Corporate wealth or public health?

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Institute for Health Policy Studies
University of California, San Francisco

Adjunct Faculty, UC Hastings College of the Law
Chief Science Officer, Eat REAL
Disclosure

• Neither I nor any member of my immediate family has a financial relationship or interest (currently or within the past 12 months) with any proprietary entity producing health care goods or services consumed by, or used on, patients related to the content of this CME activity.

• I do not intend to discuss an unapproved/investigative use of a commercial product/device.
Agenda

• 1. The three myths
• 2. The dark forces
• 3. The solutions
The money is not going to hospitals, physicians, or Big Pharma.
The money is not going to hospitals, physicians, or Big Pharma.

It’s going to chronic metabolic disease.


- Total
- Hospital
- Physician
- Drugs

Enactment of “most” of the Affordable Care Act
Pills or public health?

Fiona Godlee editor in chief

The BMJ
Two inconvenient truths
Two inconvenient truths

- There is no rational medical therapy to prevent chronic metabolic disease
- There’s just long-term treatment
Meta-analysis of T2DM Prevention Strategies: Lifestyle and/or Medication

Lifestyle RR: 0.61
Med RR: 0.64
For Both: Number needed to treat (NNT): 25

Haw et al. JAMA Int Med 177:1808, 2017
Two inconvenient truths

• There is no rational medical therapy to prevent chronic metabolic disease

• There’s just long-term treatment

• You can’t fix healthcare until you fix health

• You can’t fix health until you fix the diet

• And you can’t fix the diet until you know what is wrong
The six cellular pathways to longevity are also the same pathways to chronic metabolic disease

1. Glycation
2. Oxidative stress
3. Inflammation
4. Mitochondrial dysfunction
5. Insulin resistance
6. Membrane instability
The six cellular pathways to longevity are also the same pathways to chronic metabolic disease.

1. Glycation
2. Oxidative stress
3. Inflammation
4. Mitochondrial dysfunction
5. Insulin resistance
6. Membrane instability

And none of these pathways are druggable, except maybe inflammation, and that may be downstream of the other five.
1. The three myths
Myth #1

It’s about obesity
Obesity is the problem (?)
Obesity is the problem (?)
Obesity is the problem (?)
Obesity is the problem (?)
Obesity is the problem (?)

- Obesity is increasing worldwide by **2.78% per year**
  [http://dx.doi.org/10.1016/S0140-6736(14)60460-8](http://dx.doi.org/10.1016/S0140-6736(14)60460-8)

- Diabetes is increasing worldwide by **4.07% per year**
  [http://dx.doi.org/10.1016/S0140-6736(16)00618-8](http://dx.doi.org/10.1016/S0140-6736(16)00618-8)
Secular trend in diabetes among U.S. adults, 1988-2012

Secular trend in diabetes among U.S. adults, 1988-2012

25% increase in obese
Secular trend in diabetes among U.S. adults, 1988-2012

25% increase in obese
25% increase in nl wt
Obesity is not the problem
People don’t die of obesity
Obesity is not the problem
People don’t die of obesity

Metabolic Syndrome: where all the money goes
(75% of all healthcare dollars)
Obesity is not the problem
People don’t die of obesity

Metabolic Syndrome: where all the money goes
(75% of all healthcare dollars)

**Diabetes**
Hypertension
Lipid abnormalities
Cardiovascular disease
Non-alcoholic fatty liver disease
Polycystic ovarian disease
Cancer
Dementia
“Exclusive” view of obesity and metabolic dysfunction

240 million adults in U.S.

Obese (30%) - 72 million

Normal weight (70%) - 168 million
"Exclusive" view of obesity and metabolic dysfunction

240 million adults in U.S.

72 million

Obese (30%)

Obese and sick (80% of 30%)

Total: 57 million sick

168 million

Normal weight (70%)

Total: 57 million sick
"Inclusive" view of obesity and metabolic dysfunction

240 million adults in U.S.

Obese (30%) - 72 million

Normal weight (70%) - 168 million
“Inclusive” view of obesity and metabolic dysfunction

240 million adults in U.S.

