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Sugar industry secretly paid for favorable Harvard research

By Melissa Bailey

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Dr. Cristin Kearns discovered papers showing that the sugar industry funded seminal research downplaying the role of sugar in heart disease. *Elizabeth D. Herman for STAT*

As nutrition debates raged in the 1960s, prominent Harvard nutritionists published two

reviews in a top medical journal downplaying the role of sugar in coronary heart disease. Newly unearthed documents reveal what they didn't say: A sugar industry trade group initiated and paid for the studies, examined drafts, and laid out a clear objective to protect sugar's reputation in the public eye.

That revelation, [published Monday](#)¹ in JAMA Internal Medicine, comes from Dr. Cristin Kearns at the University of California, San Francisco, a dentist-turned-researcher who found the sugar industry's fingerprints while digging through boxes of letters in the basement of a Harvard library.

Her paper recounts how two famous Harvard nutritionists, Dr. Fredrick Stare and Mark Hegsted, who are now deceased, worked closely with a trade group called the Sugar Research Foundation, which was trying to influence public understanding of sugar's role in disease.

The trade group solicited Hegsted, a professor of nutrition at Harvard's public health school, to write a literature review aimed at countering early research linking sucrose to coronary heart disease. The group paid the equivalent of \$48,000 in 2016 dollars to Hegsted and colleague Dr. Robert McGandy, though the researchers never publicly disclosed that funding source, Kearns found.

Hegsted and Stare tore apart studies that implicated sugar and concluded that there was only one dietary modification — changing fat and cholesterol intake — that could prevent

coronary heart disease. Their [reviews](#)² were [published](#)³ in 1967 in the New England Journal of Medicine, which back then did not require researchers to disclose conflicts of interest.

That was an era when researchers were battling over which dietary culprit — sugar or fat — was contributing to the deaths of many Americans, especially men, from coronary heart disease, the buildup of plaque in arteries of the heart. Kearns said the papers, which the trade group later cited in pamphlets provided to policymakers, aided the industry's plan to increase sugar's market share by convincing Americans to eat a low-fat diet.



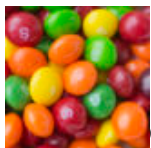
The documents Kearns calls the “sugar papers” in her office at the University of California, San Francisco. *Elizabeth D. Herman for*

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Nearly 50 years later, some nutritionists consider sugar a risk factor for coronary heart disease, though there's no consensus. Having two major reviews published in an influential journal "helped shift the emphasis of the discussion away from sugar onto fat," said Stanton Glantz, Kearns's coauthor and her advisor at UCSF. "By doing that, it delayed the development of a scientific consensus on sugar-heart disease for decades."

Marion Nestle, a nutrition expert at New York University who was not involved in the paper, said she's still not convinced by those who argue that "sugar is poison" — a person's total calorie consumption could matter more. But she called the UCSF findings a "smoking gun" — rare, hard evidence of the food industry meddling in science.

"Science is not supposed to work this way," she wrote in [an accompanying commentary](#)⁴. "Is it really true that food companies deliberately set out to manipulate research in their favor? Yes, it is, and the practice continues," Nestle added, noting that [Coca-Cola](#)⁵ and [candy makers](#)⁶ have both tried recently to influence nutrition research.

[Read More](#)⁶[How candy makers shape nutrition science](#)⁶

In a statement, the sugar trade group said industry-funded research has been unfairly

criticized.

“We acknowledge that the Sugar Research Foundation should have exercised greater transparency in all of its research activities,” said the trade group, which now goes by the name the Sugar Association. Beyond that, “it is challenging for us to comment on events that allegedly occurred 60 years ago, and on documents we have never seen.”

“Sugar does not have a unique role in heart disease,” the group maintained. “We’re disappointed to see a journal of JAMA’s stature” using “headline-baiting articles to trump quality scientific research.”

A thin-framed, soft-spoken woman who blushes often when she speaks, Kearns is an unlikely crusader against the sugar industry. Trained as a dentist, Kearns said she was [shocked to hear](#)⁷ a keynote speaker at a 2007 dentistry conference — on diabetes, no less — tell her there is no evidence linking sugar to chronic disease. She quit her job and devoted herself full-time to uncovering documents that [show the sugar industry’s influence](#)⁸ over public policy and science.

