HHR Health and Human Rights

DREXEL UNIVERSITY Dornsife School of Public Health

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Too Big to Lose Weight: How Pharmaceuticalization Corrupts the Right to Health

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Abstract

Treating obesity with weight-loss medications has redirected clinical attention toward health conditions long stigmatized as personal failings, while potentially benefiting comorbidities such as mental health. Yet this "pharmaceuticalization" is deeply intertwined with the broader financialization of health care, enabling extractive practices by dominant drug makers operating in highly concentrated markets. These dynamics unfold under limited public oversight, ultimately undermining the realization of the right to health and redefining medical progress through corrupted practices of market expansion and control. This paper adopts a moral and political economy perspective to examine the pharmaceuticalization of obesity and its intersections with mental health, revealing its implications for health systems in the United States and low- and middle-income countries.

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Competing interests: None declared.

Introduction

The treatment of obesity through pharmacological and surgical interventions gained prominence in the United States about two decades ago, when the medical community formally recognized obesity as a disease. Among available treatments, the use of weight-loss medications accelerated in the early 2010s and drew widespread attention as obesity rates surged during the COVID-19 pandemic. Between 2019 and 2023, this "pharmaceuticalization" of obesity expanded dramatically—by more than 700%—with glucagon-like peptide-1 (GLP-1) receptor agonists leading among therapies for weight and eating disorders. By 2024, about one in eight US adults had tried one of these blockbuster prescription drugs.[1]

The medical treatment of obesity has reshaped societal perceptions of eating disorders—from personal failures to legitimate health conditions deserving clinical attention. Beneath the surface excitement surrounding a clinical innovation that appears to reduce blame and stigma by empowering patients, however, lies a political economy that exposes corporate practices undermining the very realization of the right to health and health care. Obesity today is not only medicalized but also financialized: pharmaceutical manufacturers with dominant market power and ownership ties to financial actors pursue investor expectations, prioritize commercial interests over disease prevention, and engage in value-extraction practices under limited public oversight.

The pharmaceuticalization of obesity carries wide-ranging implications for public health—from its intersections with mental health and diabetes to its structural effects on the health care system. Studies estimate that up to 70% of individuals with obesity also experience psychiatric comorbidities. Reliance on specific medications, particularly GLP-1 receptor agonists—has generated market distortions affecting access to diabetes treatments. These include constraints on human insulin manufacturing capacity, artificial drug shortages, soaring insulin prices, and mounting financial pressure on state-funded insurance programs. The ramifications extend beyond US borders: the decline of human insulin production in the United States exacerbates fragile health care infrastructures in low- and middle-income countries (LMICs), skews national strategies for addressing obesity and mental health, and compromises access to essential medicines.

While scholarship on the financialization of health care continues to expand, its implications for the life sciences and access to medicines remain comparatively understudied.[2] This paper addresses that gap in two ways. First, it examines the medicalization of obesity and its comorbidities through the lens of the political economy of health care financialization, focusing on policy choices that allocate power to dominant drug makers operating in highly concentrated markets. Second, it advances a distinct understanding of institutional corruption as the transfer of governance to private actors, favoring self-interested exercises of governing power in drug commercialization that redefine medical progress in terms of market expansion and control. These dynamics ultimately dismiss the social determinants of obesity, threatening the advancement of public health objectives and weakening the protection of fundamental rights to health and health care.

The discussion unfolds across five sections. The first section explores the interconnections between obesity, mental health disorders, and chronic diseases such as diabetes. The second section examines how the focus on pharmacological treatments sidesteps social determinants of health and, instead, reinforces corporate control over related industries. The third section offers a political economy analysis of obesity in the United States and globally, illustrating how market concentration among a handful of pharmaceutical firms producing insulin and obesity drugs epitomizes the financialization of research and development (R&D) of medical treatments. The fourth section identifies the transnational consequences of pharmaceuticalization, particularly in Africa and Latin America. The last section concludes by urging health policy makers and legislators to reassess the implications of inadequately monitored pharmaceuticalization, consider its effects on mental health and chronic diseases,

and integrate a right to health approach into future policies on access to medicines.

Obesity and mental health

According to the World Health Organization (WHO), more than one billion individuals experience obesity.[3] The World Bank estimates that nearly 70% of them reside in LMICs.[4] Among high-income countries, the United States consistently reports the highest prevalence of adult obesity.[5] In the United States alone, obesity affects at least one-third of the population.[6] According to the US Centers for Disease Control and Prevention, prevalence rates in the US adult population have risen to 40% over the past decade.[7] Obesity among children and adolescents (ages 2–19) has also steadily increased, reaching 19.7% in recent years.[8] Despite obesity's longstanding and widespread prevalence in the United States and globally, official recognition of obesity as a disease deserving of medical treatment emerged only two decades ago—a shift influenced by factors beyond scientific evidence.

