

**The \$100 billion opportunity: How anti-obesity drugs  
are reshaping healthcare and consumer behavior**

**Goldman Sachs Exchanges**

**Chris Shibutani, Senior Biotechnology Analyst,**

**Goldman Sachs Research**

**Jason English, Lead Equity Analyst, Household**

**Products & Packaged Food, Goldman Sachs Research**

**Allison Nathan, Senior Strategist, Goldman Sachs**

**Research**

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**Allison Nathan:** The next generation of anti-obesity medications is reshaping key sectors within and beyond healthcare. So, just how significant are these treatments?

**Chris Shibutani:** The breakthrough is that combination of efficacy and safety, we're certainly living in an era right now where social media has been able to really significantly amplify the experience and the level of awareness across a very broad swath of the population about these drugs.

And again, if you're addressing something as foundational as treatments to address overweight and obesity, you're

certainly going to be able to draw a lot of attention.

**Allison Nathan:** I'm Allison Nathan and this Goldman Sachs Exchanges.

[MUSIC INTRO]

To help explain the business and investor implications behind these drugs and ripple effects in other industries beyond healthcare, I'm sitting down with my colleagues in Goldman Sachs Research, Chris Shibutani and Jason English. Chris, Jason, welcome to the program.

**Chris Shibutani:** Thank you for having us.

**Jason English:** Thank you, it's really nice to be here.

**Allison Nathan:** Let's start with some context. The class of drugs known as GLP-1s, and that includes Wegovy, Mounjaro, Ozempic. We're hearing about all of these names right now. They've seemed to have burst onto the scene as a way to treat obesity, which we all know is a big problem in the US.

But more recently, these drugs seem to have captured the public's attention and are gaining wider adoption not just as obesity drugs, but as a way to just generally lose weight and improve health for those who aren't obese. Chris, why is this happening and why is it happening now?

**Chris Shibutani:** This phenomenon of trying to develop ways for people to manage their weight in chronic overweight and obesity has really been going on for a very long time. I think this moment is happening because we're having the convergence of several factors, including FDA approved drugs specifically labeled to address this condition. And we have a backdrop of experience with the category of drugs that is giving enough reassurance that these drugs are safe enough to be broadly used across the considerable population.

**Allison Nathan:** These drugs are coming after a long history of weight loss treatments. What is the breakthrough here?

**Chris Shibutani:** The breakthroughs is once again that combination of efficacy and safety. If you go back into the history of drugs, the percentage weight loss has not been

as meaningful as the current generation. Generally, less than 10 percent when these drugs are studied in clinical trials, usually for about a period of about a year. It's only more recently that these kinds of next generation level of drugs are getting you 15 and up to 20 percent or more percentage of weight loss.

I think the opportunity to develop safe and effective therapeutics is truly one of the holy grails for the industry. And we've seen over the last couple of decades that certainly there have been instances of drugs that have gotten all the way to the market with FDA approval, but then been stymied by Achilles heel of safety issues.

Many of you may recall drugs such as Fen-Phen which became effective and approved, but then fairly rapidly once it was available in general broad population, recognized to be a cause of very serious heart malfunctions and defects. And therefore, as a result, the drug was pulled from the market and the source of significant class action lawsuits for its manufacturer Wyeth. There have been other instances as well.

**Allison Nathan:** And give us a little bit of background in

terms of how these drugs actually work. What's different about these that makes them more effective?

**Chris Shibutani:** Yeah, so, the GLP-1s just on a very fundamental basis, these drugs mimic the action of naturally occurring hormone called glucagon-like peptide-1. We know that when blood sugar levels start to rise, someone eats, the drugs will stimulate the body to produce more insulin. And it's that extra insulin that will help maintain blood sugar levels as you see in diabetics.

But there are other impacts biologically that these drugs have, including on the GI system. We know that this slows the rate at which food passes through the stomach and into the intestines. It generates that sense of satiety and also there are effects on the brain as well which are thought to influence things like the reward center and promote the feelings of satiety.