- Normal weight (70%): 168 million
- Obese (30%): 72 million
  - Obese and sick (80% of 30%): 57 million
  - Normal weight, Metabolic dysfunction (40% of 70%): 67 million

Total: 124 million sick
Relation between visceral and subcutaneous obesity

TOFI (thin on the outside, fat on the inside)

The key to the kingdom:

It’s not about obesity —
It’s about metabolic dysfunction (anyone can get it!) of which obesity is a result, not a cause.
Myth #2
A calorie is a calorie
The Fiction

“Beating obesity will take action by all of us, based on one simple common sense fact: All calories count, no matter where they come from, including Coca-Cola and everything else with calories…”

-The Coca Cola Company, “Coming Together”, 2013
The Science

• Some Calories Cause Disease More than Others

• Different Calories are Metabolized Differently

• A Calorie is Not A Calorie
  – Fiber
  – Protein
  – Fat
  – Fructose
US Sugar Consumption, 1822-2005

- Growth of Sugar Industry
- Stabilization
- WWII
- HFCS + Sugar for Fat
- PROCESSED FOOD

U.S. Commerce Service 1822-1910, combined with Economic Research Service, USDA 1910-2010
http://ushealthcarespending.gov
Sugar is toxic unrelated to calories

Isocaloric Fructose Restriction and Metabolic Improvement in Children with Obesity and Metabolic Syndrome


Short-term isocaloric fructose restriction lowers apoC-III levels and yields less atherogenic lipoprotein profiles in children with obesity and metabolic syndrome


Effects of Dietary Fructose Restriction on Liver Fat, De Novo Lipogenesis, and Insulin Kinetics in Children With Obesity

Schwarz et al. Gastroenterology 153:743, 2017
Independent Confirmation

Preliminary Communication
January 22, 2019

Effect of a Low Free Sugar Diet vs Usual Diet on Nonalcoholic Fatty Liver Disease in Adolescent Boys: A Randomized Clinical Trial

Jeffrey B. Schwimmer, MD1,2; Patricia Ugalde-Nicalo, MD1; Jean A. Welsh, PhD, MPH, RN3,4,5; et al

Author Affiliations

Isocaloric Fructose Restriction Reduces Serum D-Lactate Concentration in Children With Obesity and Metabolic Syndrome

Ayca Erkin-Cakmak,1 Yasmin Bains,2 Russell Caccavello,2 Susan M. Noworolski,3 Jean-Marc Schwarz,4 Kathleen Mulligan,4 Robert H. Lustig,1 and Alejandro Gugliucci2

1Department of Pediatrics, Division of Pediatric Endocrinology, University of California San Francisco, San Francisco, California; 2Glycation, Oxidation and Disease Laboratory, Department of Research, Touro University California College of Osteopathic Medicine, Vallejo, California; 3Department of Radiology and Biomedical Imaging, University of California San Francisco, San Francisco, California; and 4Department of Medicine, Division of Endocrinology, University of California San Francisco, San Francisco, California

ORCiD numbers: 0000-0003-1580-9163 (A. Erkin-Cakmak).
The American Heart Association knows

Recommends reduction in sugar intake from 22 tsp/day to 9 tsp/day (males) and 6 tsp/day (females)
Myth #3

It’s about personal responsibility
Personal responsibility is an ideology
Personal responsibility is an ideology

