Smoke, Mirrors, and Sugar Rushes: The Ultimate Guide To Sugar And Your Health

By Manuel Madrid

The modern narrative of sugar in societies maintaining Western diets is coated with subterfuge: false corporate editorials with bogus science to back them, hidden and unmentioned sugar levels in a wide variety of foods, and misleading sugar substitutes that give the impression of being healthy or 'better' - all taking a serious toll on health worldwide.

In this article, you'll learn:

- *How to find hidden sugar and which products are the usual suspects for it.*
- *The truth about sugar substitutes and what healthy alternatives are actually present.*
- *And how much sugar, if any, is healthy or sustainable.*

But before getting to the bottom line, there's a whole lot of context that needs to be provided: why is there hidden sugar in the first place? Why all enigma about sugar, anyway? How could Coca-Cola possibly have anything to do with Don Draper from Mad Men?

First, let's start with a brief lesson in very modern history:

Four years ago, the United Nations held a high-level meeting in New York City that was slated to shape international agenda on non-communicable diseases (such as heart disease, cancer, and diabetes) - or NCDs. The findings brought to the table at the summit were pretty grim: 36 million people die annually from NCDs; 63% of all global deaths are due to NCDs; 9 million people die from NCDs before reaching the age of 60.

To put the gravity of the issue into perspective, this was the second time in the entire history of the UN that the General Assembly met on a health issue. The first time was AIDS.

For the first time in human history, chronic NCDs had overtaken infectious diseases as the heavier health burden worldwide.

How big of a portion of these NCDs can nutrition be held responsible for?

It was a few days after the summit's dystopic findings were released that the disturbing headline began to make its rounds:
"**There are now more obese people in the world than hungry people."** - thirty percent more people at the time, to be more exact.

Sugar consumption has tripled worldwide over the last 50 years. Essentially, any country that maintains a 'western diet' - think highly processed, sugar heavy, cheap food - has been thrown into the flux: 80% of deaths attributable to NCDs occur in countries that have such a diet.

Now, it must be said that when nutrition scientists refer to sugar, their worries don't extend to sugars that occur naturally in fruits, vegetables, or even the lactose in milk. The issue at hand is with additional sugars: sucrose (table sugar) or high-fructose corn syrup.

WHO & World Wide Initiatives:

So, what did the world do about it?
Many called for sugar and fructose syrup to be regulated. Some countries such as Denmark put this idea into practice by taxing sugar a few months after in 2012. Scientists in Ireland ran a study on the potential impact of 10% on sugar-sweetened beverages in the countries at the beginning of 2013.

They found that, after adjustment for self-reported data, "the 10% tax is predicted to reduce the percentage of the obese adult population.. by 1.3%, ... and the overweight or obese population by 0.7%."

Minimal results, but a start. No initiative was put into effect until the next year.

In 2013, Lisa Te Morenga, a researcher in human nutrition at the University of Otago in New Zealand, reviewed studies on the research between sugar and body weight.
Her conclusion? If total calorie count was controlled absolutely, people didn't get any fatter if those calories were from sugar.

"There was no difference between higher and lower sugars when the energy people were consuming was exactly the same," says Te Morenga. This finding, interestingly enough, was supported by the food and beverage industry.

It's interesting because Te Morenga's real conclusion came when looking at studies that didn't give participants precise, absolute control of calorie counts in their food (essentially, more honestly replicating real life food choices): people who consumed a lot of sugar were more likely to consume more overall calories and gain more weight. Te Morenga found the most dangerous and important source of sugar to be sugary drinks; the product of companies that were touting her findings to support their case.

It seems that they didn't make it to the second half of the article.

Others disagreed with the immediate soundness of this plan. During that year and the next year to come, despite calls to put pressure on food companies from many scientists, the US Department of Agriculture (USDA) as well as the European Food Safety Authority by and large ignored sugar and chose instead to focus on 'salt' and 'fat' as their top priorities in regards to national health. They were quite a few nutrition scientists that were still unconvinced, a number of studies hadn't found sufficient evidence to condemn fructose as 'uniquely' harmful. These

studies have later been criticised because their authors had been funded by food and beverage companies.