In combination, all of these are clear factors which contribute to the efficacy profile of these drugs in the treatment of overweight and obesity.

**Allison Nathan:** And what makes this moment

particularly interesting in terms of the prospect of wider adoption?

**Chris Shibutani:** The right profile is essential. Efficacy and safety. We have that broad level of many years of experience of these GLP-1s in the diabetes population. And now you further amplify that with the impact of broader awareness.

We're certainly living in an era right now where social media has been able to really significantly amplify the experience and the level of awareness across a very broad swath of the population about these drugs.

And again, if you're addressing something as foundational as treatments to address overweight and obesity, you're certainly going to be able to draw a lot of attention.

**Allison Nathan:** You recently published research that put the potential market at \$100 billion by 2030. That is a really big number. So, how do you come up with that estimate?

**Chris Shibutani:** Yeah, that is a number that we pegged

as an estimate of the global market by the year 2030. And it starts really by just the significant number of people worldwide, but in particular as well in the US, that suffer from obesity and overweight. We quote data from the World Health Organization and the Center for Disease Control. You can estimate roughly about 100 or 105 million US adults that have the qualifications to enable them to take these medications.

We use a measure, body mass index, or BMI. We think about measures of BMI of 30 and higher. Or 27 and higher if you have other comorbidities. And that number has been significantly on the rise and is expected to continue to increase as we think about the balance of this decade.

So, it does start with that large patient number. And then it continues as we estimate what portion of these people will be eligible and will actually take these medicines. And there are various push/pulls in getting factors which can influence whether we have a number that is \$100 billion less or even potentially considerably more.

**Allison Nathan:** Well, these drugs are not cheap. So, let's start there because I think a lot of the usage will come

down to the cost and whether or not these drugs are covered by insurance. So, talk to us a little bit about the insurance coverage at this point and how you think it might evolve.

**Chris Shibutani:** Right. These drugs are prescription medications. And currently, when you think about the price tags for these medications, the GLP-1s for diabetes, and if you look at the approved drug Wegovy, it's roughly on the diabetes side just \$1,000 per month. This is a meaningful price tag. And we think about adults who have potential eligibility. We estimate that little over half, maybe 60 percent, will have some form of private insurance. But there's a very significant number of folks who older than the age of 65 would be eligible and qualified for Medicare and Medicaid. However, they do not have official coverage of anti-obesity medications through the Medicare program.

So, private insurance is a very significant component of this decision of whether the revenues will achieve those levels. And that's a journey of getting the insurance companies to agree to cover these drugs.

**Allison Nathan:** And where are we on that journey? Are we



seeing the insurance companies covering them at this point? Or what hurdles do people have to jump over?

**Chris Shibutani:** Yeah, we are seeing some progress if we quote Novo Nordisk, one of the leading companies and the manufacturer of Wegovy, they talk about an increase from roughly 50 - 60 percent of insurance companies providing some form of coverage. Now there are details that matter in terms of whether or not it's being automatic or as we know many different forms in which many people have to be on weight loss regimens or programs. But that number is increasing.

So, as we think about the scale and scope of this market opportunity, the \$100 billion number that we published, we've actually been quite conservative in terms of making any assumptions that these drugs will also be taken and reinforced in terms of use and insurance covering through additional studies, outcome studies. Not just to reduce weight, but to see whether the reduction and maintenance of weight loss can benefit people in other important medical ways such as known associations with heart disease. Cardiovascular disease still the number one killer. Oncology or cancer incidence is higher associations with

patients who have obesity and overweight. There are multiple ongoing studies looking across a spectrum of related conditions, even obstructive sleep apnea or OSA, for which there's a clear association and known medical risks. All of these ongoing studies, which are going to read out over the next few years, are meant to create, in essence, a wall of evidence to further compel insurance companies into the argument that it makes good pharma-economical sense for them to provide coverage for these anti-obesity medications.