She has now amassed 2,000 pages of internal documents. She keeps them in two banker’s boxes in her cubicle at UCSF, along with photos of decaying teeth, and show-and-tell boxes of sugary Cocoa Pebbles and Cinnamon Toast Crunch.

Her previous work has shown how [the sugar industry influenced](#)⁹ a federal dental research

program to shift attention to other efforts — such as finding a vaccine for tooth decay — instead of exploring the benefits of eating less sugar.

For her latest paper, Kearns flew to Boston in 2011 and spent several days in Harvard Medical School's Countway library, thumbing through boxes of letters that Hegsted left behind.

Hegsted was, in Nestle's words, "a hero of nutritionists": He helped draft "Dietary Goals for the United States," the 1977 Senate committee report that paved the way for the nation's first dietary guidelines. He went on to oversee the human nutrition unit at the Department of Agriculture.

Paging through the letters, Kearns was "shocked" by his level of cooperation with the sugar industry, she said.



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Here's what she found: In the 1950s, the Sugar Research Foundation identified a strategic opening to increase sugar's market share by getting Americans to eat a low-fat diet, based on research that blamed fat and cholesterol for causing high blood pressure and heart

problems, according to a 1954 speech by the trade group's president.

John Hickson, the Sugar Research Foundation's vice president and director of research, was closely monitoring nutrition research. In an internal memo Kearns uncovered from 1964, he proposed that the trade group “embark on a major program” to counteract “negative attitudes towards sugar,” in part by funding its own research to “refute our detractors.”

Hickson first recruited Stare, chair of the Harvard public health school's nutrition department, to join the foundation's scientific advisory board. In July of 1965, just after articles linking sucrose — ordinary table sugar — to coronary heart disease appeared in the *Annals of Internal Medicine*, he approached Hegsted for help. Hickson struck a deal to pay Hegsted and McGandy, both overseen by Stare, \$6,500 (\$48,000 in 2016 dollars) for “a review article of the several papers which find some special metabolic peril in sucrose ...” Kearns found.

Hegsted asked Hickson to provide the articles for the review. Hickson sent at least five articles that threatened the sugar industry — which suggest he aimed for the researchers to critique them, Kearns and her coauthors argue.



Kearns keeps sugar products in her office at UCSF. Elizabeth D. Herman for STAT

Hickson set the objective for the review: “Our particular interest had to do with that part of nutrition in which there are claims that carbohydrates in the form of sucrose make an inordinate contribution to the metabolic condition, hitherto ascribed to aberrations called fat metabolism,” he wrote to Hegsted.

“I will be disappointed if this aspect is drowned out in a cascade of review and general interpretation,” Hickson wrote.

“We are well aware of your particular interest in carbohydrate and will cover this as well as we can,” Hegsted replied, according to Kearns.

Letters show the scientist communicating with his funder not just at the outset, but while writing the review, Kearns found. In April 1966, Hegsted wrote to the sugar trade group to report that his review had been delayed because researchers in Iowa had produced new evidence linking sugar to coronary heart disease. “Every time the Iowa group publishes a paper we have to rework a section in rebuttal,” Hegsted wrote.

Letters indicate Hickson reviewed drafts of the paper, though it’s not clear whether his trade group made any edits or comments.

“Am I going to get another copy of the draft shortly?” Hickson asked Hegsted, according to Kearns.

“I expect to get it down to you within a week or two,” Hegsted replied.



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Hickson got a final draft a few days before Hegsted intended to submit it for publication. The funder was happy: “Let me assure you this is quite what we had in mind and we look forward to its appearance in print,” Hickson wrote.

When the papers were published the following year, authors disclosed other industry funding, but made no mention of the Sugar Research Foundation.

Hegsted’s reviews examined a wide range of research. He downplayed and dismissed papers that argued that sugar was a cause of coronary artery disease. He found merit only in those that saw fat and cholesterol as a culprit.

