Obesity. It's a big fat problem. And, as with all big fat problems, somebody else is to blame.

A new video [2] released by The Atlantic attempts to explain why there are more obese Americans today than in the 1980s. They claim that even if people eat healthy and exercise, it is easier to be obese today than back then because of chemicals, antidepressants, and changes in the microbiome. Only one of those is likely correct.

The video begins by saying:

"A 2015 study revealed that people are 10% heavier today even if they eat and exercise the same amount as people did in the '80s."

That is incredibly difficult to believe. Nutrition research is nearly universally based on food frequency questionnaires (FFQs), which are notoriously unreliable. For example, it is not uncommon for people to report food consumption patterns that are incompatible with life [3]. Recently, Dr. John Ioannidis, a professional junk science debunker, wrote that nutrition epidemiology is in need of "radical reform [4]."

Additionally, we know that society's food consumption patterns have changed quite drastically since the 1980s. Most notably, Americans eat out more than ever before [5]. Surely, that must play
a substantial role in our obesity problem.

Instead, the video blamed chemicals found in flame retardants, pesticides, plastics, processed foods, and cleaning products:

"The EU has banned many of these chemicals while the U.S. has not. In cosmetics alone, the EU banned 1,300 chemicals while the U.S. banned only 11."

It is simply unscientific to look at a problem (in this case, obesity) and then blame whatever has increased in recent years for causing it. Sales of organic food have skyrocketed since the 1980s. Using that logic, maybe Whole Foods is responsible for obesity.

Just for the sake of argument, let's assume that this argument carries weight. (No pun intended.) Europe eagerly bans all sorts of chemicals, so we would predict that obesity isn't a problem in Europe. But it is. This article [6] in Big Think shows obesity rates in Europe and in each U.S. state. While Americans are clearly heavier than Europeans, our friends across the pond aren't exactly lightweights. The prevalence of obesity is relatively high in Turkey, Malta, and the UK.

Still, Europeans are thinner. Is that because of fewer chemicals? That's unlikely. I have traveled to Europe 23 times, and I can say from first-hand experience that they have a different lifestyle. Food portions are smaller, and Europeans tend to walk more than Americans. (One reason is because most of their cities -- even the relatively poor ones in Eastern Europe -- have excellent mass transit.) That seems to me a far more likely explanation. Indeed, research shows that Americans walk less [7] than people in Switzerland, Australia, and Japan.

The video goes on:

"Many people are prescribed these medications [antidepressants] for serious medical conditions. Weight gain could be an unintended consequence."

Here, The Atlantic is on to something. A 2018 study [8] published in the British Medical Journal concluded, "Widespread utilisation of antidepressants may be contributing to long term increased risk of weight gain at population level."

Finally, the video addresses the microbiome:

"A modern western diet that is low in fiber and high in fat and processed foods prevents the good bacteria from moving in and doing these jobs that help regulate our weight."

Not much is known about the microbiome. We know that people who have certain health problems (like obesity) have different microbiomes than healthier people. But did the microbiome shift cause obesity or did obesity cause the microbiome shift? Or is causation a "two-way street"? We don't
know. Moreover, we knew even less about the microbiome in the 1980s, so it's basically impossible to know how the American microbiome has changed over time.

In a very small clinical trial [9], obese patients swallowed poop pills made from the fecal microbiota of a skinny woman. While there were changes to their microbiomes, the patients didn't lose weight.

So, here's the verdict on The Atlantic's proposed causes for obesity in America:

Chemicals -- wrong
Antidepressants -- probably plays a role
Microbiome change -- possible, but unknown

The likeliest causes, which are behavioral (e.g., eating out more and not walking enough), went unmentioned.