Obesity emerged as a significant public health concern only in the mid-20th century, when WHO officially recognized obesity as a disease in the 1948 International Classification of Diseases. Yet it was not until 1997, coinciding with escalating medical costs associated with managing overweight globally, that the organization declared obesity a complex, incompletely understood, serious, and chronic disease and a global epidemic.[9] In 1998, the US National Institutes of Health, the largest funder of biomedical innovation worldwide, declared obesity a chronic disease. This decision was informed by decades of physiological research on the mechanisms governing body weight, acknowledging obesity's multifactorial nature and its profound public health implications.[10]

Today, a number of medical societies classify obesity as a chronic medical condition. The American Obesity Society recognized obesity as a disease in 2008, but it was not until the American Medical Association classified it as a disease in 2013 that obesity was formally medically recognized and treated in the United States.[11] The American Medical Association's decision was not based solely on new scientific evidence—it was significantly influenced by industry interests, particularly those of the pharmaceutical and weight-loss sectors, which saw market expansion as medical progress.[12]

US health agencies consistently define obesity primarily through body mass index (BMI)—a measure of body fat, with thresholds varying by age and sex. While this measure provides a standardized diagnostic criterion, it inadequately captures the complex and multifaceted nature of obesity, particularly its strong association with mental health issues and its high prevalence among psychiatric populations. Comorbidities between obesity and psychiatric disorders, such as depression and anxiety, are well-documented and suggest shared risk factors. Individuals with a mental health illness exhibit a two- to three-fold increased risk of obesity, whereas the risk of mental illness in individuals with obesity ranges between 30% and 70%.[13] Adolescents with depression, for example, are more likely to develop elevated BMI later in life, and individuals with obesity also report higher incidences of major depressive episodes relative to their healthy-weight counterparts.[14] The prevalence of obesity among psychiatric populations is also significant. Estimates suggest that up to 60% of individuals with bipolar disorder, 70% with schizophrenia, and 50% with depression experience obesity. Obesity in women in particular has been associated with symptoms of serious psychological distress, posttraumatic stress disorder, and depression, while in men, obesity correlates with generalized anxiety disorder and distress.[15] Studies show that psychological conditions such as posttraumatic stress disorder can influence BMI trajectories, further entrenching the bio-directional relationship between mental health and obesity.[16] Among patients seeking surgical interventions, psychiatric comorbidities are prevalent, with lifetime estimates ranging from 60% to 70% for depression, binge-eating disorder, and anxiety disorders.[17] The correlation between obesity and mental health is hardly invisible.

The increasing recognition of obesity's connection to metabolic conditions, such as type 2 diabetes, hypertension, and cardiovascular

diseases, has intensified pressure to treat obesity pharmacologically, notably with insulin and related drugs. Since the US Food and Drug Administration (FDA) approved GLP-1 receptor agonists for adolescents as young as 12, there has been a dramatic increase in the use of insulin to produce weight-loss prescription drugs.[18] From 2019 to 2023, the number of overweight patients receiving GLP-1 therapies in the United States increased by more than 700%, with women making up nearly 60% of users.[19] GLP-1 drugs underscore the complex interplay between obesity management, mental health, and metabolic health. For example, clinical data indicate a risk of retinal disease leading to blindness, which doubles among GLP-1 users after one year of treatment.[20] In the UK, increased reports of acute pancreatitis linked to taking weight-loss and diabetes injections have prompted health officials to carry out studies on GLP-1 side effects.[21] Receptor agonists of GLP-1 drugs for weight management have demonstrated antidepressant and anxiolytic effects.[22] According to a survey conducted in seven countries with high diabetes prevalence, three out of every four people with diabetes have experienced impacts on their mental well-being.[23] The risk of diabetes is likely to increase in patients exhibiting biochemical changes as a result of psychiatric disorders and those who receive treatment for mental health disorders.[24] There is a lower incidence of depression among patients treated with GLP-A receptor agonists compared to other insulin-based drugs, and a lower risk of both incident and recurrent suicidal ideation compared to other anti-obesity and anti-diabetes medications.[25] These links between obesity and mental health disorders suggest that patients with comorbidities, treated for mental health and weight loss with insulin-based medications, are thus exposed to a unique set of increased health risk factors.

Sidelining determinants of health through the pharmaceuticalization of obesity

Obesity is heavily shaped by mainstream psychiatry and public health narratives. Behaviors of bingeing, purging, and self-starvation are treated as psychological pathologies requiring individual psychological therapeutic intervention.[26] Public health initiatives for obesity prevention focus primarily on individual behavior modification. By framing obesity as an individual choice, public health policies are largely prevented from identifying and addressing the structural determinants of eating disorders. Food insecurity, discrimination, exposure to state violence, wealth inequality, and intergenerational trauma, affecting mostly disadvantaged populations, are some of the determinants of health that the medicalization of eating disorders ignores.[27]

The increasing reliance on pharmacological and surgical interventions to treat obesity has shifted the perception of eating disorders from a stigmatized, personal failure to a legitimate clinical condition deserving of medical attention. Both approaches—obesity as a social stigma and obesity as a clinically treatable disease—however, build on an individual-choice approach to eating disorders that may not always be convenient from human rights and public health law perspectives. While the shift can be empowering for patients, it can further reinforce health conditions as individual pathologies, unduly placing the onus on people rather than the enmeshing institutions themselves. From a public health perspective, the medicalization of eating disorders is a form of state intervention that, without addressing the broader social, economic, corporate, and environmental determinants shaping medical conditions, shifts the responsibility of the government in prioritizing population health to citizens. But eating disorders are symptoms of larger structural problems, many of which result from inadequate regulatory environments that allow corporations to value extraction, with implications for the population's mental health and comorbidities.

