led to difficulty generalizing to different populations.

#### 6. Conclusion

Patients who are losing coverage for their antiobesity medication perceive the discontinuation as stigmatizing and unjust, leading to feelings of hopelessness and fear. When insurance companies deny coverage for these costly medications, more information is necessary to identify the best ways to address the loss of coverage with patients. This study provides insight into the real-world impact policy can have on individuals seeking medical care and illuminates the need for additional research on structural weight stigma and insurance coverage policy. Clinical management of these patients should incorporate evidence-based obesity treatments and awareness of mental health implications while navigating insurance constraints.

#### Key takeaway clinical messages

- Non-medical discontinuance of antiobesity medication can be physically and mentally harmful to patients.
- Clinicians should consider the impact of non-medical discontinuance of obesity medication extends beyond the individual and impacts family and employment.
- Clinicians need to explore options for continued weight loss while navigating loss of insurance coverage.

#### CRediT statement

Treah Haggerty: Supervision, Investigation, Methodology, Writing original draft, Writing-review, and editing. Patricia Dekeseredy: Investigation, Analysis, Methodology, Data curation, Writing original draft and editing. Joanna Bailey: Methodology, Writing original draft and editing. Writing-review and editing. Abby Cowher: Writing original draft and editing, Analysis, Writing-review and editing. Adam Baus: Writing original draft and editing. Writing-review and editing, Funding Acquisition. Laura Davisson: Visualization, Writing original draft, Writing-review and editing.

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#### **Ethics review**

This study received West Virginia University Institutional Review Board approval (protocol number 2403936898).

# Declaration artificial intelligence (AI) and AI-assisted technologies

During the preparation of this work, the recorded transcripts were transcribed with the use of an AI assisted technology. After using the AI assisted tool, the authors reviewed and edited the content of the transcripts for accuracy as needed and take full responsibility for the content of the publication.

#### Declaration of competing interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests:

Treah Haggerty reports article publishing charge was provided by West Virginia Alliance for Creative Health Solutions, Inc. Other authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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#### References

- [1] Pollack A. AMA recognizes obesity as a disease. N. Y. Times 2013 Jun 18;18:1.
- [2] America's Health Rankings. Obesity in West Virginia 2023. https://www.americashealthrankings.org/explore/measures/obesity/WV. [Accessed 5 June 2024].
- [3] Tondt J, Freshwater M, Benson-Davies S, Dawkins C, Magee J, Karoo S, et al. Obesity algorithm. Obesity Medicine Association 2024;2024.
- [4] Sharaiha RZ, Shikora S, White KP, Macedo G, Toouli J, Kow L. Summarizing consensus guidelines on obesity management: a joint, multidisciplinary venture of the international federation for the surgery of obesity & metabolic disorders (IFSO) and world gastroenterology organisation (wgo). J Clin Gastroenterol 2023;57: 967–76. https://doi.org/10.1097/MCG.0000000000001916.
- [5] Aronne LJ, Sattar N, Horn DB, Bays HE, Wharton S, Lin W-Y, et al. Continued treatment with tirzepatide for maintenance of weight reduction in adults with obesity: the SURMOUNT-4 randomized clinical trial. JAMA 2024;331:38–48. https://doi.org/10.1001/jama.2023.24945.
- [6] Ryan DH, Lingvay I, Deanfield J, Kahn SE, Barros E, Burguera B, et al. Long-term weight loss effects of semaglutide in obesity without diabetes in the SELECT trial. Nat Med 2024;13:1–9. https://doi.org/10.1038/s41591-024-02996-7. May.
- [7] Ahmad NN, Robinson S, Kennedy-Martin T, Poon JL, Kan H. Clinical outcomes associated with anti-obesity medications in real-world practice: a systematic literature review. Obesity Treatment 2021;22:e13326. https://doi.org/10.1111/ obr.13326.
- [8] Franz MJ, Boucher JL, Rutten-Ramos S, VanWormer JJ. Lifestyle weight-loss intervention outcomes in overweight and obese adults with type 2 diabetes: a systematic review and meta-analysis of randomized clinical trials. J Acad Nutr Diet. 2015;115:1447–63. https://doi.org/10.1016/j.jand.2015.02.031.
- [9] Hassan Y, Head V, Jacob D, Bachmann MO, Diu S, Ford J. Lifestyle interventions for weight loss in adults with severe obesity: a systematic review. Clin Obes 2016;6: 395–403. https://doi.org/10.1111/cob.12161.
- [10] Calderon G, Gonzalez-Izundegui D, Shan KL, Garcia-Valencia OA, Cifuentes L, Campos A, et al. Effectiveness of anti-obesity medications approved for long-term use in a multidisciplinary weight management program: a multi-center clinical experience. Int J Obes 2022;46:555–63. https://doi.org/10.1038/s41366-021-01019-6.
- [11] Lewis KH, Sloan CE, Bessesen DH, Arterburn D. Effectiveness and safety of drugs for obesity. BMJ 2024;384:e072686. https://doi.org/10.1136/bmj-2022-072686.
- [12] Ryan DH, Lingvay I, Colhoun HM, Deanfield J, Emerson SS, Khan SE, et al. Semaglutide effects on cardiovascular outcomes in people with overweight or obesity (SELECT) rationale and design. Am Heart J 2020;229:61–9. https://doi. org/10.1016/j.ahj.2020.07.008.
- [13] Myerson M, Paparodis RD. Pharmacotherapy of weight-loss and obesity with a focus on GLP 1-receptor agonists. J Clin Pharmacol 2024. https://doi.org/ 10.1002/jcph.2487. June 26.
- [14] Lumbreras AG, Tan MS, Villa-Zapata L, Iliham S, Earl JC, Malone DC. Costeffectiveness analysis of five anti-obesity medications from a US payer's