Knowledge
<table>
<thead>
<tr>
<th>Name</th>
<th>Name</th>
<th>Name</th>
<th>Name</th>
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</thead>
<tbody>
<tr>
<td>Agave nectar</td>
<td>Barbados sugar</td>
<td>Barley malt</td>
<td>Beet sugar</td>
</tr>
<tr>
<td>Blackstrap molasses</td>
<td>Brown sugar</td>
<td>Buttered syrup</td>
<td>Cane juice crystals</td>
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<tr>
<td>Cane sugar</td>
<td>Caramel</td>
<td>Carob syrup</td>
<td>Castor sugar</td>
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<td>Confectioner’s sugar</td>
<td>Corn syrup</td>
<td>Corn syrup solids</td>
<td>Crystalline fructose</td>
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<tr>
<td>Date sugar</td>
<td>Demerara sugar</td>
<td>Dextran</td>
<td>Dextrose</td>
</tr>
<tr>
<td>Diastatic malt</td>
<td>Diatase</td>
<td>Ethyl maltol</td>
<td>Evaporated cane juice</td>
</tr>
<tr>
<td>Florida crystals</td>
<td>Fructose</td>
<td>Fruit juice</td>
<td>Fruit juice concentrate</td>
</tr>
<tr>
<td>Galactose</td>
<td>Glucose</td>
<td>Glucose solids</td>
<td>Golden sugar</td>
</tr>
<tr>
<td>Golden syrup</td>
<td>Grape sugar</td>
<td>High-fructose corn syrup</td>
<td>Honey</td>
</tr>
<tr>
<td>Icing sugar</td>
<td>Invert sugar</td>
<td>Lactose</td>
<td>Malt syrup</td>
</tr>
<tr>
<td>Maltodextrin</td>
<td>Maltose</td>
<td>Maple syrup</td>
<td>Molasses</td>
</tr>
<tr>
<td>Muscovado</td>
<td>Organic raw sugar</td>
<td>Panocha</td>
<td>Raw sugar</td>
</tr>
<tr>
<td>Refiner’s syrup</td>
<td>Rice syrup</td>
<td>Sorghum syrup</td>
<td>Sucrose</td>
</tr>
<tr>
<td>Sugar</td>
<td>Treacle</td>
<td>Turbinado sugar</td>
<td>Yellow sugar</td>
</tr>
</tbody>
</table>
Why don’t they list “added sugars”? Why is there no Dietary Reference Intake?
Personal responsibility is an ideology

Knowledge
Access
Personal responsibility is an ideology

Knowledge
Access
Affordability
Personal responsibility is an ideology

Knowledge
Access
Affordability

Don’t hurt anyone else
Profits and pandemics: prevention of harmful effects of tobacco, alcohol, and ultra-processed food and drink industries

Old medicine: infections microbes

New medicine: chronic disease multinational corporations

Rob Moodie, David Stuckler, Carlos Monteiro, Nick Sheron, Bruce Neal, Thaksaphon Thamarangsi, Paul Lincoln, Sally Casswell, on behalf of The Lancet NCD Action Group

Lancet 381:670, 2013
U.S. Commerce Service 1822-1910, combined with Economic Research Service, USDA 1910-2010
http://ushealthcare Spending.gov
US Sugar Consumption, 1822-2005

versus US health care spending (% GDP)

Growth of Sugar Industry

Stabilization

WWII

HFCS + Sugar for Fat

PROCESSED FOOD

U.S. Commerce Service 1822-1910, combined with Economic Research Service, USDA 1910-2010
http://ushealthcarespending.gov
The obesity and diabetes epidemic poses threat to future economic growth

The chart shows real GDP growth in the OECD area under simulations which adjust long-term OECD forecasts for different productivity levels of normal-weight, obese and diabetic individuals, and assume different levels of sugar consumption per capita in the high- and low-sugar scenarios.

Source: Morgan Stanley Research
2. The Dark Forces
Methods used by the DARK FORCES

• Shoddy science
World Sugar Research Organization
critique of WHO proposal to reduce sugar
to 5% of total calories
June 9, 2014

• 3.1: Sugar is less energy dense than fat;
  4 kcal/gm vs. 9 kcal/gm

• In a cookie, the sugar is not displacing the fat;
  it’s displacing the water

9 gram cookie

1/3 fat
1/3 CHO
1/3 water
39 cal

Snackwell

-2 gm fat
+13 gm
CHO
+ 34 cal

# Observations

## Do Sugar-Sweetened Beverages Cause Obesity and Diabetes? Industry and the Manufacture of Scientific Controversy

60 studies (28 trials and 32 systematic reviews/meta-analyses)

<table>
<thead>
<tr>
<th>Food Company Sponsorship</th>
<th>Positive Association</th>
<th>Negative Association</th>
<th>RR; 95% CI; P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes (n=26)</td>
<td>0</td>
<td>26</td>
<td>RR 34.0</td>
</tr>
<tr>
<td>No (n=34)</td>
<td>33</td>
<td>1</td>
<td>[4.9-234.5] P&lt;0.001</td>
</tr>
</tbody>
</table>
Methods used by the DARK FORCES