**Allison Nathan:** But Chris, from my understanding, these drugs are only effective as long as you're actually taking them. So, some people are potentially looking at a lifetime of being on these drugs. How realistic is that really?

**Chris Shibutani:** That's a very important question and true. And is really foundational. It was 2013 that the American Medical Association declared obesity and overweight as a chronic disease. And these treatments, they are not cures. And also, if you think about it, the population are not a monolith. They're very heterogeneous.

And when you think about solutions, it's very hard to think

that a single drug or treatment is also going to be a solution. Therefore, I think we do recognize that the way these drugs work, you do have to continue to take them to lose and to maintain that weight loss. And to a significant extent, it is being recognized that this is just one part of the overall armamentarium of addressing overweight and obesity for the period of a patient going forward or a person going forward so that we don't see the all too familiar short-term but not sustainable solution.

**Allison Nathan:** And if you look at the behavior of what we actually know of people, there are some drugs that are currently being prescribed for a lifetime. We think about some blood pressure drugs, for example. Cholesterol drugs. Do we see a good track record of those type of lifetime drugs being maintained by individuals?

**Chris Shibutani:** Your question poses a very familiar aspect of human nature. Unfortunately, we actually don't, I think. And we think about many therapies to address very serious conditions, the ability to stay on these drugs is not impressive. For instance, for high cholesterol, a year later, only 50 percent of people who had a very significant event such as a heart attack are still not able to take those

medicines.

Now, with these drugs, there is a positive reinforcement in terms of physical appearance. The number on the scale. And even ways that people feel. So, there is incremental optimism on that ability of people to stay on these medicines. But time will tell.

**Allison Nathan:** Jason, let's bring you into the conversation. There seems to be a lot of growing concern about the US consumer, which had held up quite well. But at least as it relates to food and beverage, we are seeing a bit of a slowdown. And some people are already pointing to these drugs as a reason for that slowdown. They're pretty new on scene. So, are we seeing any evidence of that at this point?

**Jason English:** The short answer is no, Allison. It's just too early and it's just too small. We estimate that there's somewhere between 1 to 2 million consumers taking these drugs for weight loss today. That's less than 1 percent of the US adult population. That's just not meaningful enough to have a real dent on demand for these industries, yet, at least today.

**Allison Nathan:** But if we think about the forward, and obviously Chris just talked about huge market potential for these drugs, how could that start to impact consumer companies and food and beverage companies in particular?

**Jason English:** As we think about the forward, there could be multiple implications in terms of the impact on consumer behavior. The first and foremost is on the industry you touched on, food and beverage companies. What do these drugs do? They shrink appetite. They shrink caloric consumption, which is what results in the weight loss.

The studies that Novo has had out there, and there's some of the clinical research, I think, have yielded a 25 to 30 percent reduction in caloric intake for consumers on these drugs. If we scale the adoption in line with the forecast that Chris has to somewhere around 14 or 15 million consumers taking these drugs, in seven or eight years from now we're talking about an aggregate destruction of 2 to 3 percent of caloric intake in the US.

That may not sound like a big number. But when you're

looking at an industry that grows at most 50 basis points per year volumetrically, we're talking about six- or seven-years' worth of industry growth erased in a scenario such as that.

**Allison Nathan:** So, a lot of people seem to think that the sectors that are going to be hit by this are junk food and some obvious categories that you wouldn't want to be consuming as someone who's conscious about their weight. Do you think that's the case? Or what's your early read on what sectors will be most harmed by this? And then which ones could benefit?

**Jason English:** You put a really important caveat out there of early read. And this is a very early read. This is nascent right now. And a lot's going to change between now and three years and five years from now.

But the research we've done so far doesn't suggest that the consumer who's going on these drugs is the same consumer who's pounding beers and peanut butter cups on a daily basis. In fact, the early research suggests that this may be more of a middle-aged woman with children in their household who's been battling weight loss on the

regular already.