Treating obesity with GLP-1 drugs undercovers additional layers of unaddressed determinants of health. The medical establishment may weaponize weight loss as a solution to broader structural problems—and shift policy makers' attention away from those structural problems.[28] Obesity treatments are growing in popularity yet not accompanied by expanded health insurance coverage, improved health literacy about medical approaches to weight

loss, or efforts to address junk food politics and food insecurity in marginalized communities.[29] On the other hand, the food industry profits from creating addiction to unhealthy, hyper-processed foods, while medical institutions are set to treat the consequences of the consumption patterns the food industry creates. Government subsidies favor the production of backbone ingredients for ultra-processed foods disproportionately consumed by low-income communities, whereas fresh produce and whole foods receive little financial support, becoming more expensive and less accessible options.[30] Calorie-counting policies as part of food labeling place the burden of responsibility on consumers rather than on food manufacturers, reinforcing the myth that poor health outcomes are caused by individual choice rather than the design and governance of the food system.[31] All of these policies foster a food environment in which the most affordable options are also the least nutritious and are obesity drivers.

Furthermore, an individual-responsibility approach to obesity may reinforce gender-, race-, and class-based stigmas around food consumption.[32] Eating disorders are ignored as adaptive and survival mechanisms developed in response to systemic oppression, deeply embedded in histories of trauma, racism, economic precarity, and cultural pressure.[33] Despite its apparent neutrality and universality, the mainstream narrative of obesity as an individual psychological problem positions eating disorders as conditions primarily affecting a specific population subgroup—namely, white, middle-class women who struggle with body image and the pursuit of thinness. A medicalized framing erases the experiences of other populations heavily affected by eating disorders, including people of color, LGBTQ+ individuals, poor and working-class communities, and immigrants, among others. For these groups, eating disorders are often shaped by structural historical, economic, and social contexts rather than merely aesthetic concerns. Constructions of fatness have historically been used to justify anti-Blackness, colonialism, and economic exploitation.[34] People of color face higher rates of medical fatphobia, yet health care providers prescribe weight-loss medication as a universal solution. Black and Latino communities systemically encounter structural barriers to health, such as food deserts, labor exploitation, and environmental racism. Empirical work consisting of interviews with working-class women of color suggests that women used food restriction, bingeing, purging, and other patterns that are unrecognized by medical professionals as mechanisms to navigate unsafe environments, cope with abuse, or assert control in precarious conditions.[35]

The clinical erasure of marginalized populations affected by eating disorders has profound, real consequences. For example, marginalized communities are significantly less likely to be diagnosed with eating disorders than their counterparts, even when they exhibit the same symptoms.[36] Sociological studies claim this moral discourse of clinical erasure reinforces fatphobia, racialized health narratives, and economic stigmas. For example, tracing the historical construction of fatphobia suggests that body size has long been used as a measure of moral worth, disproportionately harming Black women, who are often stereotyped as "naturally" overweight and "punished" as undeserving of medical intervention. The medicalization of obesity with insulin-based medications further entrenches these social inequalities. Recent studies show that among the US adults who are clinically eligible to receive GLP-1 drugs (semaglutides Ozempic and Wegovy, and tirzepatide Mounjaro), some population groups who bear the biggest burden of obesity encounter access-to-medicine challenges. For example, men are less likely than women to receive prescription drugs, while Black, Hispanic, and Asian individuals are less likely than white individuals to receive them.[37]

Pharmaceuticalization, health care financialization, and corrupted medical progress

Treating obesity with insulin-based GLP-1 weight-loss drugs has gained popularity in the United States as the FDA has expanded approvals for these drugs. Industry-sponsored scientific studies supporting

the treatment of obesity with these medications have proliferated in recent years, spurring regulatory approval of these treatments for adolescents and adults. Ozempic, manufactured by Novo Nordisk, was approved by the FDA for children as young as 12, whereas Saxenda—a similar weight-loss drug from the same manufacturer but with a different active ingredient—has reported off-label clinical practices with patients as young as six years old.[38] In April 2025, WHO decided for the first time to officially back the use of weight-loss drugs to treat obesity in adults, marking an important shift in its approach to treating obesity with medicine.[39] Although it conducted a public consultation on a draft guideline, WHO had yet to release new guidelines on treating obesity with GLP-1 weight-loss drugs as of November 2025.

The pharmaceuticalization of obesity strips eating disorders of their political and economic context. The global insulin market is highly concentrated, with a few dominant pharmaceutical companies controlling the majority of production and commercialization: Novo Nordisk (Denmark), Eli Lilly (United States), and Sanofi (France). This structure reflects a broader trend of market concentration in the pharmaceutical industry, where a few corporations wield significant power over drug prices and access. Novo Nordisk, in particular, has established itself as a leader with an extensive portfolio of diabetes and obesity drugs globally, a powerful position that enables it to influence insulin pricing and availability.[40] The Danish pharmaceutical company holds about 50% to 60% of the insulin market worldwide and a leading share in obesity treatments, bringing significant implications for the political economy of obesity drugs and the development and marketing of GLP-1 receptor agonists.[41] Based on market capitalization and stock performance, Novo Nordisk is considered one of Europe's most valuable companies, with a share price that has quadrupled over the last five years (2019–2024). The company's profitability has also surged, with net income rising from US$4.3 billion in 2019 to more than US$16 billion in 2023.[42]

Novo Nordisk distances itself from the individual-responsibility approach and refrains from blaming individuals, food companies, or government policies for obesity. Instead, it characterizes obesity as a societal burden with economic implications. Although the company still uses a biomedical framing to call obesity an epidemic, it emphasizes the economic benefits that treatment can bring to governments, taxpayers, and the economy. In doing so, Novo Nordisk shifts the focus to unmet medical demand and paints itself as a scientific pioneer in responding to obesity with weight-loss medicine.[43] The company positions itself as a benevolent and responsible corporate actor that offers a pharmaceutical solution to the obesity epidemic.

