

## Journal of Global Oral Health



Opinion Piece Articles

# The ignored pandemic

R L Fulton

Department of Oral Health Section and Internal Medicine, Northeast Ohio Medical University, Roots Town, OH, United States.



## \*Corresponding author:

R L Fulton, Co Director, Department of Oral Health Section and Internal Medicine, Northeast Ohio Medical University, Assistant Clinical Professor. Northeast Ohio Medical University, President Oral Health Care Consultants International Editor Emeritus, Journal Academy of Dentistry International Stow, OH, United States.

rfulton330@gmail.com

Received: 02-January-2019 Accepted: 23-January-2019 Published: 29-March-2019

10.25259/JGOH-15-2019

**Quick Response Code:** 



## TWO DECADES THAT CHANGED THE WORLD FOREVER

Between 10 and 11 at the night on December 14, 1799, George Washington, the first President of the United States<sup>[1]</sup> died. He died of exsanguination. He was literally bled to death by four physicians because he had a sore throat. Bloodletting was the standard proto-medical practice of the day to rid the body organs of some of four fluid bodily humors thought to cause various maladies existing within a human body. [2]

For the next 105 years, medicine managed to make some progress toward health practices: Joseph Lister[3] promoted the antiseptic practice of medicine. Louis Pasteur<sup>[4]</sup> and Robert Koch<sup>[5]</sup> studied the effects that microorganisms were having on diseases. However, it is what happened in 1928 that was the seminal pivotal changing point for medical delivery that we know today as modern healthcare.

A young man was researching a bacteria strain using smears on Petri dishes. On leaving for a short holiday, he left his Petri dishes stacked in a rather untidy corner of his laboratory. When he returned, on September 3, 1928, he noticed mold on one of the dishes that the bacteria (Staphylococci) surrounding that mold had died. Had he not been concerned and/or interested in why those bacterial died, the world of medicine and health care may never have changed in the way that it has over the past 90 years. That man's name was Flemming, [6] and in 1945, he received the Nobel Prize in Medicine for discovering Penicillin.

During that 15-20 years' period of Flemming's research, the treatment protocol for medicine practices changed from basically an archaic hospice oriented profession to a new profession that had at its core the principle of target drug.

## **Target Drug to a Target Disease**

Life-threatening diseases were being cured and eliminated from society at astounding rates, and medicine and pharmacy had taken on a leading and more profitable role in its new approach toward health care for the masses.

## THE ELEPHANT IN THE ROOM

During that same time, something else was happening to our society. Sugar (sucrose) which had formerly been only a wealthy person's condiment, due to its scarcity, was becoming less expensive to manufacture and thus emerged as a primary ingredient within most foods. Due to sugar's favorable taste, and some say, addictive qualities,<sup>[7]</sup> sugar consumption was spiraling out of control. According to the Journal of Clinical Nutrition, in 1700 the average person consumed about 4 pounds of sugar per year. In 1800, it had increased to about 20 pounds of sugar per year, and by 1900, sugar consumption per individual had risen to 90 pounds of sugar per year. Unfortunately, by 2000, more than 120 pounds of sugar per year were entering the bloodstreams and livers of western civilization.[8]

This is an open-access article distributed under the terms of the Creative Commons Attribution-Non Commercial-Share Alike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as the author is credited and the new creations are licensed under the identical terms.

## So what!

No statistic means anything unless it can be applied to real-life situations. So here is where the elephant in the room becomes considerably more visible.

Any cooking manual will state that 1 teaspoon = 4 g. According to the American Heart Association and the World Health Organization, the average human male body can only tolerate nine extra-added teaspoons of sugar per day.

