

IN THE SUPREME COURT OF THE STATE OF NEVADA

SANDRA CAMACHO; AND ANTHONY
CAMACHO,

Petitioners,

vs.

THE EIGHTH JUDICIAL DISTRICT COURT OF
THE STATE OF NEVADA, IN AND FOR THE
COUNTY OF CLARK; AND THE HONORABLE
NADIA KRALL, DISTRICT JUDGE,

Respondents,

and

PHILIP MORRIS USA, INC., a foreign
corporation; R.J. REYNOLDS TOBACCO
COMPANY, a foreign corporation, individually,
and as successor-by-merger to LORILLARD
TOBACCO COMPANY and as successor-in-
interest to the United States tobacco business of
BROWN & WILLIAMSON TOBACCO
CORPORATION, which is the successor-by-
merger to THE AMERICAN TOBACCO
COMPANY; LIGGETT GROUP, LLC., a foreign
corporation; and ASM NATIONWIDE
CORPORATION d/b/a SILVERADO SMOKES &
CIGARS, a domestic corporation; LV SINGHS
NC. d/b/a SMOKES & VAPORS, a domestic
corporation,

Real Parties in Interest.

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PETITIONERS' APPENDIX
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Sean K. Claggett, Esq.
Nevada Bar No. 8407
Micah S. Echols, Esq.
Nevada Bar No. 8437
Matthew S. Granda, Esq.
Nevada Bar No. 12753
David P. Snyder, Esq.
Nevada Bar No. 15333
CLAGGETT & SYKES LAW FIRM
4101 Meadows Ln., Ste. 100
Las Vegas, Nevada 89107
(702) 655-2346 – Telephone
micah@claggettlaw.com
david@claggettlaw.com

Fan Li, Esq.
Nevada Bar No. 15771
KELLEY | UUSTAL
500 N. Federal Hwy., Ste. 200
Fort Lauderdale, Florida 33301
(954) 522-6601 – Telephone
klw@kulaw.com

Attorneys for Petitioners, Sandra Camacho and Anthony Camacho

DECLARATION OF LOUIS M. KYRIAKOUCES, Ph.D.

I, Louis M. Kyriakouides, Ph.D., declare as follows:

1. My name is Louis M. Kyriakouides. My address is 3035 Hartford Dr, Murfreesboro, TN 37129.
2. The opinions rendered in my expert report (attached to this declaration) represent my opinions, all held to a reasonable degree of professional certainty, and are based on a reasonable professional probability and scientifically reliable evidence.

As I stated in my expert report “significant portions of the smoking public were uninformed or skeptical as to the risks of smoking into the 1980s and 1990s” (see p.76). As I quote in my report, “the 1989 Surgeon General’s Report concluded that ‘despite impressive gains in public knowledge [over the period 1964-1989], substantial numbers of smokers are still unaware of or do not accept important health risks of smoking.’” (see p.77).

In 1994, not only did the CEO of Philip Morris sit before Congress and testify that smoking was not addictive, and that there was no proven causal link between smoking and disease, but industry experts and physicians (under the pay of the tobacco industry) continued to make similar representations to the public.

Ordinary users of cigarettes did not understand the magnitude of the risk, or, in other words, how dangerous cigarette use was. Even if some users thought that cigarettes “might” or “could” or “can” cause disease, the industry successfully convinced the public that the risk was much lower than it actually was.

Even today the public underestimates how dangerous cigarettes are; people do not understand that as many as one of every two habitual smokers will die of smoking.

Ordinary users of cigarette since the 1990s and onward believed that filter on cigarettes lowered the risk of disease. Even some public health experts in the 1990s believed this to be true, but the industry knew that it was not. The industry had been studying “compensation” smoking for decades and had not shared that information with the public. Because of how smokers unconsciously “compensated” in reaction to the cigarettes, there is evidence that filters increase the risk of harm, and this was not known to ordinary cigarette users.

Ordinary users of cigarette since the 1990s and onward were unaware of the alternative cigarette designs available to the cigarette companies, including cigarettes with nicotine below the addiction threshold, cigarettes that were not as inhalable, and cigarettes that were not combustible.

Regret studies from the 2000s reveal that most smokers thought that they would not continue their smoking into adulthood. Smokers thought that they could easily quit, well before their health was impacted. They did not understand how addictive cigarettes were. In addition, they didn't understand that some manufacturers had developed technology to free-base the nicotine. The first successful cigarette to implement that technology was Marlboro, the cigarette Sandra Camacho began smoking in 1990. Ordinary users of cigarettes (and the public health experts) had no idea in 1990 that Philip Morris was altering its cigarettes through free-basing to make them more addictive.

3. I reserve the right to amend my opinions if further information is provided in any form.

Pursuant to NRS 199.120, under penalty of perjury, I declare that I have read the foregoing document and that the facts stated in it are true.

Dated: June 6, 2022.



Louis M. Kyriakouides, Ph.D.

Director, The Albert Gore Research Center

Professor of History

Middle Tennessee State University

HISTORICAL ANALYSIS OF PUBLIC AND TOBACCO INDUSTRY KNOWLEDGE
OF THE HEALTH HAZARDS OF SMOKING, AND INDUSTRY DESIGN, ADVER-
TISING, MARKETING, AND PROMOTION OF CIGARETTES IN THE UNITED
STATES

In the matter of Sandra Camacho, et al. v. Philip Morris, USA, Inc. et al. District Court,
Clark County, Nevada. Case No. A-19-807650-C

Louis M. Kyriakouides, Ph.D.
Director, The Albert Gore Research Center
Professor of History
Middle Tennessee State University

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I am a tenured Professor of History at Middle Tennessee State University, where I teach and conduct research on the economic, social, and business history of the 19th and 20th Century United States. I earned a doctoral degree in history from Vanderbilt University and held a National Institute of Child Health and Human Development postdoctoral training appointment in demography at the Carolina Population Center at the University of North Carolina at Chapel Hill. I am the author of a peer-reviewed monograph, an edited volume of scholarly essays, and numerous peer-reviewed studies, including studies of the history of cigarettes, which have been published in scholarly journals, as listed in my curriculum vitae appended to this report. I have conducted extensive research into the history of cigarettes and the cigarette industry including the history of tobacco cultivation, curing, and production; the history cigarette design and production; the history of cigarette consumption; public knowledge and perception over time of the health dangers of cigarette smoking; industry knowledge of the dangers of cigarette smoking; history of cigarette marketing, advertising and disinformation and their impact over historical time on public perception of cigarettes and smoking; cigarette smoking as a cultural phenomenon, including social smoking patterns, "common knowledge" and uncertainty among the public regarding smoking hazards, including addiction, and the cigarette industry's role in creating, fostering, and maintaining an environment of doubt, uncertainty and confusion as to the health dangers of cigarette use. I have been recognized as an expert on these issues in state and federal courts of the United States, including state courts in California, Florida, and New York; and federal courts in Arkansas, Florida, and Missouri. A list of my educational credentials, publications, and cases in which I have given sworn

testimony is contained in my curriculum vitae, appended to this report. I am compensated at the rate of \$550 per hour for case-specific activities and consultation, and \$4,400 per day in whole or in part for deposition and trial testimony.

METHODOLOGY

In this report, I have followed the research methods normally employed by historians and other social scientists generally, including those who study the tobacco industry and the history of tobacco in American life. This report employs the same historical research methods generally accepted among professional historians and that I pursue in my peer-reviewed publications, including my publications exploring the history of cigarettes and tobacco.¹ Specifically, this involves research grounded in the primary sources found in various physical and digital archives, libraries, and research centers. In my many years studying the tobacco industry and the role of tobacco in American life, I have conducted research at the Library of Congress, American Medical Association Archives, Boston Public Library, as well as at the archives and special collections of Duke University, Tulane University, University of California-Santa Barbara, University of California-San Francisco, University of North Carolina-Chapel Hill, University of Southern Mississippi,

¹ Louis M. Kyriakoudes, “Historians’ Testimony on ‘Common Knowledge’ of the Risks of Tobacco Use: A Review and Analysis of Experts Testifying on Behalf of Cigarette Manufacturers in Civil Litigation,” Tobacco Control 15, no. suppl 4 (December 1, 2006): iv107–16, <https://doi.org/10.1136/tc.2005.014076>; “The Grand Ole Opry and Big Tobacco: Radio Scripts from the Files of the R. J. Reynolds Tobacco Company, 1948 to 1959,” Southern Cultures, <http://www.southerncultures.org/article/grand-ole-opry-big-tobacco-radio-scripts-files-r-j-reynolds-tobacco-company-1948-1959/>; and “The Tobacco Industry’s Deadly Distortions of History,” Tobacco Control 25, no. 5 (September 1, 2016): 491–491, <https://doi.org/10.1136/tobaccocontrol-2015-052712>.

Wisconsin Historical Society, and other archives and research centers that hold collections that document the history of tobacco in American life. Government documents and reports, including congressional hearings, shape policy and stand as important primary sources. However, the most important primary sources on the history of tobacco in American life are the formerly secret internal documents created by the tobacco industry that have been produced in civil litigation and maintained by the manufacturers as per the Master Settlement Agreement (see <http://tobaccoarchives.com/>). These documents are also available at a comprehensive digital archive maintained by the Truth Initiative (formerly the American Legacy Foundation) and the University of California-San Francisco at this web address: <https://www.industrydocuments.ucsf.edu/tobacco/>.

This report also relies on peer-reviewed scholarship. All scholarly and scientific research builds upon previous work. My own tobacco history research has been subjected to the rigors of peer review. I have peer-reviewed tobacco scholarship for the journals Tobacco Control, Isis (the Journal of the History of Science Society), Lung Cancer, and the American Journal of Public Health as well as Harvard University Press.

Scholars and social scientists have developed a set of standard research methodologies for investigating the massive online tobacco industry archive which by last count contained more than more than 60 million pages. Those methodologies employ a combination of search techniques: by keyword, proximity, and various metadata and descriptor

assignments. My research practices are consistent with these generally accepted methods.²

Addressing conflicting evidence is woven into the fabric of historical research. In this report, for example, I address the issue of cigarette sampling of underage children. Manufacturers maintained policies against such a practice in the 1960s onward. But there is also evidence that such policies were regularly disregarded and unenforced. I present all the evidence, offering my opinion as to the most historically accurate explanation to a reasonable degree of certainty as I approach conflicting and complex evidence. In this regard, my opinions in this report are in line with the broad field of tobacco scholarship and science.

I have also reviewed the interrogatories and depositions of Sandra Camacho and her husband, Anthony Camacho.

Finally, this is a brief report that represents a small portion of the research I have conducted over many years. The evidence presented here is representative of a larger body of research I have conducted.

² Ruth E. Malone and Edith D. Balbach, “Tobacco Industry Documents: Treasure Trove or Quagmire?” *Tobacco Control* 9, no. 3 (September 1, 2000): 334–38, <https://doi.org/10.1136/tc.9.3.334>.

SUMMARY OF OPINIONS

1. To properly investigate the history of public knowledge of the health dangers of cigarette use and the expectations of cigarette consumers as to how the product operates, historians must review the relevant historical record contained in the formerly secret files of the tobacco industry. These sources document industry efforts at suppression and concealment of information that affected public knowledge. These sources also document information put before the public, particularly transcripts of broadcast radio and television programs discussing smoking and health, that exist in no other historical archive. These sources also document the tobacco industry's extensive research into the smoker's knowledge and expectations about the industry's products. Any analysis that ignores the historical record contained in the formerly secret files of the tobacco industry fails to satisfy the basic methodological standards of professional historical research.
2. For much of the 20th century, cigarettes have been the most heavily promoted and advertised of all consumer goods. The tobacco industry's extensive advertising, marketing, and promotion efforts stand as the single most important factor in the rise of cigarette smoking, working to create a cigarette culture where the general public viewed smoking as a normal, safe, and desirable social practice.
3. There was little knowledge among the American public that cigarette smoking caused lung cancer, emphysema, and other deadly diseases before 1950.

4. Beginning in the early 1950s, scientific studies implicating cigarettes as a cause of lung cancer received wide coverage in new media prompting what the tobacco industry dubbed a “cancer scare.”
5. In response to the publicity surrounding the science implicating cigarette use as a health hazard, tobacco manufacturers and their agents conspired to dispute information that cigarette smoking could be hazardous to health and could lead to serious injury, including cancer and premature death, and that cigarette smoking is addictive.
6. Cigarette manufacturers conspired to sponsor oppositional science to persuade government regulators, members of the public health community and the general public that cigarettes did not cause disease, disability, and death.
7. Cigarette manufacturers conspired to spread disinformation about the true hazards and risks of cigarette use. This disinformation, which directly contradicted the industry’s own secret internal knowledge that cigarette use caused addiction and deadly disease, was widely disseminated across the United States and in Florida. Disinformation was disseminated directly by the cigarette manufacturers and their representative organizations, Tobacco Industry Research Committee (later renamed Council for Tobacco Research) and the Tobacco Institute, as well as through their public relations representatives and other agents, and through a variety of means, such as newspapers, magazines, and other mass media, books, and on television, news programs, and sworn testimony before Congress. This carefully planned, well-organized and well-financed effort to persuade the American

public that the cigarette was not the cause of serious disease sharply inhibited the growth of public knowledge on the health hazards of smoking. Cigarette manufacturers continued to deny that cigarettes caused any disease or were harmful to health and that they were addictive well into the 1990s.

8. The tobacco industry's disinformation efforts were undertaken while the cigarette manufacturers possessed extensive knowledge that cigarettes were, in fact, addictive and the cause of serious disease, injury, and death to smokers. This information was concealed from the public, the scientific and public health communities, and government officials.
9. The cultivation, curing, and processing of tobacco enhanced both its addictive qualities and health dangers. The application of heat in the curing of the leaf through flue-curing and sun-drying techniques created a milder tobacco with an easily inhaled smoke. Cultivation practices, including the application of nitrate and phosphate fertilizers, and curing technologies that relied upon propane-fueled open flame burners for curing, introduced and/or enhanced the presence of harmful components in tobacco smoke such as tobacco-specific nitrosamines and polonium. Manufacturing process enhanced smoke inhalability and nicotine impact through the addition of various additives such as sugars, cocoa, acetaldehyde, ammonia compounds, menthol and other flavorings and additives. Cigarette manufacturers had knowledge of these dangers but did not inform the public.
10. Cigarette manufacturers researched extensively the role of nicotine addiction in sustaining cigarette use. Furthermore, cigarette manufacturers modified their

products to enhance nicotine “kick” or “satisfaction,” industry terms used to indicate smoker satisfaction of nicotine addiction. This information was concealed from the public, the scientific and public health communities, and government officials.

11. All the major cigarette manufacturers developed products, such as filter and low-tar and light cigarettes, which were either explicitly or implicitly promoted as healthier and safer smoking products, even as the manufacturers possessed knowledge that such developments offered little or no health protection. This information was concealed from the public, the scientific and public health communities, and government officials.
12. The leading cigarette manufacturers marketed their products to children under the age of eighteen through direct contact via sales staff, distribution of free cigarettes, advertisements and product placements in movies, and youth-directed advertisements featuring entertainment celebrities, sports stars and cartoon characters, and themes appealing to youth. Furthermore, the industry studied the habits and beliefs of children under the age of eighteen to more effectively refine their efforts to promote smoking among children.
13. While public knowledge and understanding of the health risks of smoking did increase after 1950, it did so only slowly due to the misinformation and propaganda efforts of the tobacco industry which retarded the growth of public knowledge and understanding of the health dangers of smoking. A significant portion of the smoking public was unaware or did not believe the fact that cigarette use

shortened life, caused physical dependence and addiction, or was the cause of serious disease. Many smokers turned to filters, low tar, light, ultra-lights and menthol cigarettes out of a belief that these were safer. The typical consumer of cigarettes did not understand that their smoking could cause grievous harm to their health including premature death.

14. In 1988, the United States Surgeon General determined that cigarette-delivered nicotine was as addictive as heroin and cocaine. The World Health Organization defines nicotine addiction as a “maladaptive drug-seeking behaviour, often performed despite knowledge of negative health consequences” of smoking [World Health Organization, Gender, Women, and the Tobacco Epidemic (2010), p. 141].
15. Federal regulation under the Family Smoking Prevention and Tobacco Control Act (2009) has not curtailed the marketing, advertising, and promotion of cigarettes.
16. Cigarette use has inflicted enormous human and economic costs on the United States. In the fifty years since the release of the 1964 Surgeon General’s Report on Smoking and Health, the United States has seen 20 million premature deaths caused by cigarette smoking.
17. As cigarette manufacturers move into new nicotine-delivery technologies, they continue the business model that they developed in the 20th century of selling addiction. Consequently, the United States faces another epidemic of nicotine addiction, especially among young people under the age of eighteen, unraveling years of public health progress.

