Fake obesity drugs are dangerous, warn experts

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Credit: Markus Winkler from Pexels

We're firmly in the "buyer beware" era of obesity drugs. And unfortunately, it seems like we're going to be stuck here for a while—even after product shortages are resolved.
There's recently been a flurry of worrying warnings about the safety and efficacy of knock-off obesity medications. Despite how these drugs are often marketed, they are not generic versions of Novo Nordisk's Wegovy or Eli Lilly & Co.'s Zepbound. And they might be dangerous, as a new study—and increased calls to Poison Control—make clear.

Consumers today are bombarded with messages about Wegovy and Zepbound (also known as semaglutide and tirzepatide, or by the names of their diabetes-drug counterparts, Ozempic and Mounjaro). Beyond the intense media coverage and TikTok weight-loss testimonials, there are online ads, billboards, signs in storefronts and "med spas." More recently, the drug manufacturers have produced their own glossy commercials.

"I dropped off my kids at camp this morning and saw a sign on the street that said, 'Get your semgalutide here' by some doctor prescribing it out of a clinic," Tim Mackey, a professor at UC San Diego's Global Health Program, where he studies counterfeit drugs. "That's kind of what the market looks like right now—a mix of different access points and risk factors for consumers."

Some of what's on offer is legit product, of course. But it's increasingly difficult for consumers to know what's real and what's too good to be true.

Mackey and his collaborators recently published work that hints at the reach and dangers of those counterfeit drugs. The group analyzed nearly 1,100 websites mentioning semaglutide in July 2023, and found that 134 of those directed people to illegal online pharmacies, where people could buy products without a prescription.

The researchers ordered samples from six rogue sites with the intention of analyzing their quality. But three orders never arrived, and the
vendors asked for more money to help the product clear customs—a common scam.

Of the products that did arrive, one appeared to be contaminated with bacteria and all three had a much higher amount of semaglutide than indicated on the label.

Because the researchers were only interested in businesses selling the drug without a prescription, they didn't investigate the practices of 148 telemedicine sites they identified that required one. But it's fair to say that buyers should beware of those, too.

The big issue here is the uncertain quality of their compounded semaglutide or tirzepatide. Compounded versions are not generics, but reside in a regulatory gray zone that allows pharmacies to sell alternate versions of brand-name products amid a drug shortage.

It's unclear where pharmacies are getting their active ingredient, and, as Bloomberg recently reported, whether they are preparing it under the kind of sterile conditions needed to keep out contaminants.

Still other sellers are offering the product in unproven formulations, like lozenges or oral drops, or mixed with ingredients that purport to improve weight loss or minimize side effects, but could affect the drug's efficacy.

A few different things are going on at once. Soaring demand has outpaced supply. Spotty insurance coverage has pushed some customers to look for cheaper alternatives. And consumers may be confused between the genuine product provided by pharmacies, the compounded product (mostly) legally sold by some clinics, and the counterfeit stuff.

The result has not been good for consumers. The World Health Organization in June warned the public about falsified vials of
semaglutide that contained undeclared ingredients, including insulin. And in July, the Food and Drug Administration warned consumers about dosing errors occurring with compounded drugs, some of which caused people to end up in the hospital.

Rather than the single-use pens sold by Novo Nordisk, compounders typically offer a vial of semaglutide and inexperienced patients injected far too much of the drug. Calls to Poison Control centers related to overdoses or side effects of this class of drugs have soared from less than 1,000 in all of 2019 to nearly 700 in June 2024 alone.

The problem may abate once Novo Nordisk and Lilly have sufficient manufacturing capacity to meet demand for Wegovy and Zepound. (The arrival of competing drugs could help, too.) In theory, the end of the drug shortage would spell the end of the compounding free-for-all—though some might find ways to get around the regulations to continue offering some version of the products.

A good sign came last week when the FDA indicated that tirzepatide was now considered available, a situation that Lilly CEO David Ricks had told Bloomberg was imminent.

Unfortunately, even if the compounding issue clears up, the problem with counterfeits is likely to persist. Mackey doubts a steady supply of legitimate product—or even significantly improved insurance coverage—can fix that problem, which has evolved into a game of regulatory Whac-a-Mole with new sites popping up as fast as others are shut down.

That's not dissimilar to the years-long game regulators have been playing with counterfeit producers of other products that have captured the cultural zeitgeist, like Viagra.