• Shoddy science
• Buying scientists
• Frederick Stare, M.D., Ph.D.
Diagram outlines Dr. Stares activities, April 1973 issue.
WHEN SWEET GOES SOUR
CONFIDENTIAL DOCUMENTS
DETAIL SUGAR INDUSTRY’S
CAMPAIGN AGAINST HIGH
FRUCTOSE CORN SYRUP
SAI’S EXTERNAL SCIENTIFIC ADVISORY COMMITTEE

The Sugar Association hired a company called The Academic Network to organize an External Scientific Advisory Committee (ESAC) to aid in SAI’s scientific endeavors, including differentiating fructose from sugar. The Academic Network’s president explained that he could provide “access” to researchers that “influence health care policy and consumer opinion.”
SAI recognized that a review of fructose research would bolster their position. It worked with The Academic Network to provide grant money to Dr. [insert name] to write a review article. In the text of that, Dr. [insert name] wrote that it was supported by a grant from The Academic Network, but The Academic Network, meanwhile, indicates that it passed the grant money from the Sugar Association to [insert name].
A Credibility Crisis in Food Science

The fall of a prominent behavioral scientist tells of a system where research is judged not on merit, but on the attention it gets.

JAMES HAMBLIN  SEP 24, 2018

Your life has almost certainly been affected by Brian Wansink.
Coca-Cola Funds Scientists Who Shift Blame for Obesity Away From Bad Diets

BY ANAHAD O'CONNOR  AUGUST 9, 2015 5:25 PM  1259

An image from a video by the Coca-Cola Foundation. In November 2012, the foundation announced a $3 million grant to Chicago's Garfield Park Conservatory Alliance. The grant was intended to establish a wellness program.
Dietary Sugar and Body Weight: Have We Reached a Crisis in the Epidemic of Obesity and Diabetes?

Health Be Damned! Pour on the Sugar

*Diabetes Care* 2014;37:950–956 | DOI: 10.2337/dc13-2085

George A. Bray¹ and Barry M. Popkin²

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Dietary Sugar and Body Weight: Have We Reached a Crisis in the Epidemic of Obesity and Diabetes?

We Have, but the Pox on Sugar Is Overwrought and Overworked

*Diabetes Care* 2014;37:957–962 | DOI: 10.2337/dc13-2506

Richard Kahn¹ and John L. Sievenpiper²,³
Ignores two studies which show proximate cause for sugar and diabetes

The web of Coca-Cola funded research, 2008-2016

Fig. 4 Network of shared Coca-Cola funded publications. Nodes are authors, edges represent co-authored publications and are sized by the number of co-authored publications between two nodes. Nodes are coloured by the edge-betweenness community structure algorithm (explained in text); labels represent a network clique of Coca-Cola funded researchers, identified in personal correspondence between academics and Coca-Cola officials obtained through freedom of information requests.
Original Scholarship

Public Meets Private: Conversations Between Coca-Cola and the CDC

NASON MAANI HESSARI,* GARY RUSKIN,† MARTIN McKEE,* and DAVID STUCKLER‡

*London School of Hygiene and Tropical Medicine; †U.S. Right to Know; ‡Dondena Research Center, Bocconi University
Opinion: Solving Childhood Obesity Requires Movement
By: Brenda Fitzgerald, MD | Apr 17, 2013

Brenda Fitzgerald, M.D., is Commissioner of the Georgia Department of Public Health (DPH) and State Health Officer.

We are facing an epidemic among our children in Georgia – obesity. The data is undeniable, and the message cannot be ignored. We must get our students moving, not only during the school day, but also after. Physical activity means higher test scores, increased attention in class and a healthier student population.

Our recent evaluation of nearly a million children in Georgia revealed that only 16 percent could complete five basic measures of physical fitness, and 20 percent could not perform a single measure.
Sugar Industry and Coronary Heart Disease Research: A Historical Analysis of Internal Industry Documents

Cristin E. Kears, DDS, MBA; Laura A. Schmidt, PhD, MSW, MPH; Stanton A. Glantz, PhD

Early warning signals of the coronary heart disease (CHD) risk of sugar (sucrose) emerged in the 1950s. We examined Sugar Research Foundation (SRF) internal documents, historical reports, and statements relevant to early debates about the dietary causes of CHD and assembled findings chronologically into a narrative case study. The SRF sponsored its first CHD research project in 1965, a literature review published in the *New England Journal of Medicine*, which singled out fat and cholesterol as the dietary causes of CHD and downplayed evidence that sucrose consumption was also a risk factor. The SRF set the review's objective, contributed articles for inclusion, and received drafts. The SRF's funding and role was not disclosed. Together with other recent analyses of sugar industry documents, our findings suggest the industry sponsored a research program in the 1960s and 1970s that successfully cast doubt about the hazards of sucrose while promoting fat as the dietary culprit in CHD. Policymaking committees should consider giving less weight to food industry–funded studies and include mechanistic and animal studies as well as studies appraising the effect of added sugars on multiple CHD biomarkers and disease development.