A female's body = 6 tsps. [9], and children depending on activity can only tolerate 0-6 tsps and should have no juices before 1 year of age.[10]

The average 12 oz soda contains 40 g of sugar. Simple math shows that it contains 10 teaspoons (1/4 cup) of sugar, and studies show that the average person consumes 22 teaspoons of sugar a day (1/2 cup). More than 2.5–4 times the amount recommended.[11]

If we pull our automobiles up to a gas station, remove the pump nozzle, place it into the gas tank opening, then squeeze and click the trigger to make the gasoline flow, what is the assumption? It will click off when the tank is full, right?

#### What if it did not Click off?

We would be standing in a pool of gasoline that with one little spark could completely burn us to death!!

This is exactly what happens to our liver when excess sugar enters the body. All of the excess sugar leads to a series of conditions occurring within the human body called the Metabolic Syndrome. This condition is present in all of the non-communicable diseases (NCDs)[12] facing the human population today; like Diabetes, High Blood Pressure, Obesity, and Heart Disease, etc.

Although debate continues over how addictive sugar is and how much is consumed, there is little doubt that sugar has an effect on the same areas of the brain as do opioid drugs. What is certainly not in question is the overabundance of sugar (fructose) that is being consumed by the public every single day and what effect it has on the body's organs such as the liver and pancreas.<sup>[13]</sup>

### CAPITALISM - FOOD INDUSTRY FRIEND OR FOE

"Don't talk to me about nutrition...talk to me about taste, and if this stuff tastes better, don't run around trying to sell stuff that doesn't taste good." This is an actual quote of a CEO of one of the major food companies from a meeting held on April 8, 1999, at the Minneapolis headquarters of Pillsbury. This meeting hosted eleven CEOs of the major food companies and was held to discuss the emerging obesity epidemic.<sup>[14]</sup> However, lets go back to the beginning. All the way back to 1965, when the food industry paid the equivalent of 50 thousand dollars (in today's money) to downplay sugar's role in heart disease. [15] The majority of the research data on cardiovascular accidents was showing that it was sugar, and not fat, that was the leading progenitor of heart disease.

Thus, over the past 50 years, people have become sicker and sicker and sicker from the metabolic syndrome generated NCDs.[16]

## THE RISE OF THE OBESOGENIC ENVIRONMENT

As I mentioned before, by 1945 Flemming had discovered penicillin and medicine had changed its protocol to a Target Drug to a Target Disease. Also mentioned was that, by 1965, most people in the western civilization had become literally addicted to sugar. Food company management was not willing to take the steps to decrease sugar within their products, and that the NCD associated with metabolic syndrome, which was not a drug curable disease (only a drug-manageable disease), had become the most prevalent diseases in the world.

Therefore, it certainly has become scientifically obvious within the past 50 years that the protocol of target drug to a target disease was no longer an efficient way of treating these diseases and has led to an obesogenic environment.[17] These diseases can only be treated by a concerted effort made at all levels of society, business, and government to attack the real cause of these diseases, which is unhealthy lifestyle choices and eating habits.

However, vast sums of money are being made by the food industry, medical industry, and pharmaceutical industry, and there is much media talk, research, treatments, and pills provided on the subject. Nevertheless, the NCD pandemic is continuing to increase worldwide, spurred on by decisions made from a purely capitalistic view.[18]

#### **COULD IT BE THAT SIMPLE??**

In theory it could be... if all people are willing to change, and take a more Integrative/Functional Medicine approach to change the protocol that medicine now uses, to understand that they need to eat more healthy, eat less, be inconvenienced by the fact that there are some ways of life they must give up, and be willing to change their consumptive, pill-for-everything, sedentary way of life. It could really be that simple.

## DRASTIC STEPS BY ALL INDUSTRIES ARE NEEDED

## Medicine

Must change the target drug to target disease protocol to a more Integrative/Functional Medicine approach.[19] Medicine must train hospital personnel to understand the correlation between drug, and the body's role in the diseases that they are treating.