18. Sandra Camacho, born in 1946 in Chicago, resided in the Chicago metropolitan region until moving to Las Vegas, Nevada around 1990. Ms. Camacho began smoking at age eighteen, and smoked L&M cigarettes regularly until switching to Marlboro in 1990, and later, Basic cigarettes before quitting in 2018 upon receiving a diagnosis of cancer. The tobacco industry disseminated disinformation promoting tobacco and challenging the science that cigarettes caused disease and addiction nationally and in the communities in which Ms. Camacho lived and She relied upon these statements.

THE RISE OF CIGARETTES

An understanding of the historical context of the rise of American cigarette use is necessary for developing an appraisal of the levels of public knowledge of the adverse health consequences caused by and addictive properties of cigarette use, the role of the cigarette industry in shaping that knowledge, the industry's actions in developing addictive nicotine-delivery products, and the industry's marketing and promotion efforts in the United States.

In the 1880s, cigarette pioneer James B. Duke employed new cigarette-rolling machinery developed by James Bonsack to automate cigarette production, thus eliminating the need for expensive and laborious hand-rolling methods of manufacture. Duke quickly came to dominate the cigarette industry through his American Tobacco Company until it was dissolved by Federal anti-trust action in 1911.

The rising popularity of machine-made cigarettes sparked an organized cigarette prohibition movement, led by Lucy Page Gaston and the Anti-Cigarette League. The anti-cigarette movement had close ties to alcohol prohibition organizations such as the Anti-Saloon League and the Women's Christian Temperance Union. The movement had some success in promoting state-level restrictions on cigarettes. Beginning with Washington State in 1896 and ending with Utah in 1921, sixteen southern and western states eventually passed some type of ban on the sale or possession of cigarettes.

The Anti-Cigarette league's chief criticisms of cigarettes were moral: they corrupted youth, promoted delinquency, and were a gateway to alcohol use. The movement's successes were short-lived. By the 1920s all state cigarette prohibition laws had either been struck down by the courts or repealed.³ By 1935, the American Tobacco Co., citing the success of its efforts to change public attitudes towards smoking, boasted:

But probably the greatest single influence on the growth of cigarette-consumption (sic) has been the dissipation of the ancient prejudice against tobacco in this particular form, and a growing belief that cigarettes—being “milder” than other forms of tobacco smoking—are less “injurious.”⁴

³Cassandra Tate, Cigarette Wars The Triumph of "The Little White Slaver" (New York: Oxford University Press, 1999), 148, 159-60.

⁴ American Tobacco Co., “Improving the Taste and Character of Cigarette Tobacco, with a View to Removing Irritants and Producing a Light Smoke: A Chapter In Laboratory Research.,” December 9, 1935, American Tobacco Co. Records, Truth Tobacco Industry Documents, <https://www.industrydocuments.ucsf.edu/docs/#id=lfyb0010>.

The animus against cigarettes faded quickly during World War I. United States troops in France smoked cigarettes at the encouragement of the Army. Cigarettes were more portable than pipes and cheaper than cigars. U.S. military leaders saw cigarettes as more healthful than chewing tobacco, with its attendant spitting and potential for spreading lung diseases such as tuberculosis in the close-quartered conditions of trench warfare. Private relief organizations such as the Salvation Army and YMCA saw cigarettes as an alternative to alcohol and distributed cigarettes to the troops, even as they worked to limit the troops' access to alcohol. The American Tobacco Co. quickly established "Smokes for Soldiers" funds across the nation which raised funds to purchase cigarettes for the troops. Voluntary efforts followed the American Tobacco Co.'s lead. The "Army Girls' Transport Fund," and other voluntary groups raised funds to supply U.S. troops with tobacco and cigarette rations.⁵ Hundreds of thousands of U.S. troops returned from military service addicted to cigarettes. After the war, alcohol prohibition advocates, satisfied that the evil of drink had been vanquished by national prohibition, dropped their objection to the cigarette, and the anti-cigarette movement slipped into obscurity.

The connection between military service and smoking continued after World War I. Cigarettes were widely distributed through military channels, provided to soldiers during World War II and after through their field rations (K-rations and C-rations). Cigarettes

⁵ Tobacco (November 14, 1918), 7; Boston Daily Globe (October 9, 1917), 8; New York Times (May 18, 1918), 14.

were also widely available through military Post Exchanges and distributed for free by the leading cigarette manufacturers. During World War II, Liggett and Myers advertised to the nation that it “sends to our fighting men overseas each and every week a million Chesterfields absolutely free.”⁶

Tobacco manufacturers introduced changes in the design of cigarettes which made them more popular and more addictive. New more easily inhalable cigarette designs, pioneered by R.J. Reynolds’ Camel in 1913 produced a lighter, milder smoke intended to be inhaled into the lungs, thus delivering nicotine in a more potent manner.⁷ Cigarettes, unlike cigars, are, in the testimony of an R.J. Reynolds vice-president, “designed to be lit and inhaled.”⁸ Camel’s remarkable success was followed similarly designed products introduced by American Tobacco’s Lucky Strike, Liggett & Myers’s Chesterfield, and Lorillard’s Old Gold.

American consumption of machine-made cigarettes exploded in the wake of the introduction of the Camel cigarette. Bolstered by aggressive, national advertising and marketing campaigns, cigarettes surpassed pipes, cigars, and chewing tobacco as the primary means by which Americans consumed tobacco in 1924, as consumption of cigarettes rose

⁶“The Passing Parade,” Radio program, broadcast May 24, 1944 on CBS radio,” <http://legacy.library.ucsf.edu/tid/mvi37a00>.

⁷Nannie M. Tilley, The R.J. Reynolds Tobacco Company (Chapel Hill: University of North Carolina Press, 1985), 203

⁸Deposition of Christopher John Cook, Ph.D., April 24, 2009, In Re: Engle Progeny Cases, Tobacco Litigation Case No. 2008 Ca 80000. Pertains To: Martin, Case No.: 2007-Ca 2520 (First Judicial District, Escambia County, Fla.), 68, line 17.

from a mere 54 cigarettes per person (aged 18+) per year in 1900 to a peak of 4,345 cigarettes per person per year in 1963 (figures 1-3).⁹

CIGARETTE ADVERTISING CREATED A SMOKING CULTURE

For much of the 20th century, cigarettes have been among the most heavily promoted and advertised of all consumer goods. Cigarette advertising promoted the act of smoking itself, appealing to broad segments of the American population, including minors under the age of eighteen, women, and minority groups. Cigarette advertising created a cigarette culture where the practice of smoking became a socially acceptable activity by depicting smoking as a glamorous, pleasurable, desirable, and harmless activity.

American society was awash in cigarette advertising. Philip Morris boasted in its 1954 annual report to its stockholders that some 6.7 billion “advertising messages were delivered to America during 1954 by our radio and television programs and extensive newspaper and magazine coverage” for its Philip Morris and Parliament brands, alone.¹⁰ Prior to 1971, when domestic broadcast advertising ceased, cigarette manufacturers were the dominant television advertiser, sponsoring 45 percent of all programs broadcast on

⁹American Tobacco Company, “Sold American!”—The First Fifty Years (New York: American Tobacco Co. 1954), graph on p. 93. Measurement standard is per capita consumption of tobacco, in pounds; United States Department of Health and Human Services, Reducing the Health Consequences of Smoking: 25 years of Progress, A Report of the Surgeon General, 1989 (Rockville, MD: Office on Smoking and Health, 1989), 268. In comparison, a two-pack per day smoker would consume 14,600 cigarettes in a year.

¹⁰Philip Morris, Annual Report (December, 1954), 9.

prime-time television in the early 1960s.¹¹ By 1970, the tobacco industry as a whole was spending US\$ 361 million (or US\$2.2 billion in 2010 dollars) a year on marketing and advertising its products.¹² R.J. Reynolds and its subsidiary companies (American Tobacco and Brown and Williamson) alone spent \$64.8 billion in inflation-adjusted dollars advertising its products during the period, 1951-1996 (figure 4). During the period 1940-2005, the cigarette manufacturers spent \$250 billion (in 2006 dollars) promoting and advertising their tobacco products.¹³ Assessing the ubiquity of cigarette advertising in the late 1960s, the Federal Trade Commission concluded that “cigarette advertising reaches virtually all Americans who can either read, or understand the spoken word” and that “so pervasive is cigarette advertising[,] that it is virtually impossible for Americans of almost any age to avoid cigarette advertising.”¹⁴

The resources deployed by the tobacco industry enticing people to smoke dwarfed those of the government and public health community. The Federal Trade Commission

¹¹P. Lorillard Co., "Network Television Review 1962" (1962), Bates: 04413141-04413186, <http://tobaccodocuments.org/lor/04413141-3186.html>.

¹²Federal Trade Commission, "Report to Congress, Pursuant to the Federal Cigarette Labeling and Advertising Act for the Year 1979" (Released September 3, 1981), Tobacco Institute, Bates No. TIMN0101735/1761, <http://legacy.library.ucsf.edu/tid/udn92f00>, Table 6.

¹³National Cancer Institute, The Role of the Media in Promoting and Reducing Tobacco Use: Tobacco Control Monograph No. 19 (Bethesda, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Cancer Institute, June 2008), 11.

¹⁴ Federal Trade Commission, "Report to Congress, Pursuant to the Federal Cigarette Labeling and Advertising Act" (June 30, 1967).

observed that in 1978 the tobacco industry spent in one day an amount equal to the Federal Government's entire budget for the Clearinghouse on Tobacco and Health, its principal agency charged with informing the public of the harms of smoking.¹⁵

Cigarette manufacturers have been leaders and innovators at each juncture in advertising technique and technology. Cigarette packaging itself has served as a powerful component of the industry's marketing efforts. In the 1870s, cigarette firms pioneered the use of printed cards with the images of sports figures, actresses, and other subjects, to sell their products. The cards stiffened the cigarette packages, protecting the cigarettes, but also served to make the pack itself part of the advertising and marketing effort. In the 1910s, the R.J. Reynolds Tobacco Co. introduced the standard twenty cigarette pack and the ten-pack carton. Other innovations such as cellophane wrapping in the 1930s and flip-top cardboard boxes in the 1950s, special holiday-themed artwork on cartons focused marketing attention on the packaging of cigarettes. The tobacco industry systematically studied the effectiveness of packaging as an advertising medium to ensure maximum consumer impact.¹⁶

Tobacco manufacturers made early use of newspapers, nationally-distributed magazines, and later, nationally broadcast radio and television programming to advertise and promote the use of their products. They were early adopters of nationally-distributed

¹⁵Matthew Myers, et al., "Staff Report on Cigarette Advertising, Public Version (Federal Trade Commission, 1981), 2-3.

¹⁶M. Wakefield, et al., "The Cigarette Pack as Image: New Evidence from Tobacco Industry Documents," Tobacco Control (2002): supplement, i73-i80.

magazines such as Literary Digest (1890) and Time (1923) as vehicles for reaching national audiences in the promotion of tobacco products. In the 1920s-1950s, tobacco manufacturers were leading sponsors of nationally-broadcast radio programs, including “Your Lucky Strike Hit Parade,” “The Grand Ole Opry” and many others. In the 1950s, Chesterfield sponsored leading radio and television programs such as “Chesterfield Supper Club” hosted by Perry Como, and Jack Webb’s “Dragnet.” A procession of celebrities from professional sports, cinema, and musical entertainment: Willy Mays, Ronald Reagan (in the actor phase of his career), Bob Hope, Bing Crosby, Gregory Peck, and many others promoted cigarettes. See Appendix I, figure 1 for representative examples.

Cigarette commercials were a staple on radio and broadcast television. Tobacco billboards dominated outdoor spaces; point-of-purchase displays promoted cigarettes and smoking in stores, markets, restaurants and other businesses. Transit advertising on city buses, taxicabs and other forms of public transportation meant that cigarette advertisements would be seen by the entire general public, including children. After the ban on advertising on broadcast media, tobacco manufacturers paid to place their products in movies. Direct mail, themed products, coupon discounts, and most recently, internet marketing have all been staples of cigarette marketing efforts.¹⁷

¹⁷The American Tobacco Company, “Sold American!”—The First Fifty Years (1954); Louis M. Kyriakoudes, “The Grand Ole Opry and Big Tobacco: Radio Transcripts from the Files of the R. J. Reynolds Tobacco Company, 1948 to 1959,” Southern Cultures 12 (2006): 78-91; National Cancer Institute, The Role of the Media in Promoting and Reducing Tobacco Use: Tobacco Control Monograph No. 19 (Bethesda, MD: U.S. Department

Government regulatory efforts to restrain cigarette advertising in the interest of public health had little effect upon the overall effect upon the industry's marketing and promotional efforts. After Federal legislation banned cigarette advertisements from broadcast radio and television, the tobacco industry further increased its marketing, promotion, and advertising resources devoted to print advertising, outdoor/billboards, point-of-purchase displays, discounts, transit advertising, direct mail, and sponsorship of sports and other public events. By 1980, nearly half of all billboards in the United States advertised cigarettes, many targeting urban, inner-city and minority populations. A marketing report prepared for R.J. Reynolds, for example, concluded that black consumers were "less educated and more likely to be among the large segment of functionally illiterate; hence their readership and purchase of magazines and newspapers are low." To target these consumers, heavy investments in outdoor, out-of-home advertising were recommended.¹⁸

Philip Morris sponsored Formula I racing and women's professional tennis; R.J. Reynolds sponsored NASCAR racing, creating the Winston Cup, and KOOL cigarettes sponsored prominent jazz festivals.¹⁹

of Health and Human Services, National Institutes of Health, National Cancer Institute, June 2008).

¹⁸ The Black Menthol Cigarette Market February, 1979, <http://legacy.library.ucsf.edu/tid/oxg59d00>.

¹⁹Federal Trade Commission, "Staff Report on Cigarette Advertising Investigation" (1981), ch. 3; D. Luke, E. Esmundo, and Y. Bloom, "Smoke Signs: Patterns of Tobacco

The tobacco industry's own internal evaluations confirmed the important role of advertising in building and sustaining demand for cigarettes. S. Clay Williams, head of the R.J. Reynolds testified under oath in Federal court that, "our attitude toward advertising in the cigarette business is that it is absolutely essential to use advertising to maintain, and certainly necessary to use it to extend, the volume of consumption of Camel Cigarettes."²⁰ A 1953 Brown and Williamson Tobacco Co. internal review of the previous forty years of cigarette advertising concluded that "the cigarette industry dramatically demonstrates the force of advertising in the United States today... the rise and fall of every brand of consequence has been ... shown to be the direct result of consumer advertising."²¹ A major National Institute of Cancer study concurs with internal tobacco industry findings on the powerful role of advertising and promotion of cigarettes with the use of cigarettes, concluding:

The total weight of evidence—from multiple types of studies, conducted by investigators from different disciplines, and using data

Billboard Advertising In A Metropolitan Region" Tobacco Control (2000 March; 9:1): 16–23.

²⁰Testimony of S. Clay Williams, United States v The American Tobacco Company, Et. Al. Criminal No. 6670, The United States District Court for the Eastern District of Kentucky, (October 6, 1941), <http://legacy.library.ucsf.edu/tid/lty15f00>.

²¹"Copy of a Study of Cigarette Advertising Made by J .W. Burgard, 1953" Brown and Williamson Tobacco Co. <http://legacy.library.ucsf.edu/tid/kmn99d00>. See also, John Tindall, "Cigarette Market History and Interpretation and Consumer Research: MMTP Presentation" (February 13, 1992), <http://legacy.library.ucsf.edu/tid/jrp20j00>

from many countries—demonstrates a causal relationship between tobacco advertising and promotion and increased tobacco use.²²

CIGARETTE MANUFACTURERS PROMOTED, ADVERTISED, AND MARKETED THEIR PRODUCTS AS HARMLESS TO HEALTH

Cigarette manufacturers promoted cigarette smoking as a pleasurable activity harmless to health. When the American Tobacco Company successfully expanded its market among women in the late 1920s, it launched an advertising campaign touting cigarettes as a diet aid, suggesting that women should “reach for a Lucky instead of a sweet,” a slogan American Tobacco president George Washington Hill claimed to have coined himself.²³ Later, Lucky Strike advertisements offered more explicit health claims. A 1930 advertisement stated that “toasting removes dangerous irritants that cause throat irritation and coughing.”²⁴ The R.J. Reynolds Tobacco Company elicited testimonials from prominent athletes such as New York Yankee baseball player, Lou Gehrig stating that Camels “don’t get your wind.”²⁵ Another R.J. Reynolds’s advertising campaign advised, “For Digestion’s Sake Smoke Camels.”²⁶ In the 1940s, Reynolds boasted that “More Doctors

²²National Cancer Institute, The Role of the Media in Promoting and Reducing Tobacco Use, pp. 11-12.

²³The American Tobacco Company, “Sold American”—The First Fifty Years, 75.

