From MDs to Muckrakers:
Fighting for Passage of Pure Food and Drug Act

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Rhode Island State Board of Health Bacteriologist **GARDNER T. SWARTS, MD,** (1857–1925) echoed the popular press (**Figure 1**) and the muckrakers of the early 1900s in his fight for the passage of pure food and drug legislation.

A public health pioneer who worked closely with **CHARLES V. CHAPIN, MD**, Providence's Superintendent of Health, Dr. Swarts was not hesitant to wade into the muck – figuratively and literally. The *Narragansett News* of July 28, 1888, reported:

"Dr. Gardner T. Swarts has been at the Pier the past week busily engaged in making a sanitary inspection in the interest and as the agent of the state board of health. Among the points that he is especially probing into is the water supply in different sections of the Pier, in order to determine whether there is any possible chance of contamination of the supply from cesspools, drains or vaults…as happened in Jamestown last year."

In addition to wading in the waters of Narragansett Bay, Dr. Swarts, who would later become president of the American Public Health Association in 1909, visited rural farms and dairies, testing the milk and unprocessed foods such as eggs and poultry in the days before viable refrigeration, pasteurization and bottle sterilization became commonplace.

Figure 1. The Age of Drugs
Illustration shows the interior of a drugstore with an elderly man, the pharmacist, dispensing a "Bracer" to a crowd of eager consumers, while a young girl secures a bottle of "Soothing Syrup." On the counter are bottles and packets of "Arsenic, Strychnine, Antipyrin, Nerve Stimulant, Opium, Cocaine" and "The Needle." Signs on the wall state "The Killem' Quick Pharmacy," "Open all night," and "Prescriptions carefully compounded." The saloon keeper leans against a column and laments that he cannot "begin to compete with" the drug trade.
Source: Dalrymple, Louis, Artist. The age of drugs/Dalrymple. N.Y.: J. Ottmann Lith. Co., Puck Bldg. Photograph. Retrieved from the Library of Congress.

Nostrums and Patent Medicines

Nostrums and patent medicines were of equal concern to public health officials such as Dr. Harvey Wiley (**Figure 6**) and Dr. Swarts. These products were patented and manufactured in Rhode Island and nationwide, and were widely advertised in the general press as well as medical journals for decades, including the *Providence Medical Journal* and the city's *Atlantic Medical Weekly*. One of the most egregious patent medicine abuses was so-called "soothing syrups" advertised for adults and infants which contained morphine, heroin, opium, and laudanum. (**Figure 2**)

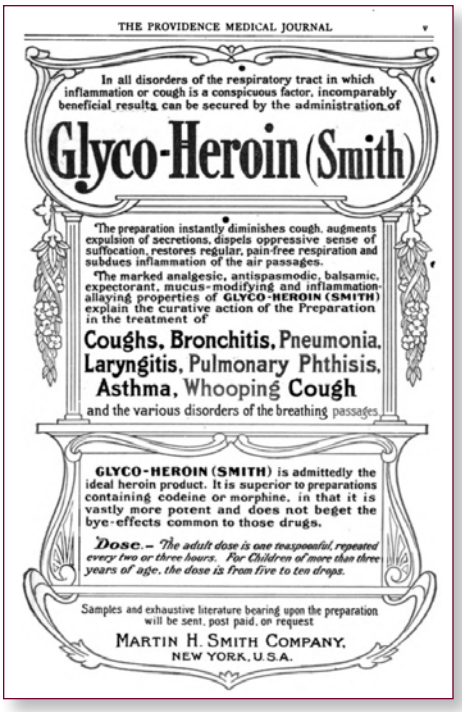
AMA Lobbies for Action

The American Medical Association (AMA) was in the forefront of the legislative battle for pure food and drugs. Dr. Swarts represented the Rhode Island Medical Society (RIMS) as a member of the AMA's National Legislation Committee, and attended its meeting on Jan. 9, 1906 in Washington D.C. The organization supported the pure food and drugs legislation before Congress and put pressure on Republican

'The Poison Squad'

In 1902, Dr. Harvey Wiley, (**Figure 6**), chief chemist of the U.S. Bureau of Chemistry in the Department of Agriculture, began official testing of foods, additives, and beverages in what was termed the Hygienic Table Trials. Clerks in the Bureau volunteered to eat food with commonly used preservatives (such as borax and formaldehyde) for every meal. When a particular additive caused deleterious side effects and the men shunned the offending food, such as

Figure 6. Dr. Harvey Wiley
Dr. Harvey Wiley with scientific instrument, 1908.
Source: Library of Congress.
https://www.loc.gov/item/2019642067


THE PROVIDENCE MEDICAL JOURNAL

In all disorders of the respiratory tract in which inflammation or cough is a conspicuous factor, incomparably beneficial results can be secured by the administration of

Glyco-Heroin (Smith)

The preparation instantly diminishes cough, augments expulsion of secretions, dispels oppressive sense of suffocation, restores regular, pain-free respiration and subdues inflammation of the air passages.