## Legal

Must recognize that a total injustice was perpetrated on all peoples and must approach the situation with the Food Industry with class action lawsuits, similar to those levied on the Cigarette Industry back in the 1990s.[20]

#### **Pharmaceutical**

Must approach the new fields of epigenetics and nutraceuticals, with the same emphasis that they placed on antibiotic research back in the 1940's - 1960's. Additionally, with the pending crisis of antibiotic resistant Super Bugs, greater emphasis must be placed on new levels of antibiotic research to combat this looming concern. In actuality the pharmaceutical industry must concentrate on drugs that actually cure diseases not just manage them.<sup>[21]</sup>

### Media

Must provide factual information based on real scientific studies not funded by the food and beverage industries. Understand the real science, behind Integrative/Functional Medicine, and stop advertising campaigns for soda, sugar, and bad dietary choices while at the same time promoting good healthy lifestyle choices to a population of people who are virtually living within food deserts.<sup>[22]</sup>

#### Government

Must concentrate efforts in bringing monies to the natural food industry to provide natural/organic foods rather than subsidies to dairy, cattle, and corn. It must be understood that the healthcare budget is based on erroneous facts and that Social Security and Medicaid in the United States is being inexorably eroded from the middle by people that are unnecessarily sick and consuming health-care monies that could otherwise be used to sustain healthy population for all age groups.[23]

### **Education**

Most medical schools today have no nutritional education built into their curricula, even though they are asked to manage NCDs caused by unhealthy nutritional lifestyle choices. To be effective in the treatment of these diseases, all schools, from elementary through advanced, must design course curricula around healthy lifestyle choices and train medical and all healthcare professionals on Functional Medicine techniques and proper nutritional concepts. Pharmacists must be trained to question drugs that are being prescribed without an actual Integrative/Functional Medicine approach, which includes extensive nutritional counseling concerning the disease being treated.[24]

## **All Professional Organizations**

Must put pressure on the governments and other institutions involved to make the changes necessary to provide a sustainable healthy environment for their members and constituents of their members. [25]

## REALITY

## This Will Never Happen!

Unless there is a Universal Integrative/Financial Incentive, society will continue on the path that it has gone down for the past 60 years. It will continue to listen to the half-truths and the spins and fabrications of those industries that have a financial vested interest in people eating unhealthy and staying sick ("Don't talk to me about nutrition...").

Our best hope is with generation Y and Z<sup>[26]</sup> because they have the ability and the desire to effect change through social media by being aware of, and pointing out, the inequities of the well-crafted untruths that we have been told for the past almost 100 years. I believe this will happen. I believe this is happening to a middle section of our society today. However, I do not believe that the more well-off groups of people relate well to the people who do not have money. Thus, like the targets of the tobacco industry today, the people with little income will always be concerned with quantity rather than quality.<sup>[27]</sup> This underserved group because they do not have the financial wherewithal and use hospital emergency rooms as a last resort to their procrastination of problems arising from unhealthy lifestyle choices, will erode, in the United States, the financial bases of the Medicare, Medicaid, and Social Security systems from the middle of the pyramid of funding.<sup>[28]</sup>

The only way change will happen is if we effect and affect the financial pocketbooks of those industries that are making the most money out of people being sick... but that pretty much includes all industries within the healthcare, food, and governmental Industries.

## Oliver Wendell Holmes, 1841-1935. American Supreme Court Justice and Scholar.[29]

"The truth is that medicine, professedly founded on observation, is as sensitive to outside influences, political, religious, philosophical, imaginative, as is the barometer to the changes of atmospheric density.

Theoretically, it ought to go on its own straight forward inductive path, without regard to changes of government or to fluctuations of public opinion. [But, there is] a closer relation between the Medical Sciences and the conditions of Society and the general thought of the time, than would at first be suspected."

## Financial support and sponsorship

Nil.

#### **Conflicts of interest**

There are no conflicts of interest.

#### REFERENCES

- Washington: Available from: https://www.mountvernon.org/ library/digitalhistory/digital-encyclopedia/article/the-death-ofgeorge-washington. [Last accessed on: 2018 Nov 16].
- Body Houmors. Available from: https://www.en.wikipedia.org/ wiki/Four\_temperaments. [Last accessed on: 2018 Nov 16].

- Lister. Available from: https://www.en.wikipedia.org/wiki/Joseph\_ Lister. [Last accessed on: 2018 Nov 16].
- Pastteur. Available from: https://www.en.wikipedia.org/wiki/Louis\_ Pasteur. [Last accessed on: 2018 Nov 16].
- Koch. Available from: https://www.en.wikipedia.org/wiki/Robert\_ Koch. [Last accessed on: 2018 Nov 16].
- Flemming. Available from: https://www.en.wikipedia.org/wiki/ Alexander\_Fleming. [Last accessed on: 2018 Nov 16].
- Addiction. Available from: https://www.natural-health-zone.com/ sugar-addiction.html; https://www.theguardian.com/society/2017/ aug/25/is-sugar-really-as-addictive-as-cocaine-scientists-row-overeffect-on-body-and-brain. [Last accessed on: 2018 Nov 16].
- Sugar Consumption. Available from: https://www.academic.oup. com/ajcn/article/86/4/899/4649308?searchresult=1#111192832; http://www.sugarscience.ucsf.edu/the-growing-concernof-overconsumption.html#.W-WaAy2ZNR4; https://www. thediabetescouncil.com/45-alarming-statistics-on-americanssugar-consumption-and-the-effects-of-sugar-on-americans-health; http://www.who.int/nutrition/publications/guidelines/sugars\_ intake/en. [Last accessed on: 2018 Nov 16].
- Sugar Intake Adults. Available from: http://www.heart.org/en/ healthy-living/healthy-eating/eat-smart/sugar/added-sugars. [Last accessed on: 2018 Nov 16].
- 10. Sugar Intake Children. Available from: https://www. thatsugarmovement.com/limiting-kids-intake-of-added-sugarto-6-teaspoons-a-day; https://www.aap.org/en-us/about-the-aap/ aap-press-room/Pages/American-Academy-of-Pediatrics-Recommends-No-Fruit-Juice-For-Children-Under-1-Year.aspx. [Last accessed on: 2018 Nov 16].
- 11. Foods High In Sugar. Available from: https://www.webmd.com/ food-recipes/features/sugar-shockers-foods- surprisingly-high-insugar#1. [Last accessed on: 2018 Nov 16].
- 12. Noncommunicable Disease. Available from: http://www.who.int/ ncds/en; https://www.en.wikipedia.org/wiki/Non-communicable\_ disease. [Last accessed on: 2018 Nov 16].
- 13. Too Numerous to Mention Here-Go to Google and Type in: Sugar Effects on the Body: Books. Available from: http://www.robertlustig. com/books; https://www.healthline.com/nutrition/too-much-sugar; https://www.health.harvard.edu/heart-health/the-sweet-danger-ofsugar. [Last accessed on: 2018 Nov 16].
- 14. Food Industry Meeting; 1999. Available from: https://www.nytimes. com/2013/02/24/magazine/the-extraordinary-science-of-junkfood.html. [Last accessed on: 2018 Nov 16].
- 15. Payoff in the 1960s. Available from: https://www.npr.org/sections/ thetwo-way/2016/09/13/493739074/50-years-ago-sugar-industryquietly-paid-scientists-to-point-blame-at-fat; https://www.ucsf.edu/ news/2016/09/404081/sugar-papers-reveal-industry-role-shiftingnational-heart-disease-focus; http://www.jamanetwork.com/ journals/jamainternalmedicine/article-abstract/2548255; www.sugarscience.ucsf.edu/sugar-papers-reveal-industry-rolein-shifting-focus.html?utm\_source=SugarScience+News&utm\_ campaign=7d092be013-EMAIL\_CAMPAIGN\_9\_12\_2016&utm\_ medium=email&utm\_term=0\_28c9e1f3c8-7d092be013-225064801#.W-xJLC2ZNR4. [Last accessed on: 2018 Nov 16].
- 16. Sicker and Sicker and Sicker. Available from: https://www.healthline.