²⁴Full page Lucky Strike Advertisement in Colliers Magazine (December 11, 1930).

²⁵Full page Camel advertisement in Newsweek (June 1, 1935).

²⁶Full page Camel advertisement in LIFE Magazine (December 7, 1936).

Smoke Camels” in its advertisements.²⁷ Philip Morris declared that its customers were “Safer Smoking Philip Morris” and that the brand was “Scientifically proved less irritating for the nose and throat.”²⁸

CIGARETTE INDUSTRY MARKETING AND PUBLIC RELATIONS TARGETED THE MEDICAL PROFESSION TO SHAPE CONSUMER EXPECTATIONS THAT CIGARETTES DID NOT CAUSE HEALTH HARMS

Cigarette manufacturers sought to shape the opinion of the medical profession by advertising health claims for their products in medical and scientific journals. A 1935 Philip Morris advertisement in the New Jersey state medical journal indicated to doctors that when smokers switched to Philip Morris cigarettes, "Every case of irritation of the nose and throat due to smoking cleared completely or definitely improved."²⁹ Philip Morris provided health research information to the medical profession, informing doctors in 1938 that the company's “research files contain exhaustive data from authoritative sources from which we will be glad to quote whatever may be upon your question.”³⁰ The practice of marketing to the medical profession on health claims continued into the

²⁷Full Page Camel advertisement in The Trained Nurse and Hospital Review (April 1946).

²⁸Philip Morris advertisement in LIFE Magazine (March 22, 1943).

²⁹Philip Morris Advertisement, “What happened when smokers changed to Philip Morris?” The Journal of the Medical Society of New Jersey February 1, 1935.

³⁰Philip Morris Advertisement, “Please ask us...” The Pennsylvania Medical Journal (November 1938).

1950s. A 1951 advertisement, citing various medical studies stated that “with proof so conclusive” doctors should consider it “good practice to suggest PHILIP MORRIS to your patients who smoke...”³¹ Philip Morris also informed the general public that its products were safe, as in the advertisement that stated: “Your (sic) Safer Smoking Philip Morris” and that the brand was “Scientifically proved less irritating for the nose and throat.”³² R. J. Reynolds listed full-page ads in forty-six medical journals, including The Lancet and The New England Journal of Medicine, advising physicians that “when suggesting a program to improve a patient's smoking hygiene, you may find it of value to recommend Camel.”³³

CIGARETTE MANUFACTURERS MARKETED TO YOUTH DESPITE CLAIMS TO THE CONTRARY

Representatives of the cigarette industry have frequently stated publicly in the media and in sworn testimony before the United States Congress that they do not market their products to youth.³⁴ Nonetheless, industry documents show that enticing children to

³¹Philip Morris Advertisement, “Simple test proves instantly Philip Morris are less irritating,” Hawaii Medical Journal (March 1, 1951).

³²Philip Morris advertisement, LIFE Magazine (March 22, 1943).

³³R. J. Reynolds Tobacco Co., [print advertisement in medical journals], "THE SLOWER-BURNING CIGARETTE MEANS LESS NICOTINE IN THE SMOKE!" (1942) R. J. Reynolds. Bates No. 502596793, <http://legacy.library.ucsf.edu/tid/cpt78d00>.

³⁴See, by way of example, Tobacco Institute, “Cigarette Manufacturers Outline Position on Labeling, Advertising Proposals” (March 24, 1965), <http://legacy.library.ucsf.edu/tid/vct76b00>.

smoke has always been the foundation of the cigarette business. In the 1920s, the R.J. Reynolds Tobacco Company announced to its sales staff that “School days are here and that means BIG TOBACCO BUSINESS for somebody [emphasis in original].” RJR instructed its sales staff to visit prep schools and colleges and universities in their territory. Sales staff were instructed to give “every school a good working just as quick as possible,” and to “line-up leaders and the most popular students” to help promote Reynolds’s cigarettes.³⁵ The firm pursued similar policies in the 1940s and 1950s, hiring college students to serve as marketing agents, distributing free cigarettes and promotional materials. A 1948 R.J. Reynolds marketing memorandum instructed sales representatives to “visit the school and college campuses” in their sales territory to determine “how the various brands of cigarettes and smoking tobaccos sell among the students at each school and college.”³⁶

Tobacco advertising enticed children to smoke by featuring celebrities, well-known athletes, and cartoon characters that appealed to children. Sports stars and celebrities idolized by children, such as Lou Gehrig, Babe Ruth, Joe DiMaggio, Mickey Mantle and

³⁵R.J. Reynolds Tobacco Company, “School Days are Here” [sales memorandum] (September 9, 1927) <http://legacy.library.ucsf.edu/tid/atc19d00>.

³⁶ R.J. Reynolds Tobacco Company, “We Are Sending You Under Separate Cover a Supply Of Forms, Sample Of Which Is Attached” (January 5, 1949) <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/kmyd0083>.

Roger Maris appeared frequently in tobacco advertisements touting the pleasures of smoking cigarettes.³⁷

Cartoon characters comprised an important advertising technique that attracted youths to cigarettes. In the 1930s and 1940s, R.J. Reynolds promoted its Camel brand cigarette in “Comic Weekly,” the Sunday comics insert that appeared nationwide in the newspapers of the Hearst newspaper chain. According to Hearst’s own market research, the “Comic Weekly,” which included R.J. Reynolds’s Camel Cigarette advertisements, reached an audience of five million homes, including children “from 3 to 21.”³⁸ In the early 1930s, R.J. Reynolds also produced a comic-book guide to magic tricks, which it promoted through a comic strip advertisement campaign, “It’s fun to be fooled.”³⁹

In the 1950s, the American Tobacco Company advertised its Lucky Strike brand with a comic strip featuring “Happy Joe Lucky” a diminutive, child-like character. The strip appeared in the daily and Sunday comics section of 203 leading U.S. newspapers,

³⁷“OLD GOLD Hits A ‘Homer’ For Babe Ruth Blindfold Cigarette Test” New York Times (July 9, 1928), p. 22; Lou Gehrig, “They Don’t Get Your Wind [Camel Cigarettes]” Newsweek (June 1, 1935); An extensive online database of cigarette advertisements is maintained at “Not a Cough in a Carload: Stanford Research into the Impact of Tobacco Advertising,” (Stanford University School of Medicine) http://tobacco.stanford.edu/tobacco_main/index.php.

³⁸“The Comic Weekly” New York Times (July 7, 1934), p. 20; “The Comic Weekly” New York Times (January, 1, 1941), p. 40.

³⁹ Magician’s Handy Book of Cigarette Tricks also Coin and Card Magic (R.J. Reynolds, 1933); “It’s Fun to be Fooled [cartoon advertisement for Camel Cigarettes] 1933, http://171.67.24.121/tobacco_web/images/tobacco_ads/psy_exploits/fooled/large/fooled_14.jpg.

reaching a substantial population of children. In 1958, Philip Morris created its own comic strip character—an action-adventure character named Duke Handy. Philip Morris placed multi-panel comic strip advertisements in the color comics section of newspapers nationwide. The company boasted that “the Philip Morris sales message [is] woven right into the action!”⁴⁰

“Johnny Philip Morris” the company’s diminutive product spokesman, appealed to children. Johnny Roventini—who originated the character--and any of the “Johnny Jr.’s” each stood about four feet tall and would tour the nation in a bellhop uniform bellowing the catchphrase, “Call for Philip Morris.” The character appeared on radio and later, television advertising and represented the company’s cigarettes in all manner of print, outdoor, and point-of-sale media. Gus Wayne, one of the “Johnny Jr.” stand-ins who traveled the country promoting Philip Morris cigarettes noted the strong attraction the character held among children:

"In my travels, I've noticed that "Johnny" is more readily recognized by the children than the adults. Children being very impressionable remembering things they see and hear, long after they've occurred. Here now, I further feel, based upon my observations, that the Philip Morris trade mark (sic), "Johnny" has fallen into the same category as Hop-a-long Cassidy, Howdy-Doody, etc."⁴¹

⁴⁰“Here’s an exciting new idea in advertising [Duke Handy]” Philip Morris <http://legacy.library.ucsf.edu/tid/hpw13e00>.

⁴¹ Gus Wayne to J.E. Gallagher, “Sales Promotion” (December 6, 1953), <http://legacy.library.ucsf.edu/tid/smk78e00>.

Philip Morris capitalized upon its spokesmen's appeal to children by holding local events where children appeared alongside the distribution of cigarettes as illustrated in the photographs reproduced in Figures 5-6 reproduced in Appendix I.

Cigarette manufacturers also turned to animated cartoons to attract youth to its products. In 1960, R.J. Reynolds sponsored the inaugural season of the evening cartoon comedy, "The Flintstones." Although billed as a show for adults, "The Flintstones" aired during the prime-time broadcast hours on Friday evenings and attracted a significant youth viewership.

CIGARETTE MANUFACTURERS ENGAGED IN SAMPLING TO PROMOTE SMOKING

Distributing free cigarettes—called sampling in the industry parlance—was an important technique for recruiting underage smokers and promoting smoking, generally. R.J. Reynolds directed its sales representatives to make sure these giveaways were spurring cigarette sales to students in their sales territories by "evaluat[ing] the effectiveness of the extensive sampling that has been done in schools and colleges over the country during the past few months."⁴²

Manufacturers would promote the distribution of free samples of cigarettes at places and events where young people would congregate, A 1950 R.J. Reynolds sales

⁴²R.J. Reynolds Tobacco Co., "We Are Sending You Under Separate Cover A Supply Of Forms, Sample Of Which Is Attached" (May 20, 1948), <http://legacy.library.ucsf.edu/tid/qrc19d00>.

memo directed sales staff that “good place to sample young smokers is in coffee shops, drug stores and restaurants in office buildings where they assemble for the ‘kaffe klatch’ around ten o'clock in the mornings.”⁴³ The American Tobacco Co. operated an extensive college marketing program that enlisted student representatives, who were directed to “sample student consumers on and adjacent to the campus.”⁴⁴

Lorillard responded to the release of the 1964 Surgeon General’s Report on Smoking and Health by launching a massive national sampling campaign, giving away 3,329,000 four packs of Kent and Newport cigarettes after the report’s release.⁴⁵ In 1974, Lorillard reported to the Federal Trade Commission that it has distributed 24,158,683 free sample four packs across the nation. A 1979 Lorillard marketing plan for its flagship Newport cigarette proposed:

Advertising will be concentrated on young adult smokers. Promotion will be targeted to the same group with an emphasis on sampling and continuity events to build trial/awareness.⁴⁶

⁴³ R. J. Reynolds. “Sampling.” (May 23, 1950) <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/rmyd0083>.

⁴⁴ American Tobacco Co. Circular Book, September 1, 1957 - October 31, 1957. 1957 September 01. American Tobacco. <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/nmnn0174>

⁴⁵ W.L. Sullivan, “4S PACKAGES - KENT KING SIZE, NEWPORT KING SIZE,” Lorillard Records, Truth Tobacco Industry Documents, <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/#id=ntmm0077>.

⁴⁶ R.W. Davis, “Newport 1979 Brand Plan,” 1978, Lorillard Records, Truth Tobacco Industry Documents, <https://www.industrydocuments.ucsf.edu/docs/#id=fpdb0116>.

Lorillard maintained a special fleet of vehicles known as the “Vantastic Sampling Vans.” Colorfully emblazoned with the Newport logo and artwork, these vans would ply urban neighborhoods, distributing free cigarettes, including the neighborhoods of New York. Lorillard sales executives communicated to their sales staff the purpose of these vans through a short poem:

"When your target group is hard to reach
With a standard marketing plan,
Get out and sample them on the streets
With the 'Vantastic Newport Sampler Van'⁴⁷

The evidence shows that Lorillard sales representatives distributed samples to children and deviated from formally stated sampling policies. For example, in 1963 a Lorillard sales representative distributed free cigarettes to junior high students attending an anti-smoking education event at Arkansas State University. The representative handed out the free cigarettes to “young teenagers” as they passed through the cafeteria line picking up their lunch. He only ceased when reprimanded by an adult chaperone.⁴⁸ In 1989, an RJR executive observed Lorillard representatives “conducting irresponsible sampling

⁴⁷ V. Lindsley, “Subject: Newport Van Sampling: The Vantastic Van Is Coming” (May 16, 1983), Lorillard Records, Truth Tobacco Industry Documents, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=qhhc0066>.

⁴⁸ L.W. Vaught, “[Re: Sampling Junior High School Students],” March 25, 1963, R.J. Reynolds Records, Truth Tobacco Industry Documents, <https://www.industrydocuments.ucsf.edu/docs/#id=srgj0045>.

practices which negatively impact the Industry's image," causing RJR to lose its "sampling privileges at an Hispanic event" and prompting RJR's corporate counsel to lodge a complaint with the corporate counsel of Lorillard.⁴⁹ At the same time, RJR representatives observed Lorillard staff distributing free Newport cigarettes in Cleveland in disregard for industry-wide formal policies. In Chicago, Lorillard representatives were handing out Newport cigarettes from the window of the sampling van without any sign indicating that samples were only for those 21 years or older, all of this was in direct violation of Lorillard's formal, although clearly unenforced policies.⁵⁰

While Lorillard's stated sampling guidelines prohibited the distribution of free cigarettes to those under the age of twenty-one, its method of verification did not rely on any objective verification of age. For example, Federal Distributing, a firm Lorillard contracted with to distribute samples of Newport and Newport lights, instructed its staff to not give free samples to "anyone who appears to be under twenty-one years of age. You

⁴⁹ M.L. Suggs, "Newport Sampling," R.J. Reynolds Records, Truth Tobacco Industry Documents, accessed June 12, 2019, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=jkjg0059>.

⁵⁰ D.N. Iauco, "Newport Sampling," November 22, 1989, R.J. Reynolds Records, Truth Tobacco Industry Documents, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=nggw0093>; Wayne W. Juchatz, "Newport Sampling," December 8, 1989, R.J. Reynolds Records, Truth Tobacco Industry Documents, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=hrgb0081>.

are the judge!!” These sampling guidelines did not require any identification to confirm the age of the recipient of free cigarettes.⁵¹

Sampling cigarettes to young people continued into the 1980s by all cigarette firms. ABC News documented numerous instances of industry representatives distributing free samples of cigarettes to children at sporting events and other public venues where children would gather.⁵²

CIGARETTE MANUFACTURERS CONDUCTED MARKET RESEARCH ON YOUTHS TO PROMOTE UNDERAGE SMOKING

Cigarette manufacturers employed sophisticated research techniques to carefully study the smoking habits of children to better shape their youth smoking marketing efforts. Industry officials understood that the vast preponderance of smoking initiation occurred among youths under the age of eighteen. In 1953, George Weissman, a Philip Morris marketing official who would eventually rise to head the company, concluded from a marketing report that his company’s sales position was strong because “we have our greatest [sales] strength in the 15-24 age group.”⁵³ Reviewing a 1959 marketing study, a

⁵¹ “Norman D. Einzinger, Executive Vice President, Federal Distributing Co. to Paul Lawless, Sales Promotions Director, Lorillard Tobacco Co.,” January 24, 1978, Lorillard Records, Truth Tobacco Industry Documents, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=ggfk0077>.

⁵² ABC News, 20/20 Telecast, “Growing Up In Smoke [broadcast transcript],” (October 20, 1983). <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/fsmd0143>.

⁵³ George Weissman, “Memo [to RN DuPuis],” (October 7, 1953) <http://legacy.library.ucsf.edu/tid/taf18e00>.

Philip Morris marketing official indicated that the company should “win more young non-smokers.”⁵⁴ Another Philip Morris marketing research report, “Young Smokers: Prevalence, Trends, Implications, and Related Demographic Trends,” concluded that “today’s teenager is tomorrow’s potential regular customer.” For Philip Morris to prosper as a company, it was critical for the firm to attract these underage smokers because “it is during the teenage years that the initial brand choice is made.”⁵⁵

R.J. Reynolds also worked hard to improve its share of the under-eighteen, youth market through market research. A 1971 R.J. Reynolds memorandum broke down each manufacturer’s market share by age groups that included the 14-17-year-old cohort. The report attributes the success of competitor Philip Morris to its “substantially higher share among smokers under 35,” an age cohort whose lower bounds were fourteen.⁵⁶ R.J. Reynolds continued marketing research youth smoking well into the 1980s. A 1984 study indicated that 31 percent of smokers began smoking after age eighteen. Consequently, 69 percent began smoking at age eighteen or less. These under-aged smokers—described as

⁵⁴Danker, W. H. “Roper Attitude Study” (May 28, 1959) <http://legacy.library.ucsf.edu/tid/rnl38e00>.