I'll expand on this in just a second.

Skip forward a year.
In March 2014, the World Health Organization launched a proposal for a new draft of its guidelines on sugar. The new proposal remained true to the previous version in that it suggested that sugars should be less than 10% of total energy intake per day with the added caveat that "a reduction to below 5% of total energy intake per day would have additional benefits".

5% of total energy intake would be equivalent to around 25 grams or 6 teaspoons of sugar for an average adult of normal Body Mass Index.

This means that **one single glass of most soft drinks and some juices** would put you over the suggested limit. This is where the drama begins.
As Marion Nestle, a nutrition researcher at New York University, said, "If people follow this advice, that would be very bad for business."
Scientists donned war paint on their faces and prepared for a backlash from the food industry.

A few countries were quick to adopt some changes to nutritional policy. The WHO reported on September of that year that, "Some countries have already implemented taxes on sugar-sweetened beverages including Hungary, France, several states in the US and most recently Mexico."

The WHO had won the battle, so it would it seem. What they didn't know, or perhaps they did, was the corporate guerilla warfare that was still to come.

On The Response Of Sugary Drink Companies - Coca-Cola's Mad Men

The sugar industry went nuts.

Tiffany O'Callaghan reports in her 2014 New Scientist article "The US Sugar Association wrote to the director general of the WHO, pointing to a report from the US Institute of Medicine suggesting that 25 per cent of daily calories was an acceptable sugar intake, and threatening to put US funding for the WHO in peril if the report [WHO report suggesting less than 10% of total energy intake] was widely circulated. It sent a similar letter to then-US Health Secretary Tommy Thomson."

This reaction came as no surprise especially in the case of sugary drinks. This year marked the 10th consecutive of falling soda sales. Naturally, titans like Coca Cola and Pepsi weren't going to take this lying down.

Two months ago, the Center for Science in the Public Interest released a shocking analysis which revealed that “Coca-Cola, PepsiCo, and the American Beverage Association have spent at least $106 million to defeat public health initiatives at the federal, state, and local levels since 2009.” The Center adds that the actual spending number is likely to be much higher than $106 million - campaign finance and lobby expenses were not available in nearly half the jurisdictions in question.

So, what can $106 million get you these days? Almost anything you want.
Earlier this year, Coca-Cola presented and backed a scientifically sound solution to the obesity and NCD crisis: stop worrying about what you eat, and exercise. The science behind the solution in question was conducted by the Global Energy Balance Network, or GEBN, a new nonprofit organization which aims to highlight through vague phrasing that the food we choose to eat is small potatoes as long as we exercise.

This simple, rosy solution unsurprisingly turned out to be a little too kind to the sugary drink industry’s cause. By means of open-records requests, it was disclosed to The New York Times that GEBN had been founded on a $1.5 million dollar donation from Coca-Cola. Just a bit more of digging revealed that the company has provided almost $4 million in funding for various projects since then.

All this without GEBN as much as mentioning Coke in any of its releases or studies or even its own website - a website that, as it would happen, is registered to Coca-Cola headquarters in Atlanta - Coke is listed as the site’s administrator.

The image that all these sloppy attempts at salvaging a slowly dying industry provide is one that’s eerily familiar. Are these not the exact same tactics of big tobacco companies?

Bogus science, focusing attention on banal matters, and constantly switching position;
if an episode of Mad Men was airlifted from television and dropped into reality, this would be it.

https://www.youtube.com/watch?v=GALMX2BO5ps

“Advertising is built on one thing: happiness… It’s freedom from fear. It’s a billboard on the side of the road that whatever you’re doing is okay. You are okay.”

And this is exactly what the company and the rest of the sugary drink industry is aiming for by any means necessary: to make its customers feel that ingesting all this sugar is okay.

Coca-Cola CEO Muhtar Kent eventually made a public apology in an op-ed in the Wall Street Journal although the word “sorry” was traded for “disappointed”.

“By supporting research and nonprofit organizations, we seek to foster more science-based knowledge to better inform the debate about how best to deal with the obesity epidemic. We have never attempted to hide that.”

You know, except that they totally did attempt to hide it.

Kent went on to add that further research will be done with more transparency, more independent scientists, and less cloak and dagger.

The war on sugar has gone on to include fruit juices although in less dramatic fashion. Susan Jebb, a government UK government advisor and head of the diet and obesity research group at the Medical Research Council's Human Nutrition Research unit at Cambridge University, says that the government’s official advice on fruit juice needs to be changed. "Fruit juice isn't the same as intact fruit and it has as much sugar as many classical sugar drinks," said Jebb.

This is paired with a study last year, also in the UK, that found "57 out of 203 supermarket drinks tested had as much sugar as Coca-Cola or more."

The fruit sector is striking back with truthiness and science alike.

The concession that further science will be conducted is a clear sign that sugary beverage companies haven't given up fighting the good fight. However, it is plausible to imagine reaching a day where they've been stripped bare scientifically and only have advertising to hide behind.

Don Draper said that advertising was built on happiness. Interestingly enough, since 2009 Coca-Cola's slogan has been "Open Happiness".

Searching For Sugar [Man] (Hidden Sugar In Your Food)

General:

Rodriguez references aside, the meandering history of nutritional research and corporate shenanigans surrounding sugar that I provided leads us finally to the question:

How should someone handle sugar on a day-to-day level?

What you need to realize is that sugar wears many masks. Sucrose and fructose are commonly known forms, but what about dextran? Never heard of it?

Take at a look at "The 57 Names of Sugar" to get an idea of what you're up against.

As a rule of thumb, the higher up it appears in the list of ingredients, the more sugar there is in the product.

Which Items Have it:

First, familiarize yourself with the usual suspects. If you take nothing else away from this article, let it be this.

- Salad Dressings

Sweet dressings and vinaigrettes can have as much as 7 grams of sugar per serving. Oil-based dressings claiming to be low fat in response to the 'fat witch hunt' have compensated with sugar as means to enhance sugar. The ingredients to keep an eye out for include dextrose, honey, glucose, and maltose.

- Soups & Sauces

Here's something that might surprise you: quite a few pasta sauces can as much sugar in them as a slice of cake (6 to 12 grams).

- Smoothies

I've covered fruit juices a bit earlier in the post and smoothies fall under this umbrella category. Sure, fruits and vegetables are healthy, but a good bit of nutrition is lost when you put them into liquid form. Not to mention, the sweeteners added to the smoothie.

- Breakfast bars & Yogurt

Attractive because of their convenience and portability, yogurt can have almost entirely just natural sugars but this is rarely the case. Granola bars are in the same boat, often containing the same amount of sugar as a chocolate bar.

- Bread

Sweetened bread can have as much as half a teaspoon of sugar per slice. When using the WHO guideline of 6 teaspoons per day as a gauge, this can be damaging to your diet. Steer clear of sweetened breads.

- Alcohol

This one is easy to spot - your mixer is clearly a sugary beverage - but hard to give up. When you take into consideration the multiple amount of mixed drinks you'll have per night, you may be better off ordering a gin and tonic.

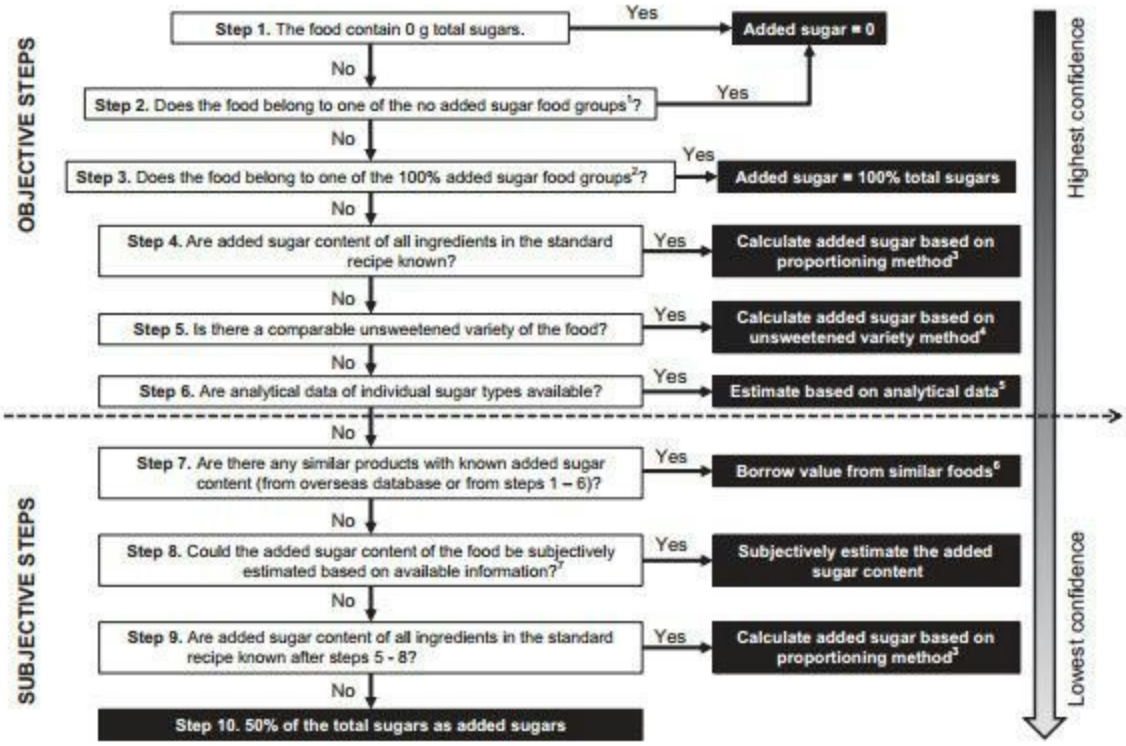
Finding Hidden Sugar:

Unfortunately, finding the amount of sugar and added sugar in your food is far from a short and sweet process.

To begin with, what is added sugar? Added is normally used when referring to sugar added to foods during processing. Usually this occurs in the form of sucrose but it may include glucose and fructose (including their syrups) in addition to high-fructose corn syrup.

As JCY Louie and his colleagues put it in their article on estimating added sugar content "Dietary intake of added sugar is difficult to assess accurately, as there are no analytical methods that distinguish between added sugar and naturally occurring sugars such as those in fruits, vegetables and milk. Largely for this reason, the provision of added sugar content on food labels is not mandatory."

Yikes, that sounds like hard work. And it is. But it's more than doable in modern day life especially when you know the usual culprits. If you're buying any of the aforementioned processed goods - know that there's more than likely added sugar included. But how much? And how can you tell without needing hours of research?



“Most of the steps in this method do not require sophisticated understanding of composition of individual foods, with the exception of food grouping, which is usually readily available in national food composition databases. This method therefore presents a simple way with reasonable accuracy and good repeatability to estimate the added sugar content of foods”

Here’s what they found for general items (these were processed food in Australia).

Table 1. Added sugar content of selected processed foods in Australia estimated using the 10-step method

Food name	*Added sugar content (g/100 g)*	*Total sugar content (g/100 g)*
Bar, cherry and coconut centre, dark chocolate-coated	47.2	48.6
Bar, fudge centre, milk chocolate-coated	73.6	78.1
Bar, nougat, caramel and peanut centre, milk chocolate-coated	42.6	47.8
Biscuit, savoury cracker, puffed, flavoured	1.9	1.9
Biscuit, sweet, Anzac or butternut style	26.1	26.1
Biscuit, sweet, chocolate-coated	27.6	27.6
Bread, from white flour	0.0	3.3
Breakfast cereal, flakes of corn, unfortified	9.3	9.3
Breakfast cereal, puffed or popped rice, cocoa coating, added vitamins B1, B2, B3 and folate and Fe	44.0	44.0
Breakfast cereal, whole wheat, biscuit, added vitamins B1, B2 and B3	2.8	2.8
Cake, banana, iced, homemade	31.5	34.8
Cake, fruit, rich style, iced	42.0	46.3
Cake, lamington, with dairy cream filling	26.3	26.8
Chocolate, milk, with nuts	37.6	44.8
Cordial base, lime fruit juice	40.2	40.9
Crisp or chip, potato, flavoured	0.8	1.7
Doner kebab, lamb in flat white bread with lettuce, tomato, onion & sauce	0.7	2.4
Doughnut, dusted with cinnamon and sugar	13.7	13.7
Extruded snack, cheese-flavoured	0.4	2.5
Hamburger, beef pattie with cheese, lettuce, onion and sauce, takeaway style	1.6	3.2
Ice cream, regular fat, chocolate flavour	12.0	18.0
Mayonnaise, full fat, commercial	14.4	14.4
Milk, cow, fluid, flavoured, chocolate, regular fat	3.9	8.2
Mousse, chocolate mud, commercial	16.9	18.8
Muffin, English-style, dried fruit, toasted	8.8	10.5
Pie, meat	0.0	0.9
Pizza, ham and pineapple topping, tomato sauce, takeaway style	1.0	2.7
Sauce, barbecue, commercial	39.2	40.2
Sauce, tomato, commercial	20.7	23.3
Scone, white flour, plain	6.5	6.5
Soft drink, cola flavour	8.8	8.8
Soup, chicken noodle, prepared with water	0.0	0.6
Sugar confectionery, jelly varieties	50.6	50.6
Tart, jam	18.9	34.6
Yoghurt, extra creamy (~4.5% fat), vanilla flavoured	8.4	12.0

Fake Sugars

And what about artificial sweeteners? Don't buy into the hype. These artificial sweeteners which were initially viewed as a way to combat obesity and diabetes are more than likely heavily contributing to the problem.

This is highlighted by the recent drop in sales of 'diet' beverages. However, artificial sweetener use is still rampant.

A study from last year broke new ground by being the first to show that "Sugar substitutes such as saccharin might aggravate these metabolic disorders [obesity and diabetes] by acting on bacteria in the human gut."

Smaller studies have previously purported to show an association between the use of artificial sweeteners and the occurrence of metabolic disorders.

This is another in a long line of recent headaches for the food industry. Now, these studies were too much to be definitive whether artificial sweeteners are preferable to sugar but the bottomline

is undeniable: artificial sweeteners are unhealthy. Choosing between sugar and artificial sweeteners is a Hobson's choice.

Healthy Amount?

Ah, the golden question: "So, how much sugar should I have?"

The short answer is none. Sugar is something your body can absolutely go without.

The long answer varies, as most nutritional matters tend to do, on the person in question. A safe bet is to minimize sugar in your life ESPECIALLY refined and added sugars as much as possible.
If you have an insatiable sweet tooth, the World Health Organization's guideline of less than 10% of total energy intake per day is one you'd do well to abide by (just remember don't forget, the WHO added the additional suggestion that reducing the amount to 5% would be even better). Unfortunately for soda lovers, this takes almost any sugary beverage off the table.
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Conclusion:

The labyrinth of faux studies and smiling advertisements that surround sugar is one that seems to have come right of the page of a Borges story. This story is still developing. As time passes, one can only hope that the fog will roll back completely and that companies will one day only have the crutch of feel-good advertising to fall back on.

And while there's still plenty of roadblocks in assessing sugar levels in food for the average person (and even for scientists), there's plenty of safeguards you can take by being wary of overly processed foods, steering clear of artificial sweeteners, and totally eliminating sugary beverages from your diet.

In a world where there are more obese people than hungry, a world where 63 million day a year from preventable NCDs, these simple fixes have the potential to go a very long way.