Published online September 12, 2016.
It is difficult to get a man to understand something, when his salary depends on his not understanding it.

— Upton Sinclair
“*I, Candidate for Governor: And How I Got Licked*, 1935
Methods used by the DARK FORCES

• Shoddy science
• Buying scientists
• Co-opting critics
Conflicts of Interest

And Now a Word From Our Sponsors

Are America’s Nutrition Professionals in the Pocket of Big Food?

Michele Simon

JANUARY 2013
Conflicts of Interest

October 17, 2009
American Academy of Pediatrics (Washington, DC)
Welcome Reception Sponsored by Coca-Cola
American Academy of Family Physicians Launches Consumer Alliance With First Partner: The Coca-Cola Company
Sponsorship of National Health Organizations by Two Major Soda Companies

Daniel G. Aaron, BS, Michael B. Siegel, MD, MPH


- Medical, Professional
- Government
- Industry Mouthpiece
Methods used by the DARK FORCES

- Shoddy science
- Buying scientists
- Co-opting critics
- Weakening government oversight
Federal Trade Commission vs. Sugar Information, 1972

Sugar’s quick energy can be the willpower you need to eat less.
The KidVid Debacle (1978-1981)

• The Federal Trade Commission initiated the "KidVid" rulemaking in 1978, seeking to regulate TV advertising to children through either a ban on all kid-targeted ads or a requirement that ads for sugared food products be "balanced" with disclosures about health and nutrition.

• This rulemaking ignited a political and regulatory firestorm.

• The FTC ended the proceeding in 1981.

• Congress enacted the FTC Improvements Act of 1980, which imposed important limits on the unfairness rulemaking authority of the commission, essentially “declawing” the agency.
• Istanbul, 2007:  
  52 European health ministers voted to cease marketing of junk foods to children

• Los Angeles, 2007:  
  Federal Communications Commissioner (FCC) Deborah Taylor-Tate: “I expect the food industry to police itself”.

• Santa Clara and San Francisco, 2010:  
  “Toy ban” on Happy Meals

• Nationally, 2012  
  3 states passed “ban” on “toy bans”
FIGURE 3. Political Contributions to Blanche Lincoln, Chairman of the Senate Committee on Agriculture, Nutrition, and Forestry

- American Beverage Association
- Coca-Cola Company
- Corn Refiners Association
- General Mills
- Grocery Manufacturers Association
- Kraft Foods
- Mars
- Nestlé
- PepsiCo
- Snack Food Association

U.S. Dollars

- 2002
- 2004
- 2006
- 2008
- 2010
Making China safe for Coke: how Coca-Cola shaped obesity science and policy in China

Susan Greenhalgh investigates how, faced with shrinking Western markets, the soft drink giant sought to secure sales and build its image in China

Susan Greenhalgh John King and Wilma Cannon Fairbank research professor of Chinese society

Department of Anthropology, Harvard University, Cambridge, MA, USA
Methods used by the DARK FORCES

- Shoddy science
- Buying scientists
- Co-opting critics
- Weakening government oversight
- Market saturation
American Society of Nutrition

SUGAR SMACKDOWN

Sugar-toasted puffs of Wheat

FREE! "Magic Hat TRICK"

NET WT. 9 OZ.
Of 1556 cereals, 88% had added sugar

Of 181 children’s cereals, all had added sugar

Not one of top 10 sugared cereals had lowered its sugar content between 2011 and 2014

Environmental Working Group, 2014

### 10 Worst Children’s Cereals

<table>
<thead>
<tr>
<th>Cereal</th>
<th>Percent sugar by weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kellogg’s Honey Smacks</td>
<td>55.6%</td>
</tr>
<tr>
<td>Post Golden Crisp</td>
<td>51.9%</td>
</tr>
<tr>
<td>Kellogg’s Froot Loops Marshmallow</td>
<td>48.3%</td>
</tr>
<tr>
<td>Quaker Oats Cap’n Crunch’s OOPS! All Berries</td>
<td>46.9%</td>
</tr>
<tr>
<td>Quaker Oats Cap’n Crunch Original</td>
<td>44.4%</td>
</tr>
<tr>
<td>Quaker Oats Oh!</td>
<td>44.4%</td>
</tr>
<tr>
<td>Kellogg’s Smorz</td>
<td>43.3%</td>
</tr>
<tr>
<td>Kellogg’s Apple Jacks</td>
<td>42.9%</td>
</tr>
<tr>
<td>Quaker Oats Cap’n Crunch’s Crunch Berries</td>
<td>42.3%</td>
</tr>
<tr>
<td>Kellogg’s Froot Loops Original</td>
<td>41.4%</td>
</tr>
</tbody>
</table>

Source: EWG analysis of nutrition labels for 84 children’s cereals.
Where’s the sugar?

1/3 in beverages
1/6 in desserts
½ hidden in foods that didn’t used to have sugar
  e.g. salad dressings
  yogurt
  tomato sauce, ketchup, condiments
  crackers, other carbohydrate products
They’ve even saturated medicine!
They’ve even saturated medicine!

28% of U.S. Children’s Hospitals have fast food venues.
Methods used by the DARK FORCES

- Shoddy science
- Buying scientists
- Co-opting critics
- Weakening government oversight
- Market saturation
- Astroturf groups
Citizens for Health

• Non-profit

• Funded by the Sugar Association to take down High-Fructose Corn Syrup

• Exec. Director George Turner (special counsel to Senate Select Committee on Food, Nutrition, and Health and to the Senate Government Operations Subcommittee on Government Research)
IEA Discussion Paper No 62

SWEET TRUTH:
Is there a market failure in sugar?

By Rob Lyons and Christopher Snowdon
July 2015
• Government intervention in the market can only be justified if there is a market failure.
• Annual sugar consumption in Britain peaked several decades ago.
• There is insufficient scientific evidence to label sugar as addictive.
• There is insufficient evidence to suggest that a calorie from sugar is more fattening than a calorie from other foods.
• There is very little evidence of consumers being limited by choice in the food market.
• Some food campaigners may be unhappy about the kinds of choices consumers are making.
• Dietary information and sugar content is clearly marked on nearly all food products.
• A ban on television advertising for foods that are high in fat, salt or sugar before 9pm would effectively be a form of censorship.
• Limiting the availability of fast food outlets stifles competition.
• Taxes on food and soft drinks have been shown to be ineffective in reducing obesity.
Similarly, in the United Kingdom, the Institute of Economic Affairs (IEA), an organisation that describes itself to be ‘the UK’s original free-market think-tank’, claims to be independent of any political party, group or organisation. But in 2016, Transparify – which provides ratings of financial transparency of major think tanks – gave a ‘highly opaque’ zero score.
Methods used by the DARK FORCES

- Shoddy science
- Buying scientists
- Co-opting critics
- Weakening government oversight
- Market saturation
- Astroturf groups
- Marketing to children
Similarity to Tobacco
Food and SpongeBob Squarepants
M&M’s, Hot Wheels and NASCAR
Educational Toys

The m&ms® Brand

Counting Board Book

Barbara Barbieri McGrath
Drinks are on us!

Publix is rewarding top grades with free apple juice and soda.
Students, we salute your thirst for knowledge!

Limit one reward per student per grading period. Offer good through February 28, 2011.

Publix
WHERE SHOPPING IS A PLEASURE
Soft Drink Logos on Baby Bottles
The birth of the “Un-Cola”
It’s a global marketing campaign...
…and the effect is global, too
Methods used by the DARK FORCES

• Shoddy science
• Buying scientists
• Co-opting critics
• Weakening government oversight
• Market saturation
• Astroturf groups
• Marketing to children
• Relocate
FOOD FOR THOUGHT

Scientists Desert USDA As Agency Relocates To Kansas City Area

July 17, 2019 · 6:35 AM ET

MERRIT KENNEDY

Secretary of Agriculture Sonny Perdue, shown here on Capitol Hill in April, announced last month that most staff from two USDA research agencies were being relocated to the Kansas City region.

J. Scott Applewhite/AP
Methods used by the DARK FORCES

• Shoddy science
• Buying scientists
• Co-opting critics
• Weakening government oversight
• Market saturation
• Astroturf groups
• Marketing to children
• Relocate
• Spyware and threats
Spyware’s Odd Targets: 
Backers of Mexico’s Soda Tax

Dr. Simón Barquera, the director of nutrition policy at Mexico’s National Institute of Public Health, received disturbing text messages, as did others who were vocal proponents of Mexico’s 2014 soda tax. 
Adriana Zehbrauskas for The New York Times

By Nicole Perlroth

Feb. 11, 2017
Figure 1. Dates in July 2015 when the three targets are known to have received malicious messages containing links to NSO’s exploit framework. We may not have all of the messages sent to them.

Figure 2. SMS message sent to Dr. Simon Barquera, telling him that his daughter was in a serious car accident, and to click the link to learn about the hospital.
3. The solutions
The good news

IFIC Food & Health survey shows significant shift in consumer attitudes towards sugar, carbs

By Elaine Watson

Dr Robert Lustig’s mantra – that not all calories were created equal - appears to be resonating with more US consumers, with one third (33%) of Americans believing that sugars are the ‘source of calories most likely to cause weight gain’ compared with just 11% in 2011, according to a new survey.
Q: What Source of Calories is Most Likely to Cause Weight Gain? (n = 1009)

<table>
<thead>
<tr>
<th>Source</th>
<th>2011</th>
<th>2018</th>
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</thead>
<tbody>
<tr>
<td>Sugars</td>
<td>11%</td>
<td>33%</td>
</tr>
<tr>
<td>Carbs</td>
<td>9%</td>
<td>25%</td>
</tr>
<tr>
<td>Fat</td>
<td>14%</td>
<td>16%</td>
</tr>
<tr>
<td>Protein</td>
<td>2%</td>
<td>3%</td>
</tr>
<tr>
<td>All the same</td>
<td>40%</td>
<td>17%</td>
</tr>
<tr>
<td>Don't know</td>
<td>24%</td>
<td>5%</td>
</tr>
</tbody>
</table>
Q: What Source of Calories is Most Likely to Cause Weight Gain? (n = 1009)

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<tr>
<td>Protein</td>
<td>2%</td>
<td>3%</td>
</tr>
<tr>
<td>All the same</td>
<td>40%</td>
<td>17%</td>
</tr>
<tr>
<td>Don't know</td>
<td>24%</td>
<td>5%</td>
</tr>
</tbody>
</table>

\[38\%\] \[42\%\]
Q: What Source of Calories is Most Likely to Cause Weight Gain? (n = 1009)

<table>
<thead>
<tr>
<th>Source</th>
<th>2011</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sugars</td>
<td>11%</td>
<td>33%</td>
</tr>
<tr>
<td>Carbs</td>
<td>9%</td>
<td>25%</td>
</tr>
<tr>
<td>Fat</td>
<td>14%</td>
<td>16%</td>
</tr>
<tr>
<td>Protein</td>
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<td>24%</td>
<td>5%</td>
</tr>
</tbody>
</table>

A: 1. More people know a calorie is NOT a calorie
2. Processed food is the problem
ADDED SUGARS. Mars supports the DGAC’s recommendation that consumers reduce their added sugars intake to no more than 10% of daily energy intake. Further, Mars supports labeling and educational approaches, including added sugars labeling and off-label nutrition education…. At Mars, we believe it is time for all stakeholders – including industry – to engage in a constructive discussion that focuses on effective approaches to helping consumers manage their intake of added sugars.
Coke says it supports WHO's sugar guidelines

BY CANDICE CHOI, AP FOOD INDUSTRY WRITER
NEW YORK — Feb 23, 2017, 6:23 PM ET

Coke says it supports the World Health Organization's guidelines for limiting added sugar, as the company works on repairing its image in public health circles and reshaping its business.
Governments are slowly responding.

**Government asks Pepsi to cut sugar content**

NEW DELHI: Food Processing Industries Minister Hansimrat Kaur Badal on Tuesday asked PepsiCo Chairman and CEO Indra Nooyi to bring down sugar content in its products, hours before Nooyi had a one-on-one meeting with Prime Minister Narendra Modi.