Alongside this societal-economic-burden framing, Novo Nordisk constructs a narrative of victimhood regarding people with obesity. It portrays people with obesity as underprivileged victims of the epidemic who are stigmatized and feel ashamed to seek medical help, whose brains are "challenged," and who require medical intervention.[44] In this way, Novo Nordisk casts itself as a fighter of obesity stigma, a promoter of childhood obesity prevention, and a provider of pharmaceutical solutions. Importantly, the company presents people with obesity—particularly children—as a public health risk. The tension between benevolent messaging and a sales-driven agenda is apparent: the solution to obesity, Novo Nordisk says, is not exercise or lifestyle changes, but medical treatment—specifically, GLP-1 pharmaceuticals. The company has provided clinicians with scripted dialogues for talking with patients about obesity as a chronic disease and has advocated for insurance coverage for obesity treatment.

Novo Nordisk's approach to obesity must be situated within the larger phenomenon of the financialization of health care.[45] This trend is exemplified by financial actors' growing appetite as investor-owners in the pharmaceutical industry and by pharmaceutical companies' prioritization of financial returns and stability to satisfy investors over public health risks. Under this model, enhancing innovation or increasing access to resulting technologies is not prioritized; share value can be increased even without sales-based revenues—for example, through the accumulation of exclusion-

ary rights (e.g., patents). Today, Novo Nordisk's expected share value benefits from both share-value creation and sales strategies. The company not only holds exclusivity rights and is a dominant player with half the share of the global insulin market but also profits from high insulin prices, particularly in the United States, where patients pay more than in other affluent economies.[46] The company also secures greater drug sales by closing deals with insurance companies. For example, in April 2025, the largest pharmacy benefit manager in the United States, CVS Caremark, announced that starting in July, Novo Nordisk's Wegovy would be the preferred GLP-1 medicine on its largest commercial formularies, making Novo Nordisk's weight-loss drug more accessible to patients than its Eli Lilly-produced rival, Zepbound.[47]

Share-value corporate strategies shape decision-making on profit allocation. Novo Nordisk's R&D expenditure ratios for insulin have been decreasing since 2009, but shareholder distributions have increased.[48] For example, in 2009, the company spent 94% of total shareholder distributions on R&D, while by 2018 this figure had dropped to 54%. The company also funds scientific research through the Novo Nordisk Foundation, though this represents only 7% of total shareholder distributions. Novo Nordisk also leverages other corporate practices to boost its share value. Share buybacks, for example, played a key role in increasing the company's stock price by 293% between 1999 and 2018. Share buybacks—although a legal tool to encourage private sector investment in the US economy—ultimately benefit company shareholders with surplus value that is extracted rather than reinvested in the economy.[49] The strategy of maximizing shareholder value also informs Novo Nordisk's innovation investment portfolio and commercial plans. Between 2009 and 2018, the company's focus on insulin sales grew, with these sales accounting for 81% of total revenues. The business strategy involved halting research on oral diabetes medication in 2011 and deliberately shifting the company's R&D investments toward insulin and injectable diabetes treatments, which promised higher returns—though this shift also created access problems in countries where storing injectables was challenging, as will be discussed later.

A critical view of drug makers' corporate practices suggests that a focus on financial returns through share repurchases or commercial strategies to increase insulin prices might be contributing to a tension between innovation and financialization.[50] While these corporate practices may help finance R&D (though not in a representative way), they also limit long-term scientific progress by restricting the research focus. The pharmaceuticalization of obesity and the focus on insulin-based GLP-1 drugs is a clear example. In November 2023, Novo Nordisk announced the discontinuation of Levemir— its prescription insulin detemir for patients with type 2 diabetes—for commercial reasons.[51] This decision was unexpected and resulted in insulin shortages for patients with diabetes. Under US regulations, drug makers must notify the FDA six months before they discontinue a product. However, even when companies follow this notification rule—as in the case of Novo Nordisk—these regulations alone cannot prevent shortages. Responding quickly to a supply gap is challenging, especially when alternative manufacturing capacities are unavailable.[52] Artificial insulin shortages resulting from unilaterally discontinuing a product have forced US patients to change their treatment regimens, exposing wider health system challenges, such as insufficient medical staff to apply the alternative treatments. Intellectual property rights relating to ingredients and devices raise another set of complexities difficult to overcome within the six-month period. For example, patents on insulin detemir expired only in 2019, delaying the market entry of biosimilar products. Meanwhile, patents on insulin delivery devices are in force until 2032 (and yet subject to litigation against another dominant insulin manufacturer, Sanofi), limiting the entrance of generics and less expensive alternatives. In response to shortages of diabetes drugs and blockbuster obesity medication, the FDA authorized compounding pharmacies to produce copies of brand-name GLP-1 drugs for users to access at a reduced price.[53] Pharmaceutical companies, which saw compounders as a threat to their obesity drug

sales, responded with legal actions against these pharmacies, arguing that their copies were not safe. Their allegations were supported by hundreds of adverse-event reports submitted to the FDA, although a causal link between users' harms and compounded drugs remained unclear.[54] In parallel, more financialized actors have become interested in the medicalization of obesity, with similar expectations of financial returns. For example, private equity firms have demonstrated a growing interest in acquiring weight-loss clinics offering medications and wellness therapies, as well as research organizations conducting R&D on obesity.[55]