⁵⁵Myron Johnson, “Young Smokers: Prevalence, Trends, Implications, and Related Demographic Trends,” (March 31, 1981), <http://legacy.library.ucsf.edu/tid/ftu74e00>. Johnson offered a similar analysis six year earlier in “The Decline in the Rate of Growth of Marlboro Red” (May 21, 1975), <http://legacy.library.ucsf.edu/tid/hvh57h00>.

⁵⁶J.H. Sherrill, “Company Shares Broken By Age Groups,” (September 21, 1972) <http://legacy.library.ucsf.edu/tid/zvg19d00>. See also, Frank G. Colby, “Cigarette Concept to Assure RJR a Larger Segment of the Youth Market,” (December 4, 1973) <http://legacy.library.ucsf.edu/tid/exp20j00>.

“younger adult smokers”—were the “only source of replacement smokers,” a population the report concluded was crucial to the future of the firm’s business.⁵⁷ The future of R.J. Reynolds depended upon recruiting children to smoke the company’s cigarettes. A confidential internal report laid out the issue: Realistically, if our Company is to survive and prosper, over the long term, we must get our share of the youth market.⁵⁸

The role of youth smoking in sustaining and growing the cigarette business was widely known among tobacco manufacturers. A Lorillard Tobacco Company official summarized the entire tobacco industry’s approach to youth smoking when he wrote, “the base of our business is the high school student.”⁵⁹

⁵⁷Diane S. Burrows, "Strategic Research Report: Younger Adult Smokers: Strategies and Opportunities," Winston Salem, N.C: Marketing Development Department, R.J. Reynolds, February 29, 1984. Bates No. 501431517/1610. <http://legacy.library.ucsf.edu/tid/ftc49d00>. See also Roper Organization Inc., "A Study of Smoking Habits among Young Smokers, Prepared For Philip Morris, Inc.," Volume I: Discussion (typescript, July 1974), Bates: 1002646151-6185, <http://legacy.library.ucsf.edu/tid/wlv74e00w>.

⁵⁸Claude Teague, “Research Planning Memorandum on Some Thoughts About New Brands of Cigarettes For The Youth Market,” R.J. Reynolds (1973).

⁵⁹T. L. Achey to Curtis Judge, “Product Information,” Memo, August 30, 1978,: <http://legacy.library.ucsf.edu/tid/yhg56b00>.

CIGARETTE MANUFACTURERS TARGETED URBAN, MINORITY AND LOW-INCOME POPULATIONS WITH OUTDOOR AND POINT OF SALE ADVERTISING.

Cigarette manufacturers employed outdoor and point of purchase advertising to reach urban and low-income populations. By 1980, nearly half of all billboards in the United States advertised cigarettes, many targeting urban, inner-city and minority populations. A marketing report prepared for R.J. Reynolds, for example, concluded that black consumers were “less educated and more likely to be among the large segment of functionally illiterate; hence their readership and purchase of magazines and newspapers are low.” To target these consumers, heavy investments in outdoor, out-of-home advertising were recommended.⁶⁰ These outdoor and point of purchase advertising promotions also reached children under the age of 18 as they moved through public spaces in their neighborhoods and shopped at local markets.

In 1974, a Brown and Williamson sales executive commented on the effectiveness of competitor R.J. Reynold’s extensive billboard advertising, noting that “You do not have to work hard with the Winston board – you simply look up and read it. It ‘pops’.”⁶¹

An investigation in Boston by public health researchers in the 1990s confirmed that outdoor cigarette advertising was pervasive in inner-city neighborhoods.

⁶⁰ The Black Menthol Cigarette Market February, 1979, <http://legacy.library.ucsf.edu/tid/oxg59d00>.

⁶¹ L. L. Mudd, “Subject: Boston Market Evaluation,” May 30, 1974, Brown and Williamson Records, Truth Tobacco Industry Documents, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=zkbp0139>.

Specifically, the investigators concluded that “exposure [to outdoor tobacco advertising] is intense in areas close to public schools, and more intense in neighborhoods with more children, with significant Black and Hispanic/Latino populations, and with low socioeconomic status.”⁶²

Cigarette manufacturers also invested heavily in point of sale advertising, marketing and promotion. Like billboards and other forms of outdoor advertising, point of purchase displays and promotions reached large numbers of young people, especially those living in inner city neighborhoods.⁶³

CIGARETTE MANUFACTURERS TARGETED BEGINNING SMOKERS, UNDERAGE SMOKERS, AFRICAN AMERICANS, AND OTHER SUB-POPULATIONS WITH MENTHOL CIGARETTES

Cigarette manufacturers targeted African Americans and young, underage, “starter” smokers with menthol products. R.J. Reynolds, Lorillard, and Philip Morris each understood that black smokers perceived menthol cigarettes to be healthier products, even as brands such as Kool offered some of the highest nicotine levels of any cigarette in their

⁶² Linda G Pucci, Herbert M Joseph, and Michael Siegel, “Outdoor Tobacco Advertising in Six Boston Neighborhoods: Evaluating Youth Exposure,” *American Journal of Preventive Medicine* 15, no. 2 (August 1, 1998): 155–59, [https://doi.org/10.1016/S0749-3797\(98\)00034-8](https://doi.org/10.1016/S0749-3797(98)00034-8).

⁶³ Lisa Henriksen et al., “A Longitudinal Study of Exposure to Retail Cigarette Advertising and Smoking Initiation,” *Pediatrics* 126, no. 2 (August 2010): 232–38, <https://doi.org/10.1542/peds.2009-3021> Lindsay Robertson et al., “A Systematic Review on the Impact of Point-of-Sale Tobacco Promotion on Smoking,” *Nicotine & Tobacco Research* 17, no. 1 (January 2015): 2–17, <https://doi.org/10.1093/ntr/ntu168>.

class.⁶⁴ A report prepared for R.J. Reynolds summarized the research on African-American smoker's views on the healthfulness of menthols:

There is a feeling that mentholated cigarettes are more soothing on the throat, less harsh. The mentholated cigarette, whether a brand, viewed as quite strong such as Kools or relatively weak, is almost invariably regarded as milder than other types, easier on the throat and thus less harmful generally.⁶⁵

Similarly, a study conducted for Philip Morris found that black smokers believed that menthol cigarettes were "better for one's health."⁶⁶

Cigarette manufacturers preyed upon the public's belief that menthol cigarettes were healthier than non-mentholated products through their marketing. The Brown and Williamson Tobacco Co. (acquired by R.J. Reynolds in 2005) devised marketing plans with the goal of providing smokers the "health reassurance that will be necessary for

⁶⁴ All Udow, "The Chemistry of Kool and a Recommendation" (May 24, 1975). <http://legacy.library.ucsf.edu/tid/fds74e00/pdf>. See also, Market Facts, Inc. "Black Smoker Characteristics Study 1978-75." (October 1978), <http://legacy.library.ucsf.edu/tid/otf14f00>.

⁶⁵ Callahan Research Associates, "A Summary of Focus Group Research among Young Black People on Mentholated Cigarettes," (February, 1972) <http://legacy.library.ucsf.edu/tid/pkt66a00/pdf>.

⁶⁶ Tibor Koeves Associates. "A Pilot Look at the Attitudes of Negro Smokers Toward Menthol Cigarettes," (September 1968). <http://legacy.library.ucsf.edu/tid/tdp54e00/pdf>.

[market] growth” especially among increasing its business among blacks and Hispanics.⁶⁷

Attracting new, underage smokers with menthol products constituted an important means by which the tobacco manufacturers recruited “replacement smokers.” Brown and Williamson sought to reach more “starters” with its Kool brand. A 1973 Kool marketing plan emphasized the importance of “KOOL's stake in the 16 - 25-year-old population segment” and indicated that “all magazines will be reviewed to see how efficiently they reach this group.”⁶⁸

BEFORE 1950, THERE WAS LITTLE PUBLIC KNOWLEDGE THAT CIGARETTES CAUSED DEADLY DISEASES

There existed very little knowledge and understanding among the public that cigarettes caused deadly disease before 1950. Health education in the schools during the period 1920-1960 minimized or ignored the risks of cigarette smoking. For example, in 1926 the National Education Association and American Medical Association’s “Joint Committee on Health Problems in Education”—designed to offer national standards for health education—offered only the weakest guidelines on tobacco education,

⁶⁷ “Kool Family Utopian Objectives,” (August 1978), <http://legacy.library.ucsf.edu/tid/vnh40f00>. See also, U.S. Department of Health and Human Services. Preventing Tobacco Use Among Youth and Young Adults: A Report of the Surgeon General (Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2012).

⁶⁸R.L. Johnson, “re: List of conclusions based on Wave XIII” (February 21, 1973), <http://beta.industrydocuments.library.ucsf.edu/tobacco/docs/tzfd0040>.

recommending that teachers instruct their students on the “advantages of abstinence from smoking until at least 21 years of age.”⁶⁹ The 1953 edition of the same volume described only minimal effects of smoking and advised the prospective health instructor that “it is a disservice to exaggerate the harmful effects of tobacco because the visible evidence belies the charge. The child sees adults—including doctors—smoke with evident enjoyment.”⁷⁰ Howard S. Diehl’s Textbook of Healthful Living, widely used in schools in the 1940s and 1950s, and beyond, presented a decidedly ambiguous treatment of the effect of tobacco use on health. After reviewing evidence for and against the accusation that tobacco smoking may or may not impair mental efficiency, may or may not result in fatigue or stimulation, may aid or impair digestion, may harm the heart, may or may not harm unborn children, he offers the student the following conclusion: “In spite of all the careful studies and observations of the effects of tobacco upon man and animals we are still unable to give a final answer to the ultimate effects of moderate smoking upon health.” Significantly, Diehl makes no mention of lung cancer whatsoever.⁷¹ Another widely used health textbook discussed tobacco in a chapter titled “preventing nervousness.” It

⁶⁹Thomas D. Wood Chairman, Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association, Health Education: A Program for Public School and Teacher Training Institutions (New York: 1926), 146-47.

⁷⁰Charles C. Wilson, ed., Health Education: A Guide for Teachers and a Text for Teacher Education (New York: Joint Committee on Health Problems in Education, 1953), 60

⁷¹Harold S. Diehl, Textbook of Healthful Living Fourth Edition (New York: McGraw-Hill Book Co., 1950), 185-196; quotation is on p. 194. Diehl had a distinguished career in public health as a medical doctor, professor of preventive medicine and dean of medical sciences at the University of Minnesota.

described cigarette smoke as “comparatively safe” and indicated that the inhaling the smoke might produce “cigarette cough.” The author’s recommendation was not to inhale.⁷²

Other educational and classroom activities reinforced the social legitimacy of smoking, thus undermining any messages that cigarettes were deadly. For example, it has been common practice in elementary school classrooms to instruct students in how to make ashtrays, a practice reflected in craft and teacher-training textbooks. One book on crafts for young people offered instructions for making a cigar ashtray by gluing cigar bands to a glass tray. The author suggested making a pen tray for those “who do not want to encourage smoking.”⁷³ As late as 1959 a widely used textbook for training kindergarten teachers suggested ashtrays as acceptable craft ideas for classroom projects.⁷⁴ Such projects reinforced the notion that smoking was a normal and acceptable activity.

Films also reflected the social practice of smoking, offering a historical illustration of how little the public believed cigarettes to be the cause of life-threatening conditions such as cancer or heart and lung disease. Female movie stars such as Marlene Dietrich, Lauren Bacall, and Bette Davis made smoking central to their film personas. Male movie

⁷²Dean Franklin Smiley and Adrian Gordan Gould, Your Health (New York: The Macmillan Co., 1951), 175-176.

⁷³Bertha Johnson, Home Occupations for Boys and Girls (Philadelphia: George W. Jacobs & Co., 1908), 67

⁷⁴Josephine C. Headley and Neith Foster, Foster and Headley's Education in the Kindergarten. (3rd Ed. New York: American Book Co., 1959), 144

stars such as Humphrey Bogart, John Wayne, Montgomery Clift and Frank Sinatra did likewise. Cigarettes were used to symbolically consummate relationships, as when Paul Henreid simultaneously lights two cigarettes in his mouth, before offering one to Bette Davis in the film Now, Voyager (1942). In Thirty Seconds Over Tokyo (1944), American airmen recover from injuries by joyfully smoking cigarettes in their hospital beds. In The Wings of Eagles (1957), John Wayne's film biography of Navy airman turned movie screenwriter, Frank W. "Spig" Wead, Wayne smokes in the hospital while recovering from a devastating spinal cord injury. Unable to use his hands, the nurse holds the cigarette in his mouth. His doctor examines him, cigarette in hand.

THE MODERN CIGARETTE-HEALTH CONTROVERSY BEGAN IN 1950

The modern cigarette health controversy started in the early 1950s with the growing publicity of new scientific research indicating that cigarette smoking may cause lung cancer. Articles in national magazines such as The Reader's Digest and LIFE, as well as leading newspapers, and broadcast media publicized the growing body of scientific research implicating cigarette smoking with disease. Those reports, however, could be highly qualified and confusing to the public. The Reader's Digest, in entertaining the question "How harmful are Cigarettes?" described "benzo-pyrene"—a suspected carcinogen in tobacco smoke—as merely "an irritant rather than a poison."⁷⁵ Other news stories flatly denied the connection between cigarettes and cancer, as in a 1955 Newsweek story

⁷⁵Roger William Riis, "How Harmful Are Cigarettes?" The Reader's Digest (January, 1950), 3.

that stated “no link between cigarette smoking and lung cancer has been found” in a two-year-long British study. The story goes on to list “ways to fend off cancer.” No mention of forswearing cigarette smoking or tobacco use is mentioned.⁷⁶

The media coverage of smoking and health presented conflicting information that led to high levels of confusion among the public, particularly in the 1950s. For example, in 1954 *The Reader’s Digest* reported that “‘medically speaking, tobacco is not habit-forming’”. Smoking is merely “‘habit-forming in the same way that three meals a day or eight hours sleep or wearing clothes are habit-forming’”. Cessation of use merely makes the user “‘uncomfortable’”.⁷⁷ Other news stories flatly denied the connection between cigarettes and cancer, as in a 1955 *Newsweek* story that stated “‘no link between cigarette smoking and lung cancer has been found’” in a two-year-long British study. The story goes on to list “‘ways to fend off cancer’”. No mention of forswearing cigarette smoking or tobacco use is mentioned. Industry denials and obfuscations were standard elements in smoking and health stories.

CIGARETTE MANUFACTURER’S INTERNALLY ACKNOWLEDGED THAT SMOKING CAUSED DISEASE WHILE CONCEALING THAT KNOWLEDGE FROM THE PUBLIC

While tobacco industry officials never wavered from their public position that cigarette smoking had not been shown to be the cause of any disease, internally, there

⁷⁶“Medicine—Special Report” *Newsweek* (July 25, 1955), 62-63.

⁷⁷ Herbert Brean, “How to Stop Smoking,” *The Reader’s Digest* (April, 1954):31

was a widespread acknowledgment that smoking was a deadly health hazard. In 1953, R.J. Reynolds chemist, Claude Teague, undertook an assessment of science on smoking and health in a report titled, "Survey of Cancer Research with Emphasis on Possible Carcinogens from Tobacco." Reviewing published technical and scientific research that stretched back as early as 1900 Teague concluded that the science indicated a relationship between smoking and lung cancer, writing that "Studies of clinical data tend to confirm the relationship between heavy and prolonged tobacco smoking and incidence of cancer of the lung."⁷⁸

Having established that the science indicated a link between cigarette use and lung cancer, R.J. Reynolds scientists initiated specific investigations of the company's products. A 1956 investigation by Alan Rodgman analyzed the smoke of the firm's popular Camel brand. Rodgman introduced his report by stating unambiguously that the published science pointed to cigarette use as a cause in the rise of lung cancer:

Statistical analyses based on retrospective . . . and prospective . . . clinical studies indicate that tobacco smoke, and in particular, cigarette smoke, is a major causative factor in the present high and increasing incidence of cancer of the respiratory system in humans."⁷⁹

⁷⁸Claude Teague, "Survey of Cancer Research with Emphasis Upon Possible Carcinogens from Tobacco" (February 2, 1953), 14, <http://legacy.library.ucsf.edu/tid/jad76b00>

⁷⁹Alan Rodgman, "The Analysis of Cigarette Smoke Condensate. I. the Isolation and/or Identification of Polycyclic Aromatic Hydrocarbons in Camel Cigarette Smoke Condensate" (September 28, 1956), R.J. Reynolds. <http://legacy.library.ucsf.edu/tid/txv35d00>, p.