Nooyi apprised Modi about PepsiCo's investments and other initiatives including social programmes in the country, a person familiar with the development said. "It was a courtesy call without any agenda," the person said. PepsiCo had last year announced plans to invest Rs33,000 crores in India by 2020.
Research Institute
Thought leadership from Credit Suisse Research and the world’s foremost experts

Sugar Consumption at a crossroads
We believe higher taxation on “sugary” food and drinks would be the best option to reduce sugar intake and help fund the fast-growing healthcare costs associated with diabetes type II and obesity.
Diabetes experts tell G20 to tax sugar to save lives and money

BY BEN HIRSCHLER

Diabetes experts called on world leaders on Thursday to use sugar taxes to fight obesity, arguing such a move would save lives and slash healthcare budgets.

Ahead of a meeting of G20 leaders this weekend, the International Diabetes Federation (IDF) wants the dual epidemics of obesity and diabetes to be placed on the global agenda alongside major geopolitical and financial issues.
Sugar is a carbohydrate (carb) and is often found naturally in food.

With Type 2 diabetes, we know sugar doesn’t directly cause it, but you are more likely to get Type 2 diabetes if you are overweight. Sugary foods and drinks contain a lot of calories and you will gain weight if you eat or drink more than your body needs. Find out more about cutting down on sugar.
Diabetes UK’s £500,000 tie-up with sugar giant

Jon Ungoed-Thomas and Suzie Barrett | The Sunday Times

November 24 2018, 6:00pm, The Times

Pepsi is one of the brands sold by Britvic, the soft drinks giant
George Osborne unveils sugar tax in eighth budget as growth forecast falls

- Proceeds of levy on soft drinks to fund school sports
- Cuts to business rates, capital gains and corporation tax
- Income tax personal allowance increased
- Growth forecast down from 2.4% to 2%

Katie Allen, Anushka Asthana and Rowena Mason

Wednesday 16 March 2016 10.58 EDT

Osborne announces soft drinks sugar tax and tax-free personal allowance - budget highlights video

George Osborne has unveiled a new tax on sugary drinks, such as Coca-Cola, Red Bull and Irn Bru, pledging to use the takings to provide more sports funding for schools.
A new report claims a price increase of 20% or more will lower sugar consumption from soft drinks.

The World Health Organisation (WHO) has added its support to countries which place a "sugar tax" on soft drinks.
Question 1:

Can our “toxic environment” be changed without government/societal intervention? Especially when there are potentially addictive substances involved?
Question 2:

Can we afford to wait to enact public health measures when healthcare will be bankrupt due to chronic metabolic disease?
Question 3:

Can 6-month old obese babies change the medical profession?

Or the food industry?

Or Washington?
Advancing the public health

- Public education about REAL FOOD
- Business
- Government agency action
- Legal recourse
Conclusions

This is a public health crisis, because it is an “exposure”, even in normal weight people

Processed food is the exposure

The food industry has adulterated our food supply for profit

The industry has bought off scientists and co-opted critics

Most of the checks and balances have been eroded

Government has been complacent, and in some cases complicit

Our best chances: public education, business, legal action
Proposal #1

UCSF Healthy Beverage Initiative
Proposal #2

Type 2 Diabetes should be renamed:

PROCESSED FOOD DISEASE
Proposal #3

Rollback the subsidies for processed food:

- CORN
- WHEAT
- SOY
- SUGAR
Proposal #4

Eat REAL
(Responsible Epicurean and Agricultural Leadership)
Hidden sugar is like a ticking time bomb.
Fed Up blows the lid off everything we thought we knew about food and weight loss, revealing a 30-year campaign by the food industry, aided by the U.S. government, to mislead and confuse the American public, resulting in one of the largest health epidemics in history.
Sugar Coated

How the food industry seduced the world one spoonful at a time
SWEET REVENGE
TURNING THE TABLES ON PROCESSED FOOD

Featuring New York Times Bestselling Author
Robert H. Lustig, MD, MSL
Professor of Pediatrics
Division of Endocrinology
University of California, San Francisco
President, Institute for Responsible Nutrition

AS SEEN ON PUBLIC TELEVISION