Drug makers' plans to discontinue the manufacturing of lucrative treatments in favor of more profitable revenue streams can be anticipated—for example, by looking into the relative profitability of products within a company's product portfolio.[56] However, it remains difficult to estimate with certainty when production capacity will become constrained since product-level manufacturing information is rarely publicly available. When Novo Nordisk repurposed its existing insulin production lines to produce blockbuster GLP-1 drugs for diabetes and obesity, there was speculation about the company's manufacturing capacity and production plans.[57] Proscribing the repurposing of a company's existing production capacity when alternative means of manufacturing are nonexistent—or requiring a company to reinvest a percentage of profits, once a certain threshold is met, to increase manufacturing capacity—could be ways to counteract socially harmful shareholder-value-maximization practices. Additional actions could include transparency commitments to public investors to disclose data on staff, infrastructure, and resources available by product and location to allow for better estimations of production capacity constraints.[58] These are all responses that governments can take to guarantee people's health rights and curb the effects of financialization. It is the government's role to foster a well-functioning market in which the voluntary departure of a manufacturer does not harm patients or the health system's functioning. Legislators and policy makers should ensure that alternative suppliers, domestically or globally, are ready to address people's medical demands without exacerbating existing health disparities.

The effects of pharmaceuticalization in low- and middle-income countries

The rapid adoption and high costs of insulin and GLP-1 drugs have influenced perceptions of obesity treatment in LMICs, too. Local approaches to obesity and mental health are often influenced by the dominant medical models from the northern hemisphere, which emphasize pharmacological solutions and are supported by aggressive marketing campaigns and corporate influence over policymaking and clinical research to establish and sustain blockbuster drugs' market dominance.[59] Pharmaceutical giants thus influence medical knowledge and treatment practices, framing obesity as a primarily medical issue needing medication.[60] However, due to high costs, limited health care infrastructure, and deregulatory state policies—or the supranational regulatory power of agencies such as the FDA—many countries in Latin America and Africa face restricted access to these medications.[61] Moreover, pharmaceuticalization influences resource allocation: countries may prioritize expensive medications over comprehensive public health strategies that address the broader determinants of health, affecting overall health outcomes and mental health strategies in these regions.

The repurposing of manufacturing capacities and the resulting limited accessibility of insulin treatments have had terrible consequences for people with chronic diseases in Africa. For one, Novo Nordisk is the primary supplier of insulin to the South African public health system, which serves the population with the highest prevalence of diabetes in the region. The company's decision to phase out the production of insulin pens, which are easier to use than injectables and allow more accurate dosing, significantly harmed patients.[62] This decision left the South African public health system with the strenuous task of shifting its patients onto new formulations within a four-month span. Among other measures, the National Department

of Health directed health care workers to ration the scarce supply of insulin pens, prioritizing elderly patients, young children, and patients with visual impairments or arthritis. Other wider health system effects included the diversion of health care workers and resources to support the transition, resulting in treatment delays for other medical conditions. Even in a well-resourced health system, the time and resources required to transition patients would have been considerable. Health care workers in the United States, for example, are not spread evenly to reliably facilitate a change in regimens, resulting in expensive care or limited long-acting treatment options for many patients.[63]

Similar supply constraints have been reported in Latin America because of manufacturing repurposing. In Colombia, for example, officials have reported nationwide shortages of both long- and short-acting insulin, including Novo Nordisk's product Tresiba, blaming "market factors."[64] In a highly concentrated insulin market, problems affecting any one of the three main drug makers can have significant consequences for the availability of products, without the possibility of other suppliers being able to respond in a timely manner.

Beyond the issue of shortages, manufacturers have not lowered global prices for GLP-1 drugs or insulin, while generic medicines are unavailable due to patent protections. This has had the effect of limiting access for lower-income populations at the same time that affluent patients are accessing these medicines through private health care, creating a new set of distortions in access to health, most visible in settings with greater social and economic inequalities.[65] In countries such as Argentina and Chile, government programs have attempted to curb this limited access by including newer diabetes medications and making these drugs available through certain public health care programs, especially for managing diabetes and obesity.[66]

One way to address GLP-1 drugs' high costs is by increasing supply through local manufacturing. In April 2025, Novo Nordisk announced plans to expand its manufacturing plant in Brazil.[67] Brazil is an important market for Novo Nordisk's obesity drugs. It represents the pharmaceutical's fifth biggest market worldwide and the Latin American country with the most significant adoption and usage of GLP-1 drugs, particularly in urban and private health care settings.[68] With the expanded manufacturing facility in Brazil, Novo Nordisk plans to serve local demands but also to strengthen the company's global production capacity by producing injectables, including anti-obesity drugs Ozempic and Wegovy, in 2028 and producing a generic drug based on semaglutide—Ozempic and Wegovi's active ingredient that is set to lose patent protection in Brazil in 2026.[69] Novo Nordisk's manufacturing expansion plans could address the high increase in diabetes in the Latin American region, which has been significantly associated with high rates of obesity.[70] However, the fact that only 13% of Latin America's locally manufactured drugs serve domestic needs raises concerns that expanded local manufacturing capacity may be directed primarily toward higher-paying markets outside of the region.