Rodgman's report probes further, identifying polycyclic aromatic hydrocarbons, a constituent of cigarette smoke, as the class of compounds responsible for disease. He concludes his report by stating that this class of compounds should be removed from cigarette smoke:

Since it is now well established that cigarette smoke does contain several polycyclic aromatic hydrocarbons and considering the potential and actual carcinogenic activity of a number of these compounds, a method of either complete removal or almost complete removal of these compounds from cigarette smoke is required.⁸⁰

Rodgman continued submitting research reports to R.J. Reynolds's management indicating that cigarette use was a cause of lung cancer. In 1962 he wrote that the evidence linking cigarettes to serious disease was "overwhelming:"

Obviously, the amount of evidence accumulated to indict cigarette smoke as a health hazard is overwhelming. The evidence challenging this indictment is scant.⁸¹

Management at the Liggett & Myers Tobacco Co. was in possession of the same information—that cigarette use caused deadly diseases such as lung cancer. The Arthur

5. Note: the elided material consists only of a series of numerals enclosed in parentheses indicating relevant citations in the report's bibliography.

⁸⁰ Rodgman, "Analysis of Cigarette Smoke Condensate," p. 37.

⁸¹ Alan Rodgman, "The smoking and health problem--a critical and objective appraisal" (1962) 1504822847/2852 R.J. Reynolds, <http://legacy.library.ucsf.edu/tid/zhm55d00>.

D. Little organization, a contract research firm that performed research work for Liggett, reported to Liggett that tobacco contained “biologically active materials” that were “cancer causing”, “cancer-promoting”, and “poisonous.”⁸²

Philip Morris also knew and accepted the science linking cigarettes to disease. The company publicly claimed that it had been researching the connections between smoking and lung cancer since the 1930s:

Since 1932, we at Philip Morris have engaged in extensive research. We have found no evidence that there is any correlation between cigarette smoking and the publicized increase in lung cancer.⁸³

While stating to the public that cigarettes were not the cause of any disease, internally, Philip Morris scientists and managers clearly understood that cigarette use caused serious disease. Dr. Helmut Wakeham oversaw the firm’s research and development efforts, eventually rising to the position of Vice-President of Research and Development. In 1961 Wakeham made a presentation to Philip Morris’s Research and Development Committee in the firm’s corporate office in New York City where he informed the committee that “carcinogens are found in practically every class of compounds in smoke.” He identified forty compounds present in cigarette smoke in what he described merely as a “partial list” of carcinogens. Wakeham explained that carcinogenic compounds in cigarette

⁸² A.D. Little, Inc., “L & M - A Perspective Review” (March 15, 1961), <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/yyld0111>.

⁸³ Letter, James C. Bowling [Philip Morris] to Charles E. Swann [Radio WHSY/American Broadcasting Co.] (January 19, 1954), <http://legacy.library.ucsf.edu/tid/mgg68e00>.

smoke were so pervasive in levels that impacted health that removing them was not technically possible. “The best we can hope for is to reduce a particularly bad class, i.e., the polynuclear -hydrocarbons, or phenols,” he concluded.⁸⁴ In reviewing the findings of the 1964 Surgeon General’s report, Smoking and Health, which formally implicated cigarettes as a cause of premature death, lung cancer, emphysema, and coronary heart disease,⁸⁵ Wakeham indicated that the report’s conclusions were sound. Writing in an internal company policy memo, he concluded that “A careful review of the report has so far disclosed no vitiating errors of commission.”⁸⁶ Despite these internal conclusions, Philip Morris representatives, including Helmut Wakeham himself, publicly denied that cigarettes posed any health hazard.⁸⁷

⁸⁴Helmut Wakeham, “Tobacco and Health R&D Approach Presentation to R&D Committee,” Philip Morris (November 15, 1961), <http://legacy.library.ucsf.edu/tid/xoa92i00>, pp. 5, 9, 17.

⁸⁵Surgeon General's Advisory Committee on Smoking and Health, and U.S. Public Health Service, Office of the Surgeon General. Smoking and Health. (Washington: Government Printing Office, 1964). The Office of the Surgeon General has issued a fifty year update of the original report, The Health Consequences Of Smoking – 50 Years Of Progress: A Report Of The Surgeon General (Atlanta, GA.: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014).

⁸⁶Helmut Wakeham, Smoking and Health Significance of The Report of The Surgeon General's Committee to Philip Morris Incorporated: Evaluation Report (February 18, 1964), <http://legacy.library.ucsf.edu/tid/pai57h00>.

⁸⁷Wakeham would later compare smoking to eating applesauce. See “The Marlboro Story - Death in the West [transcript],” (September 9, 1976), <http://legacy.library.ucsf.edu/tid/hyk49e00>.

Thus, by the late 1950s, tobacco industry scientists overwhelmingly believed that cigarettes were the principal cause of lung cancer. In the spring of 1958, a trio of scientists with the British American Tobacco Company travelled from Great Britain to the United States, visiting scientists and officials at or affiliated with the major cigarette manufacturers, as well as at universities, government and private research institutes to learn the views held by tobacco industry scientists on smoking and cancer. In particular, they visited scientists at Philip Morris, the American Tobacco Company, and Liggett and Myers. They also visited industry-affiliated scientists at the Tobacco Industry Research Committee in their New York and Richmond, Virginia offices. Finally, they met with industry-affiliated scientists at the Medical College of Virginia, also in Richmond. Having discussed the science of smoking and health in their meetings, the three British American Tobacco Company scientists reported that “the individuals whom we met believed that smoking causes lung cancer if by ‘causation’ we mean any chain of events which leads finally to lung cancer and which involves smoking as an indispensable link.” A consensus had emerged within the tobacco industry that cigarette smoking was causative of lung cancer—a consensus that was concealed from the public.⁸⁸

CIGARETTE-DELIVERED NICOTINE CAUSES ADDICTION IN SMOKERS

In 1988, the U.S. Surgeon General released a report concluding that “cigarettes and other forms of tobacco are addicting” and that “nicotine is the drug in tobacco that

⁸⁸ H.R. Bentley, D.G.I. Felton, and W.W. Reid, “Report on Visit to USA and Canada (April 17, 1958 to May 12, 1958),” <http://legacy.library.ucsf.edu/tid/ejz82i00>.

causes addiction.” The report further concluded that the “pharmacologic and behavioral processes” in tobacco addiction “are similar to those that determine addiction to drugs such as heroin and cocaine.” Among the criteria employed by the Surgeon General were “compulsive use” and “psychoactive effects.”⁸⁹ Subsequent studies have confirmed these findings.⁹⁰

The biological basis of compulsive, daily use of cigarettes is driven by the smoker’s need to avoid the symptoms of nicotine withdrawal: “irritability, depressed mood, restlessness, and anxiety.” Nicotine is carried into the lungs as the smoker inhales the cigarette. Within seconds the nicotine is absorbed by the bloodstream and carried to the brain where it acts as an addicting drug.

Nicotine’s biological activity in the brain is reinforced by conditioned behavioral and social factors—“cues” associated with the reduction of the symptoms of nicotine withdrawal that are perceived as pleasurable by the smoker. Such behavioral cues include rituals associated with manipulation of cigarette packaging and the cigarette itself, smoking after meals, or with coffee, or in social situations with other smokers. These

⁸⁹ U. S. Department of Health and Human Services, Centers for Disease Control. The Health Consequences of Smoking: Nicotine Addiction. A Report of the Surgeon General (Washington, DC: U.S. Department of Health and Human Services, 1988), p. 7-9.

⁹⁰ Neal L. Benowitz, “Nicotine Addiction,” *The New England Journal of Medicine* 362, no. 24 (June 17, 2010): 2295–2303, <https://doi.org/10.1056/NEJMra0809890>; U.S. Department of Health and Human Services. The Health Consequences of Smoking: 50 Years of Progress. A Report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014. Printed with corrections, January 2014

behavioral reinforcers work to maintain nicotine addiction and the practice of cigarette smoking. Social reinforcers play a significant role in the initiation of smoking among youths and in subpopulations where smoke is more prevalent such as low social economic status groups.⁹¹

The power and intensity of nicotine addiction in daily smokers is indicated by the low rates of successful quitting. Numerous studies by researchers in public health and the tobacco industry have found that most long-term smokers—up to 70 percent—want to quit smoking. The vast preponderance of these attempts fail: 80 percent of smokers who attempt quitting return to smoking within a month. The six-month quit rate ranges between 5.1 to 8.5 percent. The twelve-month success rate stands at meager 3 percent.⁹²

CIGARETTE MANUFACTURERS KNEW CIGARETTE-DELIVERED NICOTINE CAUSED ADDICTION AND DESIGNED THEIR PRODUCTS TO ENHANCE NICOTINE’S IMPACT ON SMOKERS

The addictive qualities of nicotine which drove customers to compulsive use were well known to tobacco industry officials and were discussed in secret internal

⁹¹ Benowitz, “Nicotine Addiction.” See also, Lynn Kozlowski, Jack E. Henningfield, Janet Brigham, *Cigarettes, Nicotine, & Health: A Biobehavioral Approach* (Thousand Oaks, Calif.: Sage Publications, 2001); B. Poland et al., “The Social Context of Smoking: The next Frontier in Tobacco Control?,” *Tobacco Control*; London 15, no. 1 (February 2006): 59, <http://dx.doi.org/10.1136/tc.2004.009886>.

⁹² Karen Messer et al., “Smoking Cessation Rates in the United States: A Comparison of Young Adult and Older Smokers,” *American Journal of Public Health* 98, no. 2 (February 2008): 317–22, <https://doi.org/10.2105/AJPH.2007.112060>; Benowitz, “Nicotine Addiction.”

memoranda, even as representatives of the tobacco industry denied that cigarette- delivered nicotine caused addiction. For example, one of the cigarette manufacturers “Research Directors” stated in a secret meeting in 1953, “It is fortunate for us that cigarettes are a habit they can’t break.”⁹³ Furthermore, industry officials implemented cigarette design changes to enhance the impact or “kick” of nicotine on the smoker with the goal of increasing cigarette sales.

In 1963, Addison Yeaman, general counsel to the Brown & Williamson Tobacco Co. explained the essential nature of the cigarette business: “we, then, are in the business of selling nicotine, an addictive drug.”⁹⁴ Similar views reigned at other manufacturers. Claude Teague, a scientist at R.J. Reynolds, noted in a confidential report that the company’s product was not tobacco, but nicotine, which he described as “a potent drug” and a “habit forming alkaloid.” A cigarette is “a vehicle for delivery of nicotine,” Teague noted. Nicotine addiction is what motivates smokers to continue smoking: “Happily for the tobacco industry, nicotine is both habituating-and unique in its variety of physiological actions.” This drug, ultimately, was the basis of the cigarette manufacturers business. Teague explained that “the tobacco industry may be thought of as being a specialized, highly ritualized and stylized segment of the pharmaceutical industry.” The addicting and habituating properties of nicotine are “unknown and/or largely unexplained to the non-

⁹³ Hill & Knowlton, Forwarding Memorandum, December, 1953, John Hill Papers, Wisconsin Historical Society.

⁹⁴ Addison Yeaman, “Implications of Battelle Hippo I & II and The Griffith Filter,” (July 17, 1963), University of California-San Francisco Brown & Williamson Collection, <http://legacy.library.ucsf.edu/tid/xrc72d00>, 4.

smoker.” Without nicotine, there would be no cigarette business: If we “move toward reduction or elimination of nicotine from our products, then we shall eventually liquidate our business.”⁹⁵

At Philip Morris, similar acknowledgments of nicotine as an addictive drug prevailed, as well. In a 1959 Philip Morris study, company scientist, Dr. J.W. Geiger probed the question: “why do people smoke?” His findings included “addiction.”⁹⁶ In the 1970s, senior scientist, Dr. William L. Dunn, Jr. encouraged company executives to “think of the cigarette pack as a storage container for a day’s supply of nicotine.”

In the 1980s and 1990s, R.J. Reynolds documents confirm widespread knowledge within the company of the role of nicotine in compelling smokers to keep on smoking. A 1982 memorandum discussing a study of attitudes towards smoking commented that while most long-term smokers “would like to stop,” most are unable to do so. A 1992 R.J. Reynolds flatly declared “We are basically in the nicotine business.”⁹⁷

Cigarette manufacturers concealed their knowledge and research on the addictiveness of nicotine from government researchers and public health authorities, depriving

⁹⁵Claude Teague, “Research Planning Memorandum On the Nature of the Tobacco Business and the Crucial Role of Nicotine Therein,” (April 14, 1972), <http://legacy.library.ucsf.edu/tid/brr59d00>.

⁹⁶J. W. Geiger, “Psychological Research,” (August 26, 1959), Philip Morris Records. <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/phhp0124>.

⁹⁷Claude Teague to Dr. G.R. DiMarco, “RE: Nordine Study” (December 1, 1982), <http://legacy.library.ucsf.edu/tid/xmv59d00>; “Best Program Review,” (May 3, 1991), <http://legacy.library.ucsf.edu/tid/gpi73d00>.

them of adequate knowledge needed to make accurate evaluations of the dangers of smoking, and thus impairing their ability to fully inform the public of the dangers of cigarette use. Brown & Williamson executives, working with executives from their parent company at British American Tobacco Co. agreed to withhold their research on the addictiveness of nicotine from the Surgeon General's Advisory Committee. If the Committee had the benefit of this concealed research, it might have found that smoking was, as Brown & Williamson executives understood, an addiction rather than a "habituation."⁹⁸

Industry scientists and executives continued to conceal their knowledge and research. Dunn counseled concealment at Philip Morris lest the public and governmental agencies learn what Philip Morris already knew—that nicotine's addictive qualities compelled smokers to keep on using the company's products. In a 1969 memo, Dunn warned Helmut Wakeham, vice president of research: "There are dangerous F.D.A. implications to having such conceptualization [of nicotine as a drug] go beyond these walls."⁹⁹ Such policies persisted. Eleven years later, Dunn still acknowledged that concealment policies concerning research on the pharmacology of nicotine still prevailed: "Our attorneys,

⁹⁸ McCormick, A. to Yeaman, A. [Re: Withholding Battelle data from Surgeon General's committee]. 1963 July 04. UCSF Brown & Williamson Collection. Unknown. <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/yfgh0097>; U.S. Department of Health, Education, and Welfare, Public Health Service, Smoking and Health: Report of the Advisory Committee to the Surgeon General of the Public Health Service (Washington: Government Printing Office, 1964), ch. 13 passim.

⁹⁹ William L. Dunn, Jr. "Jet's Money Offer" (February, 19, 1969), <http://legacy.library.ucsf.edu/tid/iqw56b00>.

however, will likely continue to insist upon a clandestine effort in order to keep nicotine the drug in low profile.”¹⁰⁰

Despite the understanding among industry officials that smoker’s physical dependence upon nicotine was the foundation of their business, they denied to the public and government officials that nicotine caused either addiction or dependence. For example, in a reply to a consumer’s inquiry, an R.J. Reynolds public relations office wrote “the fact is that there is nothing about smoking, or about the nicotine in cigarettes, that would prevent smokers from quitting”¹⁰¹ In sworn testimony before Congress, and broadcast nationally on television, the CEOs of the leading tobacco firms all denied that they believed that nicotine caused addiction in smokers.¹⁰²

Cigarette manufacturers manipulated the delivery of nicotine through cigarette design innovations, and the manufacturers understood that these design innovations enhanced the delivery of nicotine and promoted sales of the product. Tobacco industry officials never informed the public, smokers, or government about this manipulation. Design innovations included a variety of tobacco blending techniques, the use of flavoring agents, and the implementation of ventilation techniques on the cigarette rod itself.

¹⁰⁰William L. Dunn, Jr. “The Nicotine Receptor Program” (March 21, 1980), <http://legacy.library.ucsf.edu/tid/xpc50i00>.

¹⁰¹J.F. Sprach to Elaine Moss, (May 8, 1990), <http://legacy.library.ucsf.edu/tid/ywj13a00>.

¹⁰²U.S. Congressional Testimony (April 14, 1994). See also Jack E Henningfield, Christine A. Rose, and Mitch Zeller, “Tobacco Industry Litigation Position on Addiction: Continued Dependence on Past Views” Tobacco Control 15 Supplement IV (December 2006): iv27–iv36.

Cigarette manufacturers also employed techniques to manipulate the chemistry of tobacco smoke to promote the release what industry officials described as “free nicotine.”¹⁰³

Cigarette manufacturers turned to the manipulation of the chemistry of cigarette smoke to increase the impact of nicotine upon the smoker. R.J. Reynolds systematically explored the role of the manipulation of the pH of cigarette smoke. By adding alkaline compounds to tobacco—often ammonia compounds—cigarette manufacturers could increase the alkalinity of smoke to promote the release of “free nicotine” in the smoke inhaled by the smoker. RJR scientist Claude Teague explained the process in a 1973 research memorandum: “as the amount of ammonia or ammonium salts in smoke increases above a certain level, the smoke becomes less acidic, more nicotine occurs in free, volatile, rapidly absorbed form, and the nicotine impact is enhanced.”¹⁰⁴ In another report, Teague drew the connections between manipulation of the delivery of nicotine in cigarette smoke, nicotine “kick” as perceived by the smoker and increased sales. Teague concluded:

Subsequent detailed analysis by Marketing Research of our pH and “free” nicotine data along with sales data and other factors has confirmed the strongly

¹⁰³ R.J. Reynolds Tobacco Co., “Chapter 34. Casing And Flavoring of Cigarettes” (1985), <http://legacy.library.ucsf.edu/tid/fqb64d00>; McKenzie, “Product Characterization Definitions and Implications” (September 21, 1976), <http://legacy.library.ucsf.edu/tid/rcx73d00>.