Glantz, Kearns’s coauthor, said the major problem with the review is that it was not even-handed: In the cases where sugar was implicated, Hegsted and colleagues dismissed entire classes of epidemiological evidence. But they didn’t hold studies that implicate fat to the same standard, Glantz said.

He said the level of the Harvard researchers’ cooperation is clear: “The industry says, ‘Here are some papers we’re really unhappy with. Deal with them,’” Glantz said. “They then did.

That, to me, was the thing that I found the most amazing.”

Glantz said the sugar industry used a similar playbook to the tobacco industry, whose internal documents he has [written about extensively](#)¹². The letters reveal how sophisticated the sugar executives were in swaying public opinion, he said. They closely tracked the research and were careful about which influential scientists to approach.

“By dealing with them with a light touch, they got what they wanted,” Glantz said.

Glantz, Kearns, and their coauthor, Laura Schmidt, acknowledged that their research was limited by the fact that they could not interview the protagonists because they are dead.

Dr. Walter Willett, who knew Hegsted and now runs the nutrition department at Harvard’s public health school, defended him as a principled scientist.

“He was a very hard nosed, data driven person, who had a record for standing up to industry interests,” including losing a job at the USDA for standing up to the beef industry, Willett wrote in an email. “I very much doubt that he changed what he believed or would conclude based on industry funding.”

Willett said today, research has become more clear, showing that refined carbohydrates and especially sugar-sweetened beverages “are risk factors for cardiovascular disease,” while “the type of dietary fat is also very important.” But he said that at the time Hegsted and

colleagues were writing, evidence for fat as a risk factor for coronary heart disease was “considerably stronger” than for sugar, and he would agree with “most of the interpretations” the researchers made.

“However, by taking industry funding for the review, and having regular communications during the review with the sugar industry,” Willett acknowledged, it “put him [Hegsted] in a position where his conclusions could be questioned.”

“It is also possible that these relationships could induce some subtle bias, even if unconscious,” he added.

Willett called the historical account a “useful warning that industry funding is a concern in research as it may bias what is published.” He said it is “doubly a concern in reviews because this inevitably involves some judgement about the interpretation of data.”

But Willett, whose professorship is named after Fredrick Stare, said Stare and his fellow researchers broke no rules. Conflict-of-interest standards have changed dramatically since the 1960s, he noted.

Since 1984, the New England Journal of Medicine has requested authors to disclose conflicts. And the journal now requires authors of reviews not to have “major research support” from relevant companies.

NEJM spokeswoman Jennifer Zeis said the journal now asks authors to report all financial

conflicts during the 36 months prior to publication, and also conducts a rigorous peer review that “aids us in guarding against potential conflicts of interest.”

Glantz said the journal should attach an editorial note “describing what actually happened” with the review. “The provenance of the paper is very misleading,” he said.

Zeis said the journal plans to take no action.

Meanwhile, Kearns is continuing her campaign to reveal more internal documents from the sugar industry.

In a recent interview at a UCSF food court, she steered clear of the “gigante” chocolate chip cookies and chose a chicken sandwich and a fruit cup. She said she’s driven in part by her experience as a dentist, when she saw patients whose mouths were wrecked by tooth decay — one of whom needed dentures at age 30.

The federal government is getting on board with researchers like Kearns who have been warning of the perils of sugar — new [dietary guidelines](#)¹¹ recommend less than 10 percent of a person’s daily calories come from added sugars.

Tags

Links

1. <http://archinte.jamanetwork.com/article.aspx?doi=10.1001/jamainternmed.2016.5394>

2. <http://www.nejm.org/doi/full/10.1056/NEJM196707272770405>
3. <http://www.nejm.org/doi/full/10.1056/NEJM196708032770505>
4. <http://archinte.jamanetwork.com/article.aspx?doi=10.1001/jamainternmed.2016.5400>
5. <http://well.blogs.nytimes.com/2015/08/09/coca-cola-funds-scientists-who-shift-blame-for-obesity-away-from-bad-diets/>
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7. <http://www.motherjones.com/environment/2012/10/former-dentist-sugar-industry-lies>
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9. <http://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1001798>
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