Conclusion

When policy and practice emphasize medication and surgical interventions as primary solutions, they sideline the social and structural determinants of health. This narrow biomedical framing also reinforces corporate control over health care systems and the adjacent food industry. When obesity is cast as a clinical problem to be managed through pharmaceuticals, policy makers inadvertently legitimize the commercial interests of pharmaceutical companies.

Legislators and policy makers must interrogate the deeper structural forces that shape eating and mental health disorders. A moral political economy framework, informed by human rights, provides a productive lens for this task. The moral dimension underscores the ethical failures of medicalization—how gender, race, and class influence social understandings of eating and body disorders—while pharmaceutical firms define treatments according to their own commercial imperatives. The political economy dimension reveals how the medicalization of obesity transfers governing power to dominant pharmaceutical companies

operating in highly concentrated markets, raising questions about the accountability of corporate power. A human rights perspective recenters the right to health and health care as a guiding principle for scientific progress in medicine. Such an approach may help anticipate future long-term effects of widespread GLP-1 use and internalize damages when governments negotiate further availability and affordability with drug makers (for example, drug negotiation processes mandated by the US Inflation Reduction Act, or price controls directly discussed with Novo Nordisk). Similarly, the approach may help assess the antitrust risk of corporate practices in the consolidated market of obesity blockbuster prescription drugs (for example, in the context of Pfizer and Novo Nordisk's acquisition battle for weight-loss startup Metsera).

Acknowledgment

I am grateful to Lucy Gilchrist for her research assistance.

References

1. A. Montero, G. Sparks, M. Presiado, and L. Hamel, "KFF Health Tracking Poll May 2024: The Public's Use and Views of GLP-1 Drugs," *KFF* (May 10, 2024), https://www.kff.org/health-costs/kff-health-tracking-poll-may-2024-the-publics-use-and-views-of-glp-1-drugs/.

2. J. D. Bruch, V. Roy, and C. M. Grogan, "The Financialization of Health in the United States," *New England Journal of Medicine* 390/2 (2024); E. C. Fuse Brown, "Defining Healthcare Corporatization," *New England Journal of Medicine* 393/1 (2025); E. C. Fuse Brown and H. Rooke-Ley, "Health Care Financialization," *Journal of Health Care Law and Policy* 29/1 (2026); X. Benavides, "The Financialization of Digital Clinical Trials," in G. Cohen, S. Baruch, W. Netter Epstein, et al. (eds), *Health Law as Private Law* (Cambridge University Press, 2025).

3. World Health Organization, *Obesity and Overweight: Fact Sheet* (2025).

4. World Bank, "Obesity-Related Diseases Among Top Three Killers in Most Countries, World Bank Says," (February 6, 2020), https://www.worldbank.org/en/news/press-release/2020/02/05/obesity-related-diseases-among-top-three-killers-in-most-countries-world-bank-says.

5. Institute for Health Metrics and Evaluation, "The Lancet: More Than Half of Adults and a Third of Children and Adolescents Predicted to Have Overweight or Obesity by 2050" (March 3, 2025), https://www.healthdata.org/news-events/newsroom/news-releases/lancet-more-half-adults-and-third-children-and-adolescents.

6. C. Avila, A. C. Holloway, M. K. Hahn, et al., "An Overview of Links Between Obesity and Mental Health," *Current Obesity Reports* 4 (2015).

7. US Centers for Disease Control and Prevention National Center for Health Statistics, "Obesity and Severe Obesity Prevalence in Adults: United States, August 2021–August 2023" (2024), https://www.cdc.gov/nchs/products/databriefs/db508.htm.

8. US Centers for Disease Control and Prevention, "Childhood Obesity Facts" (April 2, 2024), https://www.cdc.gov/obesity/childhood-obesity-facts/childhood-obesity-facts.html.

9. World Health Organization, *Obesity: Preventing and Managing the Global Epidemic* (1997); World Health Organization, *Obesity and Overweight: Fact Sheet* (2016).

10. National Heart, Lung, and Blood Institute, *Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults* (1998).

11. A. M. Jastreboff, C. M. Kotz, S. Kahan, et al., "Obesity as a Disease: The Obesity Society 2018 Position Statement," *Obesity* (2019); Obesity Medicine Association, "AMA House of Delegates Adopts Policy to Recognize Obesity as a Disease" (June 19, 2013), https://obesitymedicine.org/blog/ama-adopts-policy-recognize-obesity-disease/.

12. L. M. Funk, S. A. Jolles, and C. I. Voils, "Obesity as a Disease: Has the AMA Resolution Had an Impact on How Physicians View Obesity?," *Surgery for Obesity and Related Diseases* 12/7 (2016).

13. M. De Hert, C. U. Correll, J. Bobes, et al., "Physical Illness in Patients with Severe Mental Disorders," *World Psychiatry* 10/1 (2011).