¹⁰⁴ Claude Teague, “Research Planning Memorandum on the Effects of Ammonia and Its Salts on Smoke Quality” (June 1, 1973), <http://legacy.library.ucsf.edu/tid/gqd53d00>.

positive correlation between "free" nicotine in smoke (determined by pH and total nicotine in smoke) and market share performance.¹⁰⁵

Tobacco manufacturers saw the development of therapies for nicotine addiction in the 1980s as a threat to the cigarette business. While the industry took the public position that smoking was a choice for adults, it sought to limit the ability of the public to learn about smoking cessation therapies. In the 1980s, Merrill-Dow, a unit of the Dow Chemical Co., developed Nicorette, a pioneering nicotine-replacement therapy to treat smoking-related nicotine dependence. When Philip Morris director of research, Thomas Osdene, learned of Dow's work in smoking cessation, he sought to leverage Philip Morris substantial purchases of humectants and other chemicals from Dow to change the company's anti-smoking policies. Osdene objected to a smoking cessation newsletter for Dow employees. At subsequent meetings with top executives at Dow and Merrell Dow, the pharmaceutical division that produced Nicorette, Philip Morris officials pressured Dow to modify and cease the smoking cessation information.¹⁰⁶

Cigarette manufacturers have added new products that deliver addicting nicotine in non-combustible forms to their product line. These vape inhalers, e-cigarettes, and heat-not burn-tobacco/nicotine delivery devices have led to an explosion of youth use,

¹⁰⁵ Claude Teague, "Implications and Activities Arising from Correlation of Smoke pH with Nicotine Impact, Other Smoke Qualities, And Cigarette Sales" (October 2, 1973), <http://legacy.library.ucsf.edu/tid/jbr73d00>.

¹⁰⁶ Thomas Osdene "Memo: Merrell Dow Smoking Cessation Newsletter, January 4, 1982," <http://legacy.library.ucsf.edu/tid/uwy25e00>; Dow-Nicorette Meeting, October 23, 1984, bates: 202379981.

just as the introduction of combustible cigarettes led to an explosion of youth smoking in the 20th century.¹⁰⁷

Altria, parent company of Philip Morris, has purchased a controlling stake in Juul, the manufacturer of the leading nicotine vaping device, which is produced with a wide array of flavors that appeal to youths. With traditional combustible heavily marketed, public health groups such as the American Heart Association and the American Cancer Society fear a reversal of progress on tobacco control successes of the last decade among young people, and the consequent explosion of tobacco-attributable disease.

CIGARETTE MANUFACTURERS KNEW SMOKERS DID NOT UNDERSTAND THAT NICOTINE WAS ADDICTIVE

Public knowledge and awareness that cigarettes were addictive trailed the awareness that cigarettes caused serious disease. Discussions of quitting smoking tended to portray cigarette cravings as a “habit.” In 1954 The Reader’s Digest reported that “medically speaking, tobacco is not habit-forming.” It advised that smoking is merely “habit-forming in the same way that three meals a day or eight hours sleep or wearing clothes are habit-forming.” Cessation of use merely makes the user “uncomfortable”.¹⁰⁸ Likewise, the 1964 Surgeon General’s Report on Smoking and Health concluded that smoking was a habituation and refused to declare it an addiction. Not until the 1988 Surgeon

¹⁰⁷ University of Michigan, Monitoring the Future, “Vaping Surges: Largest Year-to-Year Increase in Substance Use Ever Recorded in the U.S. for 10th and 12th Grade Students” (December 17, 2018), <http://www.monitoringthefuture.org/pressreleases/18drugpr.pdf>.

¹⁰⁸ Herbert Bean, “How to Stop Smoking” The Reader’s Digest (April 1954), 31.

General's Report, did the U. S. Public Health Service conclude that smoking was an addiction.¹⁰⁹

Not surprisingly, the public tended to view smoking as a habit rather than an addiction. The Tobacco Institute's own survey research indicated that 56 percent of smokers in 1980 saw smoking as a "habit" rather than an addiction.¹¹⁰ Tobacco manufacturers continued to publicly deny that cigarettes were addictive into the mid-1990s both before the United States Congress in sworn testimony and through paid advocacy statements in the national press.¹¹¹

Tobacco industry officials also understood that smokers did not understand the addictive qualities of nicotine use. H. David Steele, a Brown & Williamson marketing executive noted in 1978 consumers simply did not know that nicotine is addictive:

¹⁰⁹U.S. Department of Health and Human Services, The Health Consequences of Smoking, Nicotine Addiction: A Report of The Surgeon General (Washington, D.C.: Government Printing Office, 1988).

¹¹⁰Roper Organization Inc., "A Study of Public Attitudes Toward Cigarette Smoking and the Tobacco Industry in 1982, prepared for The Tobacco Institute," Bates: 1002665283-5749 (July 1982), 32.

¹¹¹"Hearing of the House Energy & Commerce Committee Subcommittee on Health and the Environment Subject: Nicotine and Cigarettes," (April 14, 1994), Bates: TIMN0431368-TIMN0431522, <http://tobaccodocuments.org/ti/TIMN0431368-1522.html>; Philip Morris full page advertisement, "Smokers and Non-Smokers: Facts You Should Know," New York Times (April 14, 1994).

Very few consumers are aware of the effects of nicotine, i.e., its addictive nature and that nicotine is a poison.¹¹²

Philip Morris researcher, Al Udow, a psychologist with a Ph.D. from Columbia University, explained smoker's confusion and lack of knowledge of nicotine's addictive qualities, writing in an internal memo that "although more people talk about "taste", it is likely that greater numbers smoke for the narcotic value that comes from the nicotine."¹¹³

FILTER, LIGHT AND LOW TAR CIGARETTES WERE MARKETING AS SAFER PRODUCTS WITHOUT OFFERING ANY HEALTH BENEFIT

In response to public fears that cigarettes caused serious diseases, cigarette manufacturers modified their products, first adding filters and then offering low-tar and light cigarettes in an effort to assuage the smoking public's health fears. Cigarette manufacturers continued to offer these products and advertise them explicitly and implicitly as safer products. Internal industry research confirmed that smokers turned to these products in an effort to reduce the harm of smoking. American Tobacco Co. promoted its Carlton brand, a light cigarette, to the "health conscious" smoker.¹¹⁴ R.J. Reynolds market research revealed that the smokers of its Winston Lights brand were "concerned about the harmful

¹¹²H. David Steele, Jr. to Michael J. McCue, [memo], "Future Consumer Reaction to Nicotine" (August 24, 1978), Bates No. 665043966, <http://tobaccodocuments.org/bw/1138107.html>.

¹¹³Al Udow [Philip Morris], The Chemistry of KOOL and a Recommendation (May 24, 1972), <http://legacy.library.ucsf.edu/tid/fds74e00>.

¹¹⁴"Kool Creative Plans," <http://legacy.library.ucsf.edu/tid/oyt91d00>.

effects of smoking” and turned to light cigarettes as a safer product.¹¹⁵ Philip Morris market research conducted in 1998 indicated that smokers were turning to lights for health reasons and that its Merit brand cigarette offered "reassurance to more health conscious smokers."¹¹⁶

The health reassurance that filter, low-tar and light cigarettes offered smokers undermined the public health and scientific community’s message that cigarette smoking caused disease. These products worked to limit efforts to quit smoking altogether and thus maintain cigarette sales and industry profits. The Roper Organization, a market research and public opinion research firm that conducted a series of important studies for the Tobacco Institute identified the threat that health-conscious smokers posed to cigarette sales:

low tar cigarette smokers . . . are potential cigarette quitters. . . . And more of them than the average have tried to quit smoking. Since low tar smokers are an expanding share of the market, their greater desire to quit smoking poses a special problem for the cigarette industry.¹¹⁷

¹¹⁵“Qualitative Consumer Evaluation. 4 Winston Lights Positionings” <http://legacy.library.ucsf.edu/tid/oaj29d00>.

¹¹⁶“Philip Morris Merit Strategic Revitalization Plan Stage I Learnings (Book I)” (1998), <http://legacy.library.ucsf.edu/tid/yql27a00>.

¹¹⁷“A Study of Public Attitudes toward Cigarette Smoking and the Tobacco Industry in 1978: Volume 1, May 1978,” <http://legacy.library.ucsf.edu/tid/hza72d00>.

In other words, filter, low-tar, and light cigarettes allowed the cigarette manufacturers to offer reassurance to smokers to reduce their motivation to quit smoking.

Tobacco industry research on the knowledge and expectations of users of its products confirmed that cigarette smokers relied upon industry statements and turned to filter, low-tar, and light cigarettes with the expectation that they were using safer products. A 1969 industry of smoker's attitudes noted:

In the past, filter advertising had established a health frame of reference for filter cigarettes. Filters were presented as reducing tar and nicotine and became a reason why for purchasing filter brands. . . Advertising further contributed to the value of filters by discussing efficacy in filtration. . . ”¹¹⁸

To cigarette manufacturers, smoker's reliance on their advertising was good for business. As the industry study concluded, “filter cigarettes do have the historical connotation of safety which permits the smoker to continue smoking in light of the current anti-smoking publicity.”¹¹⁹

Cigarette manufacturers understood that filter, low-tar, and light cigarettes, in fact, conferred no reduced risk to the smoker. Myron Johnston, a Philip Morris researcher, understood this when he concluded that all a filter cigarette needed to do to be successful in

¹¹⁸Motivational Programmers Inc & Depth Research Laboratories, “An In-Depth Exploratory Study on Cigarette Smoking Habits and Attitudes” (January 1969) Liggett & Myers Records, pp. 56-57, <https://www.industrydocuments.ucsf.edu/docs/hxgn0006>.

¹¹⁹Motivational Programmers Inc & Depth Research Laboratories, “In-Depth Exploratory Study on Cigarette Smoking Habits and Attitudes,” p. 63.

the marketplace was to provide “the illusion of filtration.”¹²⁰ And an illusion was all smokers ever received. Congressional and Federal Trade Commission investigations found that filters in the 1950s were ineffective and offered no health benefit, even as cigarette manufacturers advertised them as healthier and safer. Later investigations by the National Cancer Institute and the Surgeon General of the United States have found that lights and low tar cigarettes also offered no health benefit.¹²¹

**CIGARETTE MANUFACTURERS CONSPIRED TO MOUNT A FIFTY-YEAR
DISINFORMATION CAMPAIGN THAT IMPAIRED THE PUBLIC’S ABIL-
ITY TO FULLY UNDERSTAND THE DANGERS OF SMOKING**

Despite the internal recognition that cigarettes delivered carcinogens to smokers and that smoking was implicated in a wide array of diseases, the tobacco industry responded health attacks on smoking with a coordinated, well-planned public-relations effort challenging the scientific research linking cigarette use and lung cancer, impairing

¹²⁰M.E. Johnston, Jr., "Market Potential for a Health Cigarette: Confidential," Special Report No. 248, Bates: 1000338644-8671 (Typescript, June, 1966), <http://tobaccodocuments.org/pm/1000338644-8671.html>

¹²¹See Hearings before the Subcommittee of the Committee on Government Operations, House of Representatives, Eighty-Fifth Congress, First Session, “False and Misleading Advertising (Filer tip Cigarettes)” (July 1957); National Cancer Institute, Risks Associated with Smoking Cigarettes with Low Machine-Measured Yields of Tar and Nicotine, Smoking and Tobacco Control Monograph No. 13 (2001); U.S. Department of Health and Human Services. The Health Consequences of Smoking—50 Years of Progress. A Report of the Surgeon General. (Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014).

the public's ability to fully understand the health dangers of cigarette use. On December 15, 1953, Paul Hahn, president of American Tobacco met with executives from leading cigarette manufacturers and the prominent industrial public relations firm Hill and Knowlton to hammer out a strategy for dealing with the onslaught of negative health information about smoking. Hill and Knowlton acted quickly, developing a public relations program that led directly to the formation of the Tobacco Industry Research Committee (TIRC). Creation of the TIRC was announced to the public in the widely publicized "Frank Statement to Cigarette Smokers" which appeared on January 4, 1954, in 448 newspapers across the United States. Signed by nearly all the major cigarette manufacturers, (Liggett & Myers being a notable exception) as well as leading grower's organizations and warehouse associations, the statement pledged that the TIRC would sponsor research "into all phases of tobacco use and health." The industry further pledged that "we believe the products we make are not injurious to health" and that "we accept an interest in people's health as a basic responsibility, paramount to every other consideration in our business." However, the TIRC was more public relations effort than research effort, and its executive director, W.T. Hoyt, was a Hill and Knowlton employee.¹²²

The strategy proposed and implemented by Hill and Knowlton for the TIRC sought to discredit negative health claims, impede the flow of legitimate health information to the public, and create doubt and confusion in the minds of the public as to the validity of

¹²²Karen S. Miller, The Voice of Business: Hill & Knowlton and Postwar Public Relations (Chapel Hill: University of North Carolina Press, 1999), 131.

cigarette-related scientific research and the risks of smoking. Hill and Knowlton vice-president Bert Goss sought to place his firm and the TIRC in a position of “knowing what is being written and in getting our side of the story over if an article is scheduled for publication.”¹²³ Hill and Knowlton operatives met with the editors of leading magazines to “encourage use of TIRC material.” Industry influence with broadcast media led to revisions and postponements of programs deemed critical of the cigarette industry.¹²⁴ The ongoing effectiveness of the TIRC’s misinformation efforts is indicated by a June 7, 1961 memorandum to American Tobacco head, Paul Hahn that states “Hill and Knowlton have killed many potential anti-tobacco stories.”¹²⁵

TIRC president Timothy V. Hartnett, a former head of Brown & Williamson, and scientific director Dr. Clarence Cook Little embarked on a public campaign to discredit in the mind of the public the science linking cigarette use to disease. Rarely in the 1950s did a newspaper or magazine story on the health aspects of cigarettes get published or a radio or television program air without criticism or rebuttal by either Hartnett or Little. Hartnett would state that statistical studies do not “establish any cause and effect relationship.” or they “ignore other important factors that affect disease and longevity.”¹²⁶ Little, as a

¹²³Bert Goss quoted in Miller, Voice of Business, 132.

¹²⁴Carl Thompson [Hill & Knowlton] to T.V. Hartnett [TIRC] “Report through July 31” (August 17, 1954), box 110, folder 7, John Hill Papers, State Historical Society of Wisconsin, Madison Wisconsin.

¹²⁵Robert K. Heimann to Paul M. Hahn (June 8, 1961), American Tobacco Company.

¹²⁶Radio Reports, “Tobacco Industry Discounts Cancer Society Report” (June 6, 1955), bates no. TIMN0111120-21, <http://legacy.library.ucsf.edu/tid/isj92f00>.

guest television journalist Edward R. Murrow's highly rated 1955 program on smoking and health, was asked if any cancer-causing components of smoke had been discovered responded. He responded: "None whatsoever, either in cigarettes or in any product of smoking, as such." In the same program, Robert N. DuPuis, a Philip Morris scientist, indicated that after carefully examining the components of smoke, no harmful compounds had been found. He concluded: "if we do find any that we consider harmful, and so far we have not, we'll remove these from smoke."¹²⁷

The tobacco industry also contracted with writers and scientists to speak on its behalf, using seemingly impartial authorities to assure the public that cigarettes were not found to be the cause of any disease. For example, Hill and Knowlton worked with Donald Cooley, a well-known science and health writer, to pen works that reassured smokers that cigarettes were safe. One of the works, whose title "Smoke without Fear" summarizes his position on cigarettes and disease, was published as an inexpensive, twenty-five cent pamphlet with a print run of 350,000. A thousand advance copies were also sent to leading science writers, health writers, and newspapers across the country, ensuring that the work received wide publicity.¹²⁸ Hill and Knowlton also contracted with Eric

¹²⁷CBS, [broadcast transcript], "Transcript of Edward R. Murrow's Second TV Show on Cigarettes and Lung Cancer (June 7, 1955), <http://legacy.library.ucsf.edu/tid/hcy68d00>.

¹²⁸Hill and Knowlton, "Fawcett Publication, 'Smoke Without Fear'" (September 1, 1954), <http://legacy.library.ucsf.edu/tid/jge6aa00>. Hill and Knowlton reports assisting the author in a secret report, Carl Thomson, "Report through July 31" (August 19, 1954) Box 110, folder 6, Hill and Knowlton Papers, Wisconsin Historical Society. Representative press coverage is reproduced in "Smokers, Relax and Enjoy It, Says Science Writer" (September 4, 1954), <http://legacy.library.ucsf.edu/tid/tia50e00>.