So, we've seen some categories in some of the profiling we've done-- and by the way, I should caveat this. The profile we've done is looking at people who are buying medications known to alleviate the side effects of this medication. We then made a leap and said, the people who are driving a spike in the drugs in particular, anti nausea, anti diarrhea, the people who are driving that spike may be the GLP-1 consumer.

When we look at their behavior, we're seeing a reduction in weight loss bars. We're seeing a reduction in breakfast foods. We're seeing a reduction in salad dressings.

So, I step back and say profile, what does this mean, this looks to me like a consumer who maybe doesn't have the same appetite in the morning. Skipping a breakfast occasion. And maybe a consumer who's been trying to already manage their weight by consuming more salads and weight loss bars. That looks like it's the early adopter of these drugs. And that's where we're seeing the impact right now in this small sample size of consumers. Which again, is not large enough to impact the industry at large.

But when we zoom in, that's where we're seeing behavioral change.

**Allison Nathan:** And that's really counter-intuitive. I mean, again, I preface my question with an assumption I think a lot of people have. But it's these other categories that are being impacted so far.

**Jason English:** That's right. It's very counter-intuitive. There are some things that are consistent with common intuition. We're also seeing growth in vitamins and minerals and supplements. We're seeing growth in protein shakes. Growth in protein bars. These make sense.

You're going to reduce your caloric intake; you want to make sure that you're still getting adequate vitamins. You want to make sure that you're not losing lean muscle. So, you're going to supplement with more protein.

We also saw growth in categories where I would argue are about looking good. So, beauty categories saw a nice spike in growth. Hair growth serums saw a nice spike in growth. So, I'm losing weight. I'm feeling good. I want to look good. I'm going to put some more makeup on.



So, in some areas, it made sense. It jived with common intuition. In some instances, it does defy common hypotheses out there.

**Allison Nathan:** But you said yourself this is a very small sample and we're assuming this is a sample at this point. If there is the broader adoption that Chris laid out, how do you think that could evolve in terms of consumer behavior?

**Jason English:** Well, you heard Chris talk about insurance coverage. An area that's going to be really important is whether or not we get Medicare or Medicaid coverage of these drugs in the future. And the probability of that's still up in the air.

But we do know that there's an association with income levels and obesity. Lower income consumers generally have more obesity. Lower income consumers generally are more dependent upon Medicare and Medicaid. And if those consumers get coverage, the shape, the face of who this GLP-1 consumer is likely to change in a meaningful way.

And then perhaps we find ourselves in a future scenario

where, indeed, it is the junk food consumer, the beer guzzling consumer, the candy bar eating consumer who ultimately ends up on these drugs. And then we start to see the demand destruction in those verticals.

**Allison Nathan:** So, are you seeing the companies that you cover in your universe, the food and beverage companies, beginning to focus on this? Are they developing any type of strategies to navigate what could be ahead?

**Jason English:** The companies right now, I would say, are in learning mode. They're doing research. They're trying to evaluate the situation. And they're in early innings of formulating strategies. So, I do have some companies that are formulating communications strategies and saying, "We've got products that are going to resonate with this consumer cohort. We want to make sure we're leaning in with those products."

As I think about the forward, I'm going to expect more companies to look at the shape of their portfolio and say, do we have to build or buy products that are going to be more tailor fit for this type of consumer? For example, I mentioned more supplements. More protein-oriented foods.

I would also look and expect them to evolve the more vulnerable areas of their portfolio to perhaps right size what the product mix looks like there to insulate themselves from risk.

**Allison Nathan:** So are there specific examples of how companies are thinking about tackling this?

**Jason English:** Absolutely. I expect some companies to innovate, pushing more protein in products. And I expect other companies to look to address this with pack size architecture, specifically things like portion control. Small size. These are tools in the toolbox that the industries have deployed in the past. I'd expect them to deploy again.

Carbonated soft drinks is a great example where they shrunk the cans. You can buy 12 oz cans. You can buy 8 oz cans. They're going to charge you more for ounce. But there's a demand for consumer out there.

And also, one thing that was interesting that came out of our research, I mentioned some of the categories that where consumption appeared to be falling with the cohort

we analyzed, I mentioned some other categories were growing. And one area that was growing was mini muffins, which kind of stands out. Full sized muffins were shrinking. Yet consumers were looking for mini muffins. Again, supportive of the notion that we're suppressing appetite. We're not killing appetite. And we're also not killing the joy of eating for some consumers. So, can they still get the flavors they're looking for, the foods they're looking for, but maybe in smaller, proper pack size? And if you're a food company, you've got a solution for that.

**Allison Nathan:** And so, I think the big question for investors right now is this has been very well known. I think we all know people who are on these drugs. And so, what's being priced into the stocks at this point? Chris, I imagine you're closest to this. Are we seeing this actually getting priced into company stocks?

**Chris Shibutani:** We are seeing significant value attribution. And we refer to this as mega TAM in essence. It's the kind of scale and scope of opportunity that remains difficult to size specifically, but certainly appears to be on a very strong growth trajectory. And as we discussed the opportunity for this to extend, not just to overweight and

obesity, is leading to a very traditional driver for stock performance and valuation [UNINTEL] this cycle of upward revisions in terms of revenue growth and ultimate peak sales, as well as earnings potential for the leading players.

**Allison Nathan:** And so, do you think that this is fully priced at this point? If you get to the \$100 billion market, how much upside is there? Or is the market really assuming a very optimistic scenario at this point?

**Chris Shibutani:** Overall, we do think that there's reasons for optimism. But there are some key toggles, upcoming events. As Jason had mentioned, this decision about whether the government through Medicare will cover these drugs is very important, almost mission critical towards achieving the upper end and estimates that are above ours as well. Again, broad coverage is extremely important. As is another factor; just simply supply. Currently these drugs are manufactured injectable drugs. We haven't been able to see the companies meet the demand. We'll be watching that play out.

**Allison Nathan:** Talk to us a bit more about that because ultimately this was an opportunity for companies that in

some ways was missed because you hadn't seen supply being able to keep up with demand. Where are we in that?

**Chris Shibutani:** While the profile of these drugs, and we think about efficacy and safety, has seemed to have met the mark in terms of this moment of recognizing that the profile is about right for a broader population, it still is very necessary to make sure that you're providing product.

These, again, are injectable drugs. Involves fairly complicated manufacturing processes. Literally, as we call, fill finish in finished syringe forms in very sophisticated delivery devices that manufacturing supply has been a constraint. And we've seen a pretty uneven initial two-year period of availability of Wegovy. And we're being very mindful of that as a constraint given, just on face value, there's tremendous demand. But the revenue trajectory that we're seeing near and intermediate term is really going to be gated by fundamentals like manufacturing the product.

**Allison Nathan:** And Jason, if you think about your stocks, obviously as we discussed a little bit farther away from pricing this, I would imagine. But what are you

seeing?

**Jason English:** I don't think they're further away from pricing, Allison. People have been really looking to prosecute this theme across the market. And they've not only looked for the winners, but they've been aggressively looking for the losers. Our own firm, for example, has assembled baskets to help investors who want to trade the other side of this. And they've been very active.

If we look at food relative to consumer staples overall, it's underperformed year to date by around 7 or 8 percent. I mentioned earlier that based on the forecast Chris has for the adoption curve, we could see 200 to 300 basis points of caloric destruction over the next few years. For every 1 percentage point of volume coming out of the industry, it's about 4 percent of lost earnings, *ceteris paribus*. So, effectively if you say foods underperform by 800 basis points, it would suggest that we're already pricing in around 2 percent downward revision on volume, which is nearly the entirety of the forecast based on the adoption curve that Chris has.

So, the market's been quick to price this in, the downside

risk. The key question, is it fair to ubiquitously price this, spread it like butter, across the sector? Per our earlier conversation, does this need to be a lot more concentrated? Are we overly punitive within some companies and not punitive enough within others? That's the debate that's going to rage on and continue to evolve over the next 12, 24, 36 months.