14. J. K. Soczynska, "Mood Disorders and Obesity: Understanding Inflammation as a Pathophysiological Nexus," *Neuromolecular Medicine* 13/2 (2011).

15. T. J. Smith, A. White, L. Hadden, et al., "Associations Between Mental Health Disorders and Body Mass Index Among Military Personnel," *American Journal of Health Behavior* 38/4 (2014).

16. K. S. Mitchell, A. E. Aiello, S. Galea, and M. Uddin, "PTSD and Obesity in the Detroit Neighborhood Health Study," *General Hospital Psychiatry* 35/6 (2013).

17. S. Saarma, S. Sockalinga, and S. Dash, "Obesity as a Multisystem Disease: Trends in Obesity Rates and Obesity-Related Complications," *Diabetes, Obesity, and Metabolism* 23 (2021).

18. Food and Drug Administration, "FDA Approves Weight Management Drug Patients Aged 12 and Older" (December 4, 2020), https://www.fda.gov/drugs/news-events-human-drugs/fda-approves-weight-management-drug-patients-aged-12-and-older.

19. E. Mahase, "GLP-1 Agonists: US Sees 700% Increase

Over Four Years in Number of Patients Without Diabetes Starting Treatment," *British Medical Journal* (2024).

20. J. E. Vergroesen, E. F. Thee, F. Ahmadizar, et al., "Association of Diabetes Medication With Open-Angle Glaucoma, Age-Related Macular Degeneration, and Cataract in the Rotterdam Study," *JAMA Ophthalmology* 140/7 (2022).

21. A. Bawden, "Hundreds of Weight Loss and Diabetes Jab Users Report Pancreas Problems," *Guardian* (June 26, 2025), https://www.theguardian.com/society/2025/jun/26/weight-loss-diabetes-jab-users-report-pancreas-problems.

22. D. Arillotta, G. Floresta, A. Guirguis, et al., "GLP-1 Receptor Agonists and Related Mental Health Issues; Insights from a Range of Social Media Platforms Using a Mixed-Methods Approach," *Brain Science* 13/11 (2023).

23. International Diabetes Federation, "Diabetes Impacts the Mental Well-Being of 3 in 4 People with the Condition" (November 13, 2024), https://idf.org/news/diabetes-hidden-burden/.

24. A. Busili, K. Kumar, L. Kudrna, and I. Busaily, "The Risk Factors for Mental Health Disorders in Patients with Type 2 Diabetes: An Umbrella Review of Systematic Reviews with and Without Meta-Analysis," *Heliyon* 10/7 (2024).

25. W. Wang, "Association of Semaglutide with Risk of Suicidal Ideation in a Real-World Cohort," *Nature Medicine* (2024); R. De Giorgi, Ana Ghenciulescu, Oliwia Dziwisz, et al., "An Analysis on the Role of Glucagon-Like Peptide-1 Receptor Agonists in Cognitive and Mental Health Disorders," *Nature Mental Health* (2025).

26. B. W. Thompson, *A Hunger So Wide and So Deep: A Multiracial View of Women's Eating Problems* (University of Minnesota Press, 1994), p. 67.

27. M. Nestle, *Soda Politics: Taking on Big Soda (and Winning)* (Oxford University Press, 2015), pp. 196–198; S. A. Karim, M. Alvarado, T. Johnson, and A. Barnhill, "Recognizing the Ethical Complexity of Food Policies and the Role of the Food Industry," *Health Promotion International* 39 (2024); S. Strings, "Obese Black Women as 'Social Dead Weight': Reinventing the 'Diseased Black Woman,'" *Signs* 41/1 (2025).

28. Strings (see note 27).

29. Ibid.; Karim et al. (see note 27).

30. M. Nestle, "Regulating the Food Industry," *American Journal of Public Health* 112/6 (2022), p. 854.

31. Nestle (2015, see note 27), p. 218.

32. V. Paez-Deggeller, "Reimagining Care for Eating Issues Through a Feminist Moral Political Economy Framework," Final Paper for EPE318, Yale University (2025) (on file with the author).

33. Thompson (see note 26), p. 101.

34. Strings (see note 27), p. 112.

35. Thompson (see note 26), pp. 69–95, 129–136.

36. R. Moreno, S. M. Buckelew, E. C. Accurso, and M. Raymond-Flesch, "Disparities in Access to Eating Disorders Treatment for Publicly-Insured Youth and Youth of Color: A Retrospective Cohort Study," *Journal of Eating Disorders* (2023).

37. E. Cornman, "Why Aren't People Who Need Weight Loss Drugs Getting Them?," Yale School of Medicine (March 26, 2024), https://medicine.yale.edu/internal-medicine/news-article/why-arent-people-who-need-weight-loss-drugs-getting-them/.

38. US Food and Drug Administration, "New Drug Therapy Approvals 2022" (2023), https://www.fda.gov/drugs/novel-drug-approvals-fda/new-drug-therapy-approvals-2022; E. Mahase, "Liraglutide: Weight Loss Injection Is Effective in Children Aged 6–11, Study Reports," *British Medicine Journal* 386 (2024).

39. J. Rigby, "WHO Set Back Use of Weight-Loss Drugs in Adults Globally, Raises Cost Issue," Reuters (May 1, 2025); J. Rigby, "Obesity Drugs Don't Make WHO's Essential List; Ebola, MS Drugs Added," Reuters (July 26, 2023).

40. R. Collington, "Profits, Innovation and Financialization in the Insulin Industry" Working Paper 120, Institute for New Economic Thinking (2020).

41. IQVIA Institute for Human Data Science, *The Global Use of Medicines in 2023* (2023).

42. Novo Nordisk, *Annual Report 2023* (2023).

43. E. Laine, *Novo Nordisk and Framings of Obesity for Corporate Goals*, master's thesis (Alto University, School of Business, 2024).

44. Ibid.

45. Bruch et al. (see note 2); Fuse Brown (see note 2); X. Benavides, "Quantified Progress," Working Paper (2025) (on file with the author).

46. Collington (see note 40).

47. E. Chen, "Eli Lilly Shares Fall as Competitor Novo Notches Coverage Win for Obesity Drug," *STAT* (May 1, 2025), https://www.statnews.com/2025/05/01/eli-lilly-zepbound-mounjaro-novo-nordisk-cvs-caremark-obesity-weight-loss/.

48. Collington (see note 40).

49. L. Palladino, *Good Company: Economic Policy After Shareholder Primacy* (University of Chicago Press, 2024).

50. Benavides (see note 45); Collington (see note 40); V. Roy, V. Amana, J. S. Ross, and C. P. Gross, "Shareholder Payouts Among Large Publicly Traded Healthcare Companies," *JAMA International Medicine* 185/4 (2025).

51. "*Novo Nordisk to Discontinue Levemir Insulin in U.S. Market*," Reuters (November 8, 2023), https://www.reuters.com/business/healthcare-pharmaceuticals/novo-nordisk-discontinue-levemir-insulin-us-market-2023-11-08/.

52. See US Public Law No. 12-144, 126 Stat. 993; M. J. Barber, A. Sofides, and R. Ramachandran, " *Counting on Insulin Manufacturers to Do the Right Thing Is Not a Good Policy Prescription to Avert Shortages*," *Health Affairs Forefront* (July 12, 2024).

53. K. Palmer and E. Chen, "The End of Compounded

GLP-1 Copies Leaves Many Patients in a 'Lose-Lose' Position," *STAT* (April 29, 2025), https://www.statnews.com/2025/04/29/compounded-glp-1-drugs-patients-seek-semaglutide-alternatives-wegovy-zepbound-mounjaro/.

54. K. Palmer, "Online Marketing for Compounded GLP-1 Drugs Overstates Benefits and Underplays Risks," *STAT* (January 17, 2025), https://www.statnews.com/2025/01/17/glp-1-drugs-compounded-weight-loss-drug-websites-fall-short-new-analysis/; Palmer and Chen (see note 53).

55. C. Rehfeldt, "Xponential Fitness to Acquire Weight Loss Clinic Lindora," *Athletech News* (December 4, 2023), https://athletechnews.com/xponential-fitness-to-acquire-weight-loss-clinic-lindora/.

56. Barber et al. (see note 52).

57. See, e.g., A. Hirschfeld, "*What Is Behind the Insulin Shortage in the US?*," *Aljazeera* (May 2, 2024), https://www.aljazeera.com/economy/2024/5/2/what-is-behind-the-insulin-shortage-in-the-us.

58. Barber et al. (see note 52).

59. K. Applbaum, "Getting to Yes: Corporate Power and the Creation of a Psychopharmaceutical Blockbuster," *Culture, Medicine and Psychiatry* 33/2 (2009).

60. J. Abraham, "Pharmaceuticalization of Society in Context: Theoretical, Empirical and Health Dimensions," *Sociology* 44/4 (2020).

61. X. Benavides, "Salud postpandemia: Influencia supranacional y coordinación regulatoria," *International Journal of Constitutional Law* 20/4 (2022).

62. Barber et al. (see note 52).

63. Ibid.

64. J. Smith, "Latin America Roundup: Colombia Confronts Insulin Shortage," *Regulatory Focus* (March 5, 2024), https://www.raps.org/news-and-articles/news-articles/2024/3/latin-america-roundup-colombia-confronts-insulin-s.

65. M. J. Barber, D. Gotham, H. Bygrave, and C. Cepuch, "Estimated Sustainable Cost-Based Prices for Diabetes Medicines," *JAMA Network Open* 7/3 (2024).

66. Ministerio de Salud de Argentina, *Guía de manejo de la diabetes mellitus tipo 2* (2020); Ministerio de Salud de Chile, *Guía clínica para el manejo de la diabetes mellitus tipo 2* (2021).

67. F. Kansteiner, "Novo Nordisk Plugs More Than $1B Into Upgrade of Brazilian Manufacturing Operations for Injectable Drugs, Including GLP-1," *Fierce Pharma* (April 8, 2025), https://www.fiercepharma.com/manufacturing/novo-nordisk-plugs-more-1b-upgrade-brazilian-manufacturing-operations-injectable.

68. Novo Nordisk, *Annual Report 2024* (2024).

69. Novo Nordisk, "Novo Nordisk Announces 8 Billion DKK Investment in Expansion of Production Facilities in Montes Claros, Brazil" (April 7, 2025), https://www.novonordisk.com/news-and-media/latest-news/production-expansion-montes-claros-brazil.html.

70. Pan American Health Organization, *Annual Report* (2025).