- com/nutrition/11-graphs-that-show-what-is-wrong-with-moderndiet. [Last accessed on: 2018 Nov 16].
- 17. Obesogenic Environment. Available from: https://www.ncbi.nlm. nih.gov/pubmed/17152319; https://www.journals.sagepub.com/doi/ abs/10.1177/1757913916679860. [Last accessed on: 2018 Nov 16].
- 18. Capitalism and NCD's. Available from: https://www.youtube.com/ watch?v=EKkUtrL6B18; http://www.robertlustig.com/hacking; https://www.foodpolitics.com/2018/10/unsavory-truth-the-tableof-contents; https://www.foodpolitics.com/about. [Last accessed on: 2018 Nov 16].
- 19. Functional Medicine. Available from: https://www.ifm.org/ functional-medicine/what-is-functional-medicine; https://www. ncbi.nlm.nih.gov/pmc/articles/PMC4684103. [Last accessed on: 2018 Nov 16].
- 20. Big Tobacco. Available from: https://www.pbs.org/wgbh/pages/ frontline/shows/settlement/timelines/fullindex.html; https://www. en.wikipedia.org/wiki/Tobacco\_Master\_Settlement\_Agreement.
- 21. Pharmaceuticals. Available from: http://www.truecostofhealthcare. org/the\_pharmaceutical\_industry; https://www.drhyman.com/ blog/2010/07/18/why-treating-your-symptoms-is-a-recipe-fordisaster/. [Last accessed on: 2018 Nov 16].
- Available from: https://www.theguardian.com/ commentisfree/2018/oct/26/the-guardian-view-onmisinformation-a-moral-problem; https://www.ncbi.nlm.nih.gov/ books/NBK221224. [Last accessed on: 2018 Nov 16].
- 23. Government. Available from: https://www.foodpolitics.com/ unsavory-truth-how-food-companies-skew-the-science-of-whatwe-eat; https://www.bmj.com/content/361/bmj.k2426; https://www. ncbi.nlm.nih.gov/pmc/articles/PMC2847733/. [Last accessed on: 2018 Nov 16].
- 24. Education. Available from: https://www.bmcmededuc. biomedcentral.com/articles/10.1186/s12909-018-1130-5 www.jamanetwork.com/journals/jamainternalmedicine/articleabstract/1860493. [Last accessed on: 2018 Nov 16].
- 25. Professional Organizations. Available from: https://www.icsi.org/\_ asset/1dc07s/HealthyLifestyles.pdf; https://www.health.gov/news/ wp-content/uploads/2017/01/Stepping-It-Up-and-Eating-Right-1. pdf. [Last accessed on: 2018 Nov 16].
- 26. Generations X and Y. Available from: http://www.socialmarketing. org/archives/generations-xy-z-and-the-others/. [Last accessed on: 2018 Nov 16].
- 27. DeVol PE, Payne RK, Smith TD. Bridges Out of Poverty: Strategies for Professional and Communities Revised edition. Highlands, TX: Aha Process; 2009. p. 44-5. [Last accessed on: 2018 Nov 16].
- 28. Erosion of the Healthcare System. Available from: https://www.epi. org/publication/books\_health\_ins\_ret; http://www.savemedicare. org/is-medicare-sustainable/privatisation/erosion-of-us-middleclass-wealth/. [Last accessed on: 2018 Nov 16].
- 29. Oliver Wendell Holmes. Available from: https://www.ncbi.nlm.nih. gov/pmc/articles/PMC1071043/; https://www.en.wikipedia.org/ wiki/Oliver\_Wendell\_Holmes\_Jr. [Last accessed on: 2018 Nov 16].

How to cite this article: Fulton RL. The ignored pandemic. J Global Oral Health 2018;1(1):13-16.