Northrup, another prominent health and science journalist, to produce a book exonerating the cigarette. Hill and Knowlton operatives worked closely with Northrup, even to the point of composing the work's title, Science Looks at Smoking: A New Inquiry into the Effects of Smoking on Your Health (New York, 1957).¹²⁹ Masquerading as an impartial examination of the science of smoking and health, the book earned favorable reviews in the general press as well as medical journals.¹³⁰ By the early 1960s, Northrup's work was included in the widely used teachers' resource published by the well-regarded George Peabody College for Teachers, Free and Inexpensive Learning Materials. Thus, the tobacco industry's message, that cigarettes were not the cause of disease, entered the classroom.¹³¹

The TIRC's public relations activities continued with the formation of the Tobacco Institute in 1958, while its research function was superseded by the Council for Tobacco Research. As the negative health data flowed into print and broadcast media, cigarette manufacturers remained true to the strategy forged by the TIRC and Hill &

¹²⁹Leonard Zahn to Richard W. Darrow, "Northrup Book: The Truth about Smoking" (January 12, 1956), <http://legacy.library.ucsf.edu/tid/lcy66b00>; Zahn to Darrow, "Title of Northrup Book" (January 25, 1956), <http://legacy.library.ucsf.edu/tid/ncy66b00>.

¹³⁰California Medicine (November 1957) 87(5): 358; "No Proof it Causes Cancer" [Review of Science Looks at Smoking] Shreveport Times (July 14, 1957), <http://legacy.library.ucsf.edu/tid/efm1aa00>.

¹³¹M.E. Alford, "Letter: Free and Inexpensive Learning Materials," (April 16, 1962), <http://legacy.library.ucsf.edu/tid/yeg5aa00>; "Re: Booklet, 'Free and Inexpensive Learning Materials,'" (April 25, 1962), <http://legacy.library.ucsf.edu/tid/xeg5aa00>.

Knowlton. Paul Hahn of American Tobacco succinctly stated the Tobacco Institute's mission in a 1958 memo:

To defend the tobacco industry against attacks from whatsoever source on tobacco as an alleged health hazard, including efforts to impose labeling requirements on tobacco products based directly or indirectly on the charge that tobacco is a hazard to health.¹³²

The much-anticipated Surgeon General's Report on Smoking and Health, released on January 11, 1964, concluded that cigarettes caused lung cancer in men and regular smoking was a habit, not an addiction. While the report was initially issued with much fanfare, its impact on public knowledge of the hazards of smoking was surprisingly limited. By August, the New York Times had reported that "Americans are beginning to forget the cancer scare generated by the government report on smoking," as consumption of cigarettes increased. By December of that year, the paper reported that "the facts have been blurred by the constant avalanche of cigarette advertisements", and that "the public cannot be blamed for ignoring the documented scientific evidence."¹³³

Industry leaders and spokesmen continued to deny that cigarettes were implicated in disease, and they promised that CTR research would one day find the true causes of cancer. In 1965, Bowman Gray, chairman of the board of R. J. Reynolds, and speaking on

¹³²Paul Hahn to John W. Hill, February 5, 1958, box 108, folder 11 John Hill Papers, State Historical Society of Wisconsin, Madison Wisconsin.

¹³³New York Times (August 14, & December 9, 1964).

behalf of the tobacco industry, testified before the U.S. Senate that “it has not been established that smoking causes lung cancer or any other disease.”¹³⁴ In 1969, American Tobacco placed a full-page advertisement in the New York Times which stated that “Sure, there are statistics associating lung cancer and cigarettes. There are statistics associating lung cancer with divorce, and even with lack of sleep. ... We believe the anticigarette theory is a bum rap.”¹³⁵ Joseph Cullman, head of Philip Morris, appearing on the news program “Face the Nation” stated the position the industry had maintained since the 1950s: “if any ingredient in cigarette smoke is identified as being injurious to human health, we are confident that we can eliminate that ingredient.”¹³⁶ The Tobacco Institute’s widely-distributed propaganda films “Tobacco and Health: The Need to Know” (1972) and “The Answers we Seek” informed the thousands of boys and girls to whom it was shown that the case against the cigarette was unproven.¹³⁷ Other initiatives such as the “Truth” campaign of the 1970s sowed doubt and confusion in the mind of the public on the dangers of smoking. Edward Horrigan, R.J. Reynolds CEO, testified in 1982 before the Senate that “the truth is that after three decades of investigation, no causal link

¹³⁴United States Senate, 98th Congress, 1st Session, “Hearings before the Committee on Commerce,” Cigarette Labeling and Advertising (Washington, D.C.: Government Printing Office, 1965), 245.

¹³⁵New York Times (September 4, 1969).

¹³⁶CBS, [broadcast transcript], “Face the Nation,” (January 3, 1971), <http://legacy.library.ucsf.edu/tid/jiz28e00>.

¹³⁷See the following memos for a discussion of the film: TIMN0004654-4657; TIMN0078203, TINY0013656-3660.

between smoking and disease has been established.”¹³⁸ In 1984, R.J. Reynolds mounted an issue advocacy campaign calling for an “open debate about smoking,” again denying that cigarette use caused any disease.¹³⁹ In 1994, the heads of the leading U.S. tobacco programs testified under oath before the U.S. Congress that they did not believe nicotine to be addictive.¹⁴⁰ To emphasize the point, Philip Morris launched an advocacy campaign, advising the American public that it too, did not believe cigarettes and nicotine to be addictive.¹⁴¹

In the end, for all the industry’s public promises of sponsoring scientific research to find the true causes of lung cancer and other serious diseases implicated with smoking, the TIRC/CTR research effort was, in the words of the general counsel of the Brown & Williamson Tobacco Co., “conceived as a public relations gesture.”¹⁴² The true goal was to foster doubt about the validity of the science implicating cigarettes and disease so that the public would continue to smoke. George Weissman, a vice president at Philip Morris, appraised the fallout from the 1964 Surgeon General’s Report and concluded that pointing out the “weaknesses” in the report and pointing to the “path for future research” were

¹³⁸United States Senate, 97th Congress, 2nd Session, "Hearings before the Committee on Labor and Human Resources, March 16, 1982" Comprehensive Smoking Prevention Act of 1981 (Washington, D.C.: Government Printing Office, 1982), 137.

¹³⁹New York Times (January 30, 1984), A11; Washington Post, (January 30, 1984), B4.

¹⁴⁰"Hearing of the House Energy & Commerce Committee Subcommittee on Health and the Environment Subject: Nicotine and Cigarettes" (April 14, 1994).

¹⁴¹New York Times (April 15, 1994), A11.

¹⁴²Addison Yeaman, "Implications of Battelle Hippo I & II and the Griffith Filter," 2.

necessary to “give smokers a psychological crutch and a self-rationale to continue smoking.” Another industry official declared in 1969 that when it came to smoking and health, “doubt is our product.” Fred Panzer, vice-president of the Tobacco Institute, contemplated the industry’s tactics in a memorandum to Horace Kornegay, president of the Tobacco Institute. He observed that “for nearly twenty years, this industry has employed a single strategy to defend itself . . . [by] creating doubt about the health charge without actually denying it . . . [and] encouraging objective scientific research as the only way to resolve the question of health hazard.”¹⁴³ Thus, a strategy of denial and obfuscation forged in the winter of 1953-54 continued into the 1990s.

FEDERALLY MANDATED WARNING LABELS HAVE BEEN INEFFECTIVE IN IMPACTING PUBLIC KNOWLEDGE ON HEALTH DANGERS OF CIGARETTES

The 1964 Surgeon General’s report did provide an impetus for Federal action to place some form of warning notice on cigarette packaging. Soon after the release of the Surgeon General’s Report, the Federal Trade Commission proposed a strict labeling regime that would have mandated the following warning statement on cigarette packages: “Cigarette Smoking is Dangerous to Health and May Cause Death from Cancer and other Diseases.” However, Congress preempted Federal Trade Commission actions, passing the

¹⁴³Fred Panzer to Horace Kornegay, "Roper Proposal," May 1, 1972, Tobacco Institute, Bates No. TIMN0254393/4396, <http://legacy.library.ucsf.edu/tid/ypd72f00>.

Federal Cigarette Labeling and Advertising Act of 1965 which mandated a weak caution statement on each cigarette pack beginning in 1966. The labeling legislation was a “quiet victory” for the industry. The enacted label simply stated, “Caution: Cigarette Smoking May Be Hazardous to Your Health.” The legislation also precluded states from more aggressive action, thus relieving the industry of a significant source of anti-smoking regulatory activity.¹⁴⁴ The Federal Trade Commission found this caution statement ineffective in warning consumers about the hazards of smoking. It concluded after the first year of the mandatory statement that “there is virtually no evidence that the warning statement on cigarette packages has had any significant effect.”¹⁴⁵

In 1970, Federal legislation mandated new warning language on cigarette packages: “Warning: The Surgeon General Has Determined that Cigarette Smoking is Dangerous to Your Health.” The Federal Trade Commission again found that these warning labels were ineffective in informing the public of the health dangers of cigarette use, concluding:

¹⁴⁴Elizabeth Drew, “The Quiet Victory of the Cigarette Lobby” The Atlantic Monthly; 216:3 (September 1965), 76-80.

¹⁴⁵Federal Trade Commission, “Report to Congress Pursuant to the Federal Cigarette Labeling and Advertising Act” (June 30, 1967), 4.

the current warning is not effective in curing the deception in cigarette advertising, nor does it provide sufficient information to permit consumers to assess the health risks of smoking accurately.¹⁴⁶

The tobacco industry did all it could to minimize the impact of Federally mandated warning messages. When customers wrote the manufacturers asking for advice once the new warnings appeared, the tobacco firms would reassure them that smoking was safe. For example, one letter-writer inquired as to what had changed in his cigarette to lead to a change in the labeling: "I take notice of the fact that the warning label on your cigarette packages no longer states 'may be dangerous to health' but quite openly states that the contents are dangerous." R.J. Reynolds responded, not by advising the letter-writer that he was assuming a significant health risk by smoking its products, but instead by denying that cigarettes posed any health dangers, informing him that "a cause-and-effect relationship between smoking and human illness has not been proven" and that "there is no valid experimental evidence confirming the theory that cigarette smoking causes lung cancer or

¹⁴⁶ Matthew L. Myers et al., "Staff Report on the Cigarette Advertising Investigation (Public Version)" (Washington, D.C.: Federal Trade Commission, May 1981), 4-7. Bates: 2023237258-2023237566, <https://industrydocuments.library.ucsf.edu/tobacco/docs/#id=szfp0124>

any other major human diseases.” Hundreds of similar responses exist in the files of the tobacco manufacturers.¹⁴⁷

The Tobacco Industry’s internal market research revealed that the mandatory caution and warning labels did little to deter smokers from continuing to smoke. A secret Lorillard marketing study concluded flatly that “health warnings in advertising and on packages have not deterred consumption.”¹⁴⁸

CIGARETTE MANUFACTURERS CONSPIRED TO INFLUENCE RESEARCHERS, MEDICAL AND PUBLIC HEALTH ORGANIZATIONS WITH THE GOAL OF ADVANCING THEIR POSITION THAT CIGARETTES POSED NO HEALTH RISKS.

Cigarette manufacturers conspired to influence the American Medical Association (AMA) deploying tobacco-friendly scientists connected to the industry to influence their positions on smoking and health. For example, tobacco industry-funded scientist, Harvey B. Haag was a member of the AMA’s Council on Drugs. In 1960, the Council considered

¹⁴⁷Charles Peckham, [consumer letter to R.J. Reynolds], (June 11, 1971), <http://legacy.library.ucsf.edu/tid/fsb95a00>; T.K. Cahill [RJR consumer response to Peckham], (June 11, 1971), <http://legacy.library.ucsf.edu/tid/lox79d00>. See also Huff, L. [consumer letter to R.J. Reynolds Tobacco Co.]. "Just Happened to Read What Was on the Side of a pk. of Camel Cigarettes," (April 12, 1972), <http://legacy.library.ucsf.edu/tid/evl61c00> and Clements, L.D. [consumer letter]. "WINSTON On Your Cigarette Packs Are The Words, "Warning: The Surgeon General Has Determined That Cigarette Smoking Is Dangerous To Your Health" (1972) <http://legacy.library.ucsf.edu/tid/nqd71d00>

¹⁴⁸Marketing Corporation of America, “Cigarette Promotion Study: P. Lorillard, Work Session I” (1973) <http://legacy.library.ucsf.edu/tid/xrd01e00>.

a statement on the link between smoking and heart disease at the request of the AMA Board to Trustees as they considered a statement by the Association on smoking and health. Dr. Haag objected in the meeting claiming that there was “insufficient evident to support a statement that smoking causes lung cancer or heart disease.” No action was taken on this initiative, and tobacco industry officials concluded that “Harvey’s presence on the council probably was the most important factor in preventing any action by the AMA.”¹⁴⁹

TOBACCO MANUFACTURERS KNEW THAT CIGARETTE CONSUMERS FAILED TO UNDERSTAND THE HARMS OF SMOKING

The public, and especially smokers, failed to appreciate the harm cigarettes posed to health. While government and public health organizations sought to educate the public about the risks of smoking, they were stymied by the tobacco industry’s campaign of doubt and disinformation. Historical polling data show the success of the cigarette manufacturer’s strategy in the 1950s through 1980s. In the 1950s, polling respondents indicated a high level of awareness of the “controversy” or “debate” over the possible links between cigarette use and disease. However, large numbers of respondents indicated ignorance or disbelief in the extent of the health risks of using cigarettes. A January 1954 survey taken immediately after the publication of the cigarette manufacturer’s “Frank Statement” shows a majority of respondents (59%) having either no opinion or not

¹⁴⁹ Harlow-ES ATCo. American Medical Association Stand On Cigarette Smoking-Lung Cancer Controversy. 1960 March 08. American Tobacco Records; Minnesota Documents. Unknown. <https://www.industrydocuments.ucsf.edu/docs/tncm0007>.

believing that cigarettes are one of the causes of lung cancer.¹⁵⁰ When a June 1954 poll asked ex-smokers "Why did you stop smoking cigarettes," only 3 percent made any mention of cancer.¹⁵¹ A 1959 study appearing in the New York Journal of Medicine and cited in the Tobacco Industry Research Committee-sponsored Tobacco: Experimental and Clinical Studies: A Comprehensive Account of The World Literature concluded that "only about 1.6% of men with a history of regular cigarette smoking said that they had given up the habit because of reports relating cigarettes to cancer or other diseases."¹⁵²

Cigarette manufacturers conducted extensive research on the health beliefs of smokers and the general public, and incorporated their findings into their advertising, marketing, and product design in an effort to profit from both public ignorance and public anxiety about smoking. Philip Morris discovered in 1953, when filter cigarettes comprised three percent of cigarette sales, that "the overwhelming reason for smoking filter tips are health reasons," a fact that would be exploited with the re-introduction of Philip Morris's Marlboro filter-tip brand.¹⁵³

¹⁵⁰Gallup Organization Poll, Jan. 9-14, 1954, Roper Center, Accession No. 0194711.

¹⁵¹Gallup Organization Poll, June 12-17, 1954, Roper Center, Accession No. 0034087.

¹⁵²P.S. Larson, H.B. Haag and H. Silvette Tobacco: Experimental and Clinical Studies: A Comprehensive Account of The World Literature (Baltimore: Williams and Wilkins Co., 1961), 779.

¹⁵³George Weissman to R.N. DuPuis, "Memorandum, October 7, 1953," <http://legacy.library.ucsf.edu/tid/snv67e00>.

Tobacco industry internal research found that the public was either ignorant of the risks of smoking or minimized in ways that did not alter the total consumption of cigarettes (which continued to grow nationally until peaking in 1981-82. See figure 2). A 1959 tobacco industry-sponsored Roper Poll asked respondents to identify from a list of activities those that were "most dangerous to life." Only eleven percent of respondents chose "smoking a pack or more cigarettes a day," while ten percent of respondents in this survey chose "climbing in and out of a bathtub." The study authors concluded that while "cigarettes are regarded as 'bad for you' to a greater extent than other products we asked about, there is surprisingly little concern about the health aspects of cigarettes." And again, Philip Morris discovered that the public perceived filter tip cigarettes as safer than unfiltered cigarettes.¹⁵⁴

Secret internal tobacco industry research revealed that even the pronouncements of the United States Surgeon General had a limited effect on the public's smoking consumption. An American Tobacco Co. study of smokers in the wake of the 1964 Surgeon General's Report on Smoking and Health concluded that the "net effect of the Report (between January and May) appears to have been slight."¹⁵⁵ A sophisticated study

¹⁵⁴Elmo Roper and Associates, "A Study of Attitudes toward Cigarette Smoking and Different Types of Cigarettes," Volume I. (Prepared for Philip Morris, January 1959). The report concluded that "the primary stated reasons for smoking or being interested in smoking filter tips are reasons of health."