**Allison Nathan:** And what's your view? Are there areas of the sector that you do think are oversold at this point?

**Jason English:** Yeah. Absolutely. I think some of the global companies, particularly some of the global snack food companies are overdone. We didn't get into this, but you heard Chris talk about the supply constraints. The supply is really being directed at the US because it's the most profitable market for these companies.

So, if we're really talking about supply constraints, very broad across the rest of the world. Almost all supply coming to the US. Well, naturally, I'm going to favor a food company who's got a global footprint, particularly in emerging markets. That hasn't been the case in how the markets price this. So, there are areas and opportunities



where I think it's oversold. And opportunity to take a contrarian view.

**Allison Nathan:** And Chris, if we come back to these supply side issues, ultimately will this get any easier or better? Will we see a different generation of these drugs where you don't have to have an injectable? What does the future hold for the drugs themselves? And what does that mean for the market?

**Chris Shibutani:** At several levels we'll see an improvement. The companies Lilly and Novo who are in the lead are investing significant amounts of capital in terms of just building up their infrastructure with hopes of being able to better address this level of demand.

But your point very importantly references the fact that what's coming next in terms of treatment options are oral versions. Not injected. But oral pills for which manufacturing will be simpler. Not necessarily easy, but nonetheless it will enhance the ability to supply a broader, potentially, global market.

Several companies, with Lilly and Novo in the lead, are

recognizing that is where the puck will go as we think about the next two to five years for this market. Oral treatments are next.

**Allison Nathan:** Well, let me just ask one more follow-up. So, as we're all watching this market very closely, what are both of you watching over the next year to give you some guideposts as to where this is actually really headed?

**Chris Shibutani:** So, we'll be paying attention later in November at the detailed reporting of results from the first cardiovascular outcome study that came out on Wegovy. It was reported over the summer. And many of you may recognize when that moment where the stocks for Novo and Lilly both jumped. We believe that details will matter. Positive top line results are compelling. But we'll be looking to see whether the benefit required patients to be on these drugs for a longer period of time.

And then innovation is unrelenting. We talked about the oral medicines that are coming. We'll be watching for the clinical data that will reveal the profiles, and certainly any time there's success, this draws competition. There are other players in the market, some of them using adjacent

mechanisms. And some of them using combinations. We'll be watching for that next level of therapy that addresses, again, as I referred to as a heterogeneous patient population, the sheer number of people will be watching for opportunities for not a single solution for a monolith of patients, but many different innovations that are still on the come.

**Allison Nathan:** And Jason?

**Jason English:** Yeah. My end we'll be looking at the adoption curve. We'll be looking at insurance coverage, which should be a leading indicator of the adoption curve, as well as the supply constraints, and hopefully the bottlenecks be removed.

Secondly, we're going to go looking at a large body of research that I expect dozens of companies to begin to release because we have dozens of companies who are beginning to do research on this. Now, they'll all be guilty of some degree of selection bias in terms of what they choose to share. It's our job to sift through that. It's our job to collect all the data points and put it in the form of broader mosaic.

And lastly, we'll be looking to do our own primary research on this through survey work, through mining of panel data, to get more pieces to complete the mosaic so we understand how this is evolving, what the shape and face of the consumer is who's on these drugs, and how their behavior is changing so that we can understand the implications on first derivative markets like food and beverage, as well as second derivative markets like apparel, accessories, clothing, fitness industry. This is going to have a large ripple effect through the broader consumer ecosystem. And it's going to be really fun and interesting to see how this evolves.

**Allison Nathan:** Chris, Jason, thank you so much for joining us.

**Jason English:** Thanks for having us.

**Allison Nathan:** Thanks for listening to another episode of Goldman Sachs Exchanges, recorded on Monday, October 30<sup>th</sup>, 2023. If you enjoyed this show, we hope you follow on your platform of choice and tune in next week for another episode. Make sure to share and leave a comment on Apple

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