The marked analgesic, antispasmodic, balsamic, expectorant, mucus-modifying and inflammation-allaying properties of GLYCO-HEROIN (SMITH) explain the curative action of the Preparation in the treatment of

Coughs, Bronchitis, Pneumonia, Laryngitis, Pulmonary Phthisis, Asthma, Whooping Cough

and the various disorders of the breathing passages

GLYCO-HEROIN (SMITH) is admittedly the ideal heroin product. It is superior to preparations containing codeine or morphine, in that it is vastly more potent and does not beget the bye-effects common to those drugs.

Dose.– The adult dose is one teaspoonful, repeated every two or three hours. For Children of more than three years of age, the dose is from five to ten drops.

Samples and exhaustive literature bearing upon the preparation will be sent, post paid, on request

MARTIN H. SMITH COMPANY,
NEW YORK, U.S.A.

Figure 2. Glyco-heroin for adults and children
"Soothing syrup" ads ran in the *Providence Medical Journal* and the *Atlantic Medical Weekly,* and many other publications in the 1890s and early 1900s. This one lauds the benefits of heroin over morphine.
Source: *Providence Medical Journal*, 1906; *Atlantic Medical Monthly*, 1895.

R.I. Sen. Nelson Aldrich to sign the bill, informing him that the AMA's 135,000 members would urge their patients to lobby senators for passage of the bill.

Returning from the AMA meeting, Dr. Swarts presented the following resolution to RIMS, which was approved:

Whereas, Many proprietary medicines contain ingredients which are dangerous to health and conducive to habits of alcoholism and morphinism, and

Whereas, these proprietary combinations are extensively advertised with extravagant and alluring claims, and

Whereas, the medical profession and boards of health are unable to control this menace to public health and the savings of working people, be it

Resolved, That the Rhode Island Medical Society observes with great satisfaction and gratitude the campaign against these frauds and dangers undertaken by the Collier's Weekly *and* The Ladies' Home Journal*, and desires to express its appreciation of the public spirit and Independence, of these periodicals.* (**Figures 3a,b**)

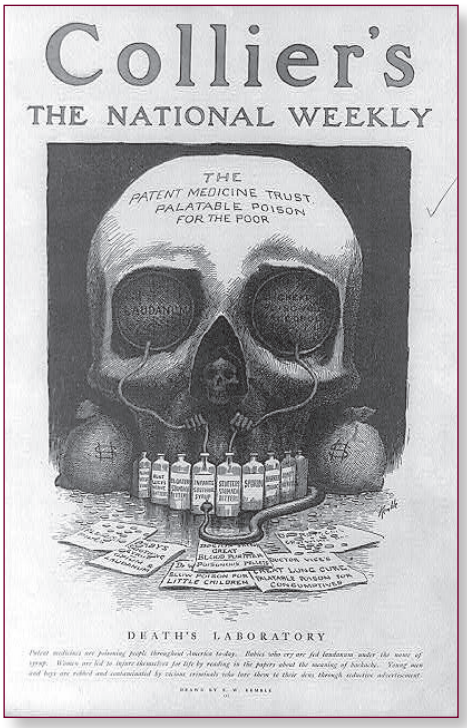
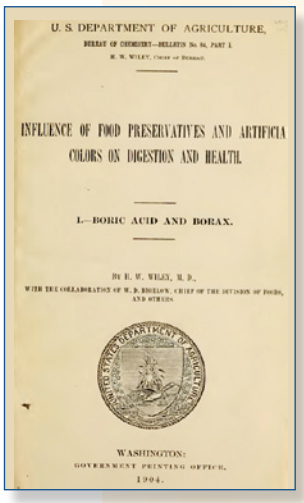


Figure 3a. "Death's Laboratory"
This illustration by E.W. Kemble in the *Collier's Weekly* series on fraudulent patent medicines was published on June 3, 1905 and labeled "Death's Laboratory." It shows a skull surrounded by money bags. Inside the nose of the skull a skeleton pours laudanum and alcohol from barrels in the skull's eyes into bottles labeled with various types of patent medicine.
Source: Library of Congress

In March 1906, **FRANK DAY, MD**, gave his address as president of the Providence Medical Association, and endorsed Dr. Swarts' sentiments, with a caveat to physicians: "We should publicly aid in the movement for the suppression of


U. S. DEPARTMENT OF AGRICULTURE.

INFLUENCE OF FOOD PRESERVATIVES AND ARTIFICIAL COLORS ON DIGESTION AND HEALTH.

I.—BORIC ACID AND BORAX.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1904.

Figure 8. Wiley Report
The results of the study were published as the *Influence of Food Preservatives and Artificial Colors On Digestion and Health, Bureau of Chemistry Bulletin 84.*

Figure 7. "The Poison Squad"
There was no shortage of volunteers for Dr. Wiley's Hygienic Table Trials, dubbed by the media as "The Poison Squad."
Source: "Poison Squad" Volunteers (FDA013). fda.gov; www.fda.gov/AboutFDA/WhatWeDo/History/default.htm)

butter laced with borax, the chef began preparing borax capsules. A *Washington Post* reporter got wind of the project and dubbed the volunteers "The Poison Squad." (**Figure 7**)

The results of the study, which continued for several years, were published in 1904 (**Figure 8**). The 400-plus-page report summarized its findings per volunteer, per substance, with extensive tables and figures. The following is a brief extract of the conclusions regarding borax: …"the logical conclusion which seems to follow from the data at our disposal is that the use of boric acid and equivalent amounts of borax should be restricted to those cases where the necessity therefore is clearly manifest, and where it is demonstrable that other methods of food preservation are not applicable and that without the use of such a preservative the deleterious effects produced by the foods themselves, by reason of decomposition, would be far greater than could possibly come from the use of the preservative in minimum quantities. In these cases it would also follow, apparently, as a matter of public information, and especially for the protection of the young, the debilitated, and the sick, that each article of food should be plainly labeled and branded in regard to the character and quantity of the preservative employed."

The publicity that Wiley's trial generated helped set the stage for the subsequent Congressional action on regulating food and drugs. Anecdotal reports in the FDA archives report that all of the volunteers survived the experiments with temporary but no permanent side effects, although there is no indication of follow-up post-trial. ❖

By SAMUEL HOPKINS ADAMS

III—LIQUOZONE

This is the third article of this series, which is to contain a full explanation and exposure of patent medicine methods and of the harm done to the public by this industry, founded mainly on fraud and poison. The object of the series is to make the situation so familiar and thoroughly understood by the public that there will be a speedy end to the worst aspects of the evil. The fourth article of the series will be published in COLLIER'S for December 2, and will tell of "The Subtle Poisons"

Figure 3b. "The Great American Fraud"
Collier's Weekly ran a damning series of articles written by Samuel Hopkins Adams on patent medicines called "The Great American Fraud," published in 1905–1906.

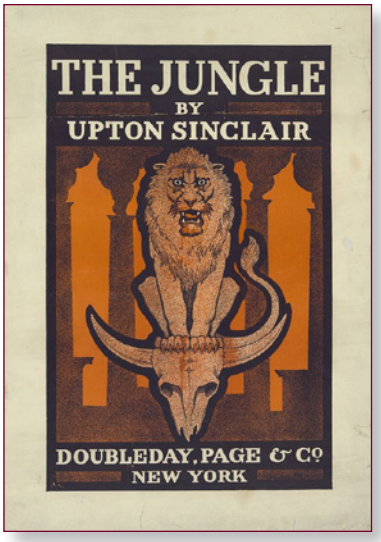


Figure 4. "The Jungle" by Upton Sinclair
Source: 1906. Photograph. Library of Congress. https://www.loc.gov/item/95521425

Quack Medicines in the interest of the public health, as is being done by *Collier's Weekly* and *The Ladies' Home Journal*. And first of all we should turn the searchlight on our own prescription-books, lest recipes for anti-kamnia, sanmetto and scores of secret or doubtful nostrums bear our signatures; for it is to be feared that few of us have warded off the lazy, insidious habit of ordering these ready-made preparations."

And while a confluence of factors and coalitions resulted in the passage of the Pure Food and Drug Act of 1906; one of the most notable and notorious movers was Upton Sinclair's exposé of the meatpacking industry in his book, "The Jungle," (**Figure 4)** which raised the wrath of the American public and caught the attention of President Theodore Roosevelt, who launched an investigation, which confirmed Sinclair's account.

Passage of Pure Food and Drug Act

On June 30, 1906, Congress passed and President Theodore Roosevelt (**Figure 5**) signed the Pure Food and Drug Act, also known as the Wiley Act, which banned foreign and interstate traffic in adulterated or mislabeled food and drug products. It required that active ingredients be placed on the label of a drug's packaging and that drugs could not fall below purity levels established by the United States Pharmacopeia or the National Formulary. Enforcement was placed under the purview of the U.S. Bureau of Chemistry.

On the same day President Roosevelt also signed the Federal Meat Inspection Act. Enforcement of the Pure Food and Drug Act was assigned to the Bureau of Chemistry in the U.S. Department of Agriculture, which became the U.S. Food and Drug Administration (FDA) in 1930.

With the help of physicians such as Dr. Swarts, Rhode Island passed its own Pure Food and Drug Act in 1908. These early state and federal laws were the first step in the regulation of food and drugs in this country, made possible by a coalition of public health pioneers, women's and business groups, legislators, medical associations and the muckrakers of the Progressive Era. ❖

Figure 5. President Theodore Roosevelt
Shown at his desk reading a letter in 1906, the year he signed into law the Pure Food and Drug Act. **Source**: Photograph Collection, Library of Congress