- perspective. Nutrition, Metabolism, and Cardiovascular. Diseases 2023;33: 1268-76. https://doi.org/10.1016/j.numecd.2023.03.012.
- [15] Atlas S, Kim K, Beinfeld M, Lancaster V, Nhan E, Lein P, et al. Medications for obesity management: effectiveness and value. Final evidence report 2022.
- [16] Liu BY, Rome BN. State coverage and reimbursement of antiobesity medications in Medicaid. JAMA 2024;331:1230–2. https://doi.org/10.1001/jama.2024.3073.
- [17] Otter AI Inc. Otter AI. https://otter.ai; 2021.
- [18] Hsieh HF, Shannon SE. Three approaches to qualitative content analysis. Qual Health Res 2005;15:1277–88. https://doi.org/10.1177/1049732305276687.
- [19] Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. Int J Qual Health Care 2007;19:349–57. https://doi.org/10.1093/intqhc/mzm042.
- [20] Wilding JPH, Batterham R, Davies M, Van Gaal L f, Kandler K, Konakli K, et al. Weight regain and cardiometabolic effects after withdrawal of semaglutide: the STEP 1 trial extension. Diabetes Obes Metabol 2022;24:1553–64. https://doi.org/ 10.1111/dom.14725.
- [21] Jensterle M, Ferjan S, Janez A. The maintenance of long-term weight loss after semaglutide withdrawal in obese women with PCOS treated with metformin: a 2year observational study. Front Endocrinol 2024;15:1366940. https://doi.org/ 10.3389/fendo.2024.1366940.
- [22] Lincoff AM, Brown-Frandsen K, Colhoun HM, Deanfield J, Emerson SS, Esbjerg S, et al. Semaglutide and cardiovascular outcomes in obesity without diabetes. N Engl J Med 2023;389:2221–32. https://doi.org/10.1056/NEJMoa2307563.

- [23] Rubino D, Abrahamsson N, Davies M, Hesse D, Greenway FL, Jensen C, et al. Effect of continued weekly subcutaneous semaglutide vs placebo on weight loss maintenance in adults with overweight or obesity: the STEP 4 randomized clinical trial. JAMA 2021;325:1414–25. https://doi.org/10.1001/jama.2021.3224.
- [24] Dolinar R, Kohn CG, Lavernia F, Nguyen E. The non-medical switching of prescription medications. Postgrad Med 2019;131:335–41. https://doi.org/ 10.1080/00325481.2019.1618195.
- [25] Sumithran P, Prendergast LA, Delbridge E, Purcell K, Shulkes A, Kriketos A, et al. Long-term persistence of hormonal adaptations to weight loss. N Engl J Med 2011; 365:1597–604. https://doi.org/10.1056/NEJMoa1105816.
- [26] Fothergill E, Guo J, Howard L, Kerns JC, Knuth ND, Brychta R, et al. Persistent metabolic adaptation 6 years after "The Biggest Loser" competition. Obesity 2016; 24:1612–9. https://doi.org/10.1002/oby.21538.
- [27] Puhl RM. Weight stigma and barriers to effective obesity care. Gastroenterol Clin N Am 2023;52:417–28. https://doi.org/10.1016/j.gtc.2023.02.002.
- [28] Wu Y-K, Berry DC. Impact of weight stigma on physiological and psychological health outcomes for overweight and obese adults: a systematic review. J Adv Nurs 2018;74:1030–42. https://doi.org/10.1111/jan.13511.
- [29] Puhl R, Suh Y. Health consequences of weight stigma: implications for obesity prevention and treatment. Curr Obes Rep 2015;4:182–90. https://doi.org/ 10.1007/s13679-015-0153-z.
- [30] Bispo Jr.JP. Social desirability bias in qualitative health research. Rev Saude Publica 2022;56:101. https://doi.org/10.11606/s1518-8787.2022056004164.