¹⁵⁵ Sullivan, Stauffer Colwell & Bayles Inc., [Public Opinion Survey]. "Executive Summary, Consumer Study of Cigarette Smoking Patterns: Two Phase Study." (August 1964), <http://legacy.library.ucsf.edu/tid/tuu51a00>.

commissioned by Hill & Knowlton for the Tobacco Institute tested public attitudes before the release of the report and used those attitudes as a benchmark to measure change at two points after the report's release. The report concluded that while the release of the Surgeon General's Report on Smoking and Health "commanded a high level of public interest and attention," it resulted in "no sweeping changes in public thinking."¹⁵⁶

Significant portions of the smoking public were uninformed or skeptical as to the risks of smoking into the 1980s and 1990s. The 1966 Adult Use of Tobacco Survey found that when smokers were asked if cigarettes caused lung cancer, 45 percent of the men and 39 percent of the women responded either "definitely not", "probably not" or "don't know". A 1980 survey found that 49 percent of smokers—or about 25 million people—were unaware that "smoking causes most cases of lung cancer".¹⁵⁷ Public knowledge did increase in the late 1970s and 1980s. By 1981, some 69 percent of smokers indicated a belief that smoking was a cause of lung cancer. However, that meant 31 percent of smokers were unaware or did not believe that smoking causes lung cancer. In 1987, various surveys put the portion of smokers who believed that smoking caused lung cancer at between 75 and 83 percent, again indicating that as many as one-quarter of smokers did not

¹⁵⁶Opinion Research Corporation, "The Impact on Public Attitudes of the Surgeon General's Report" (Research Park, Princeton, N.J., March 1964), Liggett & Myers Records, Truth Tobacco Documents, <https://www.industrydocumentslibrary.ucsf.edu/docs/#id=kfxg0009>.

¹⁵⁷Matthew L. Myers, "Staff Report on the Cigarette Advertising Investigation (Public Version)." Bates: 2023237258-2023237566 (Washington, D.C.: Federal Trade Commission, May 1981), 17, <http://tobaccodocuments.org/pm/2023237258-7566.html>.

know that smoking causes lung cancer. When smokers were asked in 1986 “How many cigarettes a day do you think a person would have to smoke before it would affect their health?” a full 25 percent responded “Don’t know.”¹⁵⁸ It is not surprising, then, that the 1989 Surgeon General’s Report concluded that “despite impressive gains in public knowledge [over the period 1964-1989], substantial numbers of smokers are still unaware of or do not accept important health risks of smoking.”¹⁵⁹

Polling data also indicates that the public looked to the tobacco industry for guidance on issues of smoking and health. Surveys conducted in 1964 and 1966 by the Federal Government’s National Clearinghouse for Smoking and Health found that two-thirds of female smokers and 55 percent of male smokers agreed with the statement: “Before people will be convinced that cigarette smoking is harmful to health, the tobacco industry itself has to say that smoking is harmful to health”, suggesting that the statements and positions of the tobacco industry could have a significant impact on public beliefs. Large portions of the smoking public also accepted the tobacco industry’s criticisms of the research on smoking and health. For example, large majorities of smokers (63 percent of men and 60 percent of women) agreed with the statement: “the connection between smoking and disease is not yet proved because it is only based on statistics,” indicating a

¹⁵⁸United States Department of Health and Human Services, Reducing the Health Consequences of Smoking: 25 Years of Progress, A Report of the Surgeon General, 1989 (Rockville, MD: Office on Smoking and Health, 1989), 184, 190.

¹⁵⁹United States Department of Health and Human Services, Reducing the Health Consequences of Smoking: 25 Years of Progress, 244.

high level of belief in the tobacco industry's claim that epidemiological methods were inadequate for ascertaining the health risks of cigarettes.¹⁶⁰

Teenagers were especially vulnerable to misperceptions of the health hazards of smoking. By the late 1960s, while teenagers were generally aware that smoking was to some degree hazardous to health, they had very little sense that they would personally suffer the health consequences of their own smoking. An important 1970 National Clearing House for Smoking and Health study of teenage smoking concluded that teenage smokers see smoking as “detrimental to health at some time in the far distant future, perhaps at middle age, but that they can smoke for a few years while they are young and quit later as they approach the age when cigarettes might hurt them.”¹⁶¹ Such misperceptions persisted. A 1975 study found that over half of teenagers (52 percent of girls and 54 percent of boys) thought that the dangers of smoking were “exaggerated.”¹⁶²

The Tobacco Industry also understood that teenagers under eighteen failed to appreciate the risks of smoking. Claude Teague, of the R.J. Reynolds Co., observed that

¹⁶⁰National Clearinghouse for Smoking and Health, Use of Tobacco: Practices, Attitudes, Knowledge, and Beliefs: United States, Fall 1964 and Spring 1966 (Washington, D.C: U.S. Department of Health, Education and Welfare, Public Health Service, July 1969), 128, 743, 727.

¹⁶¹U.S. Public Health Service, National Clearinghouse for Smoking and Health, Teenage Smoking: National Patterns of Cigarette Smoking, ages 12 through 18, in 1968 and 1970 (Rockville, Md: National Clearinghouse for Smoking and Health, 1970), 7. Bates No. 508124383/4532, <http://legacy.library.ucsf.edu/tid/gkn04d00>.

¹⁶²United States Department of Health and Human Services, Reducing the Health Consequences of Smoking, 214

teenagers do not appreciate the risks of smoking. Indeed, since the “desire to be daring is part of the motivation to start smoking,” he noted that the “alleged risk of smoking may actually make smoking attractive.” Teague concluded that “in this sense the warning label on the package may be a plus” in heightening the risk appeal to teenagers experimenting with cigarettes.¹⁶³

Overall smokers in the 1970s and 1980s had little understanding of the extent to which cigarette smoking posed a danger to health. A Federal Trade Commission Report found in the 1970s that while smokers are aware that cigarettes are in some vague way “hazardous,” they lacked adequate information as to the “nature and extent of the health risk of smoking.”¹⁶⁴

The general public—smoking and non-smoking—tended to underestimate the dangers to health of smoking when compared to other health risks. In a 1983 Harris survey, 103 health experts rated “not smoking” as the most significant behavior to promote health in the general population, ahead of such behaviors as wearing seatbelts, never drinking and driving, and exercising regularly. On the other hand, a sample of 1,254 adults rated

¹⁶³Claude Teague, Research Planning Memorandum on Some Thoughts about New Brands Of Cigarettes For The Youth Market, R.J. Reynolds (1973).

¹⁶⁴Matthew L. Myers et al., "Staff Report on the Cigarette Advertising Investigation (Public Version)" (Washington, D.C.: Federal Trade Commission, May 1981), 9. Bates: 2023237258-2023237566, <https://industrydocuments.library.ucsf.edu/tobacco/docs/#id=szfp0124>.

not smoking a mere tenth among a list of health behaviors, behind having smoke detectors, controlling stress and taking enough vitamins.¹⁶⁵

TOBACCO INDUSTRY ADVERTISING, MARKETING, PROMOTION, AND DISINFORMATION DIRECTLY IMPACTED SANDRA CAMACHO

Sandra Camacho, born in 1946 in Chicago, resided in the Chicago metropolitan region until moving to Las Vegas, Nevada around 1990. Ms. Camacho began smoking at age eighteen, and smoked L&M cigarettes regularly until switching to Marlboro in 1990, and Basic cigarettes around 2000 before quitting upon receiving a diagnosis of cancer in 2018.

Sandra Camacho began smoking at age eighteen when she received an L&M cigarette from a friend. She testified that she chose that brand “because I thought they were safe,” something she indicated that she learned from “billboards, magazines and I wanted filter cigarettes. I thought they were safer than nonfilter.” When asked “safer in what way?” Camacho replied, “Less nicotine.”¹⁶⁶

L&M’s manufacturer, Liggett & Myers, had a long history of advertising the brand as safer and low in nicotine due to its “Miracle Tip Filter.” For example, in 1954, Liggett advertise L&M in the Chicago Tribune as “Just What the Doctor Ordered.” Liggett told the public that the cigarette’s “Miracle Tip” filter, was the “result of 3 years of scientific

¹⁶⁵United States Department of Health and Human Services, Reducing the Health Consequences of Smoking, 214.

¹⁶⁶ Sandra Camacho Deposition, Vol. II (November 3, 2021), p. 146:10-21; 149:24-25.

research” and provided “effective filtration” with “much less nicotine.” Federal authorities enjoined cigarette manufacturers from making such explicit health claims in the 1950s, but the emphasis on the “Miracle Tip” continued, providing an enduring cultural and advertising reference to health protection (see representative advertisements from the Chicago Tribune in Appendix I, Figure 5 of this report). Anthony Camacho, also a smoker, testified that he and his wife “were under the impression that it was safer to use filters, and it would filter out all the chemicals that were in there that they didn't want us to inhale.”¹⁶⁷ Cigarette manufacturers knew that smokers who purchased and used their filtered, products tended to do so out of a belief that these were safer.

Other tobacco advertising messages impacted Sandra Camacho. She testified to seeing billboards during her time in Chicago. Tobacco product billboard advertising pervaded Chicago. A survey of tobacco billboards in Chicago, conducted from August 1990 to April 1991 found that Chicago was inundated with billboard advertising for tobacco products. Minimizing and concealing the health dangers of smoking even applied to tobacco industry billboards. For example, Brown & Williamson’s policy forbade siting billboards near advertisements for “Heart Fund” or near funeral homes and cemeteries, or where “similar advertising can be viewed at the same time.”¹⁶⁸

¹⁶⁷ Anthony Camacho Deposition (November 4, 2021), p. 99:19-22.

¹⁶⁸ “Field Representatives Operations Manual Out-Of-Home Media Brown & Williamson, Inc.,” (May 12, 1976), p. 8, Brown & Williamson Records, <https://www.industrydocuments.ucsf.edu/docs/qzvb0100>.

The Federal Trade Commission, assessing the ubiquity of cigarette advertising in the late 1960s, concluded that “cigarette advertising reaches virtually all Americans who can either read, or understand the spoken word” and that “so pervasive is cigarette advertising[,] that it is virtually impossible for Americans of almost any age to avoid cigarette advertising.”¹⁶⁹

Cigarette manufacturers intended for the public to rely upon their advertising messages. Robert Karl Heimann, former CEO of the American Tobacco Company, testified in 1986 that “Yes, our advertising is truthful, and we anticipate that they [consumers] would rely on it if they chose, certainly.”¹⁷⁰

Sandra Camacho became a regular smoker of L&M cigarettes from her initiation as an eighteen-year-old in Chicago, smoking one to two packs a day.” In 1990, she and her husband, Anthony Camacho moved to Las Vegas, Nevada. There, she switched to Marlboro Reds, manufactured by Philip Morris, USA, largely due to the difficulties in finding L&M in her local stores. Later around the year 2000, she switched to Basic, also

¹⁶⁹ C. M. Faino, “Competitive Intelligence Research Report. Competitive Profiles: Domestic Cigarette Companies,” (June 29, 1982) RJ Reynolds Records, <https://www.industrydocuments.ucsf.edu/docs/qfpj0103>; Federal Trade Commission, “Report to Congress, Pursuant to the Federal Cigarette Labeling and Advertising Act” (June 30, 1967).

¹⁷⁰ Deposition of Robert Karl Heimann, Ph.D., December 19, 1986, Horton V. American Tobacco Co. (December 19, 1986) Depositions and Trial Testimony (DATTA), <https://www.industrydocuments.ucsf.edu/docs/tjlp0018>.

a Philip Morris product, as an economy measure when Marlboro's became too expensive.¹⁷¹

As a young adult in the late 1960s to the 1980s, Sandra Camacho and her husband smoked regularly at a time when cultural and social practice allowed smoking in nearly every public and private space imaginable. Cigarette manufacturers and their agents encouraged these practices and opposed efforts to restrict smoking in public places. Ms. Camacho worked variously as a beautician, waitress, and convenience store retail clerk. At each of these workplaces, she was able to smoke either in a break room or a spot in the near her work where she could "have a couple of puffs." At this time, restaurant patrons could smoke.¹⁷²

Upon moving to Las Vegas, Sandra Camacho would frequent the city's various casinos for entertainment. Cigarette manufacturers targeted casinos in their marketing plans. Such targeted marketing grew in importance after the Master Settlement, which put restrictions on billboards and sponsorships. A 1999 Philip Morris USA report informs its sales staff that Las Vegas is "America's most smoker friendly city in which an entire economy is built around people's right to smoke." The report further explained to the company's sales staff that Las Vegas had the highest rate of adult smoking among

¹⁷¹ Sandra Camacho Deposition, Vol. II (November 3, 2021), pp. 154:14, 160:20-23; 161:13-20. Anthony Camacho Deposition (November 4, 2021), p. 113:7-13.

¹⁷² Sandra Camacho Deposition, Vol. II (November 3, 2021). Her smoking while working as a beautician is discussed at p. 115: 9-21; as a waitress at pp. 109:11-25; 110:1-6; and as a convenience store retail clerk at p.117, 16-19.

American cities at 36.2 percent. Philip Morris products sold exceptionally well in Nevada, holding a 59 percent share of the market. As the report explained, the banning of billboards by the Master Settlement provided the opportunity to invest in “point of sale” advertising, casino-specific marketing, and new promotions such as “Marlboro Bar Nights.” In the end, Philip Morris sales executives saw the Master Settlement restrictions as simply the opportunity to “create new venues to market, merchandise, and grown the cigarette category.”¹⁷³

Warnings had little impact on Sandra Camacho’s understanding of the health dangers of cigarette use. When asked about the 1966 cigarette pack caution statement mandated by federal legislation, she replied, “I do not remember.” She answered similarly when asked to recall the implementation of the Surgeon General’s pack warning in 1970, and the rotating warnings implemented in 1985.¹⁷⁴ As discussed above in this report, warnings made little impact upon smokers (pp. 69-72).

The Camacho’s both testify that they relied on industry statements assuring the public that cigarettes were not the cause of any health harms to smokers. Anthony Camacho testifies that he and his wife watched television coverage of tobacco industry statements made before the United States Congress. When asked if she relied upon

¹⁷³ Philip Morris' Sales Team of Las Vegas. (October 6, 1999) Philip Morris Records; Master Settlement Agreement, <https://www.industrydocuments.ucsf.edu/docs/jyxl0046>.

¹⁷⁴ Sandra Camacho Deposition, Vol. II (November 3, 2021), pp. 122:223-25, 123:1, 128:11-23.

tobacco industry statements, Sandra Camacho replied, “sure did” and “kept on smoking” because of that reliance:¹⁷⁵

Sandra Camacho tried many times to quit smoking. She testifies to attempting to quit in the 1990s using Nicorette Gum, but only able to last one day. She threw away cigarettes and hid lighters and ashtrays. She made “over ten or more” attempts to quit, all unsuccessful.¹⁷⁶ While Sandra Camacho displays some confusion as to quitting in 2017 or 2018, her husband Anthony Camacho testifies that she quit upon receiving her cancer diagnosis.¹⁷⁷

FOOD AND DRUG ADMINISTRATION REGULATION HAS NOT CUR-TAILED THE ADVERTISING, MARKETING, AND PROMOTION OF COM-BUSTABLE CIGARETTES

With its regulatory roots in the Pure Food and Drug Act (1906), the Food Drug and Cosmetics Act (1938), and subsequent amendments, the Food and Drug Administration (FDA) is charged with “protecting the public health by ensuring the safety, efficacy, and security of human and veterinary drugs, biological products, and medical devices;

¹⁷⁵ Anthony Camacho Deposition (November 4, 2021), p. 148:12-16, Sandra Camacho Deposition (December 7, 2021), p. 236:1-3.

¹⁷⁶ Sandra Camacho Deposition (December 7, 2021), pp. 207:17-25; 208:1-5; 209:10-11; 211:13-15; 212:1.

¹⁷⁷ Anthony Camacho Deposition (November 4, 2021), p. 191:17-25. Scientists have found that “health shocks” often influence smoking behavior among long-term smokers. See Frank A. Sloan, et al. The Smoking Puzzle: Information, Risk Perception, and Choice (Harvard University Press, 2003), pp. 129-156.

and by ensuring the safety of our nation's food supply, cosmetics, and products that emit radiation.”¹⁷⁸

Historically, tobacco industry leaders opposed FDA regulation of tobacco products. Liggett Counsel Frederick P. Haas’s September 3, 1963, minutes of a meeting of the Tobacco Institute’s Ad Hoc Legal Committee preserve a discussion of the threat of possible impending FDA regulation under the legal umbrella of the Hazardous Substