

Here's why that 184,000 deaths from soda claim is bogus

By Gil Ross — August 7, 2015



The headlines about the study would have been enough to

make you pretty sick, even if the soda didn't get you: examples included *Sugary Drinks Kill 184,000 People Every Year* and *Suicide by soda: Sugary drinks kill 184,000 people a year*.

Now, analyses of the data, finally fully available for objective review, reveal the facts behind the trumpeted scaremongering, designed to keep consumers away from sugar-sweetened beverages (SSBs).

The published study appeared in [Circulation](#) [1], entitled *Estimated Global, Regional, and National Disease Burdens Related to Sugar-Sweetened Beverage Consumption in 2010*; its lead author was Dr. [Gitanjali M. Singh](#) [2] of Tufts University; the senior author was Dr. Dariush Mozaffarian, also of Tufts. This is what the [Tufts University press release](#) [3] cited:

Consumption of sugary drinks may lead to an estimated 184,000 adult deaths each year worldwide, according to research published today in the journal Circulation.

Many countries in the world have a significant number of deaths occurring from a single dietary factor, sugar-sweetened beverages. It should be a global priority to substantially reduce or eliminate sugar-sweetened beverages from the diet, said Dariush Mozaffarian, M.D., Dr.P.H., senior author of the study and dean of the Friedman School of Nutrition Science & Policy at Tufts University in Boston.

In the first detailed global report on the impact of sugar-sweetened beverages, researchers estimated deaths and disabilities from diabetes, heart disease, and cancers in 2010. In this analysis, sugar sweetened beverages were defined as any sugar-sweetened sodas, fruit drinks, sports/energy drinks, sweetened iced teas, or homemade sugary drinks such as frescas, that contained at least 50 kcal per 8oz serving. 100 percent fruit juice was excluded.

Estimates of consumption were made from 62 dietary surveys including 611,971 individuals conducted between 1980 and 2010 across 51 countries, along with data on national availability of sugar in 187 countries and other information. This allowed capture of geographical, gender and age variation in consumption levels of sugar-sweetened beverages in different populations. Based on meta-analyses of other published evidence on health harms of sugar-sweetened beverages, the investigators calculated the direct impact on diabetes and the obesity-related effects on

cardiovascular disease, diabetes and cancer.

In 2010, the researchers estimate that sugar-sweetened beverages consumption may have been responsible for approximately:

- *133,000 deaths from diabetes*
- *45,000 deaths from cardiovascular disease*
- *6,450 deaths from cancer*

Some population dietary changes, such as increasing fruits and vegetables, can be challenging due to agriculture, costs, storage, and other complexities. This is not complicated. There are no health benefits from sugar-sweetened beverages, and the potential impact of reducing consumption is saving tens of thousands of deaths each year, Mozaffarian said.

Sounds quite scientific, convincing even? Well it's more smoke and mirrors than anything close to quantitative (aside from the convenient word in the title, missing from all the breathless press coverage: **estimated**). But that doesn't begin to tell the story of the absence of anything remotely resembling scientific rigor in those estimates.

Shortly after the study's publication, The International Food Information Council (IFIC) issued a pointed response, debunking with clearly-stated rationale the flawed nature of the estimates. Written by [Kris Sollid, R.D.](#) [4], it was called *3 Things You Need to Know About the Latest Sugar-Sweetened Beverage Claims*. Those things were delineated in the form of 3 questions: 1-Were the study methods sound? 2-Do these findings fit with similar studies? 3-Should the study impact my diet? To summarize his findings, the methods were thoroughly invalid, and he explains why that is so.

There were no prior similar studies, so that's a non-issue. And for optimal health, all calories need to be taken into consideration for avoiding or ameliorating obesity, not merely SSB calories. He harshly impugns dietary recall as valid data for such a global study. He also points out that a more influential contributor to premature mortality, by far, than SSBs was a diet deficient in fruits and vegetables not something that could be found in any of the media reports, nor in the authors' press releases.

And then, only this week, the respected statistics-based organization, STATS.org, took on the same study: *The Drink of Death?* [5] was their title (STATS watchword is, Because Numbers Count). The author, Rebecca Goldin, skewered the *Circulation* article even more intensely than the IFIC exposé.

Here are only her headlines/topic headers; the text is replete with examples of the epidemiologic and statistical flim-flammy the authors had to traverse to approach an almost-plausible construct of a study:

Major sampling problems

Missing data

Proxy (surrogate) measures

Time

I'll give a bit more attention, specifically, to one section that simply boggled my mind:

Estimates of Sugar-Sweetened Beverage Intake

Despite media reports, the 2010 Sugar-Sweetened Beverage consumption was not based exclusively on survey data from 2010. Perhaps the confusion stemmed from the study's authors words in the abstract:

We modeled global, regional, and national burdens of disease associated with SSB consumption by age/sex in 2010 and Disease-specific mortality/morbidity data were obtained from Global Burden of Diseases, Injuries and Risk Factors 2010 Study.

*It may be common parlance to refer to a model's results for 2010 consumption as 2010 Consumption, but it drops any hint that the data feeding the model were collected between 1981 and 2009, and relied in part on **sugar availability reports** for the United Nations Food and Agriculture Organization.*

*Yes, that is correct: **the consumption of sugary drinks was based, in part, on the availability of sugar in that country.** But the availability of sugar serves as a poor surrogate for the consumption of soda and other sugary drinks for two reasons: first, no one knows how much sugar was wasted. In the U.S., for example, estimates put food waste at 40 percent. For third-world countries, the amount is presumably far less, but food distribution can control food access and it may be that food is being stockpiled rather than consumed (as is also done in the U.S.).*

Just as egregious, however, is the assumption that sugar availability directly translates into sugary beverages. Candy, sweets, cereals, and many processed foods include sugar, making SSBs only one of several vectors for sugar consumption. And what about the survey data? According to the authors of the study, these surveys provided data on SSB intake in countries representing 63 percent of the world's adult population.

The authors should be soundly condemned for purporting to use these manipulated, computer-modeled data as evidence for the adverse health impacts of SSBs. The journal should be castigated as well for its naivete in publishing it without many further revisions. Will there be an apology or retraction. Sure, one of these days.

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Links

[1] <http://circ.ahajournals.org/content/early/2015/06/25/CIRCULATIONAHA.114.010636.abstract>

[2] <http://circ.ahajournals.org/search?author1=Gitanjali+M.+Singh&sortspec=date&submit=Submit>

[3] <http://now.tufts.edu/news-releases/sugary-drinks-linked-high-death-tolls-worldwide>

[4] <http://www.foodinsight.org/sugar-beverages-soda-death-study-evaluation>

[5] <http://www.stats.org/the-drink-of-death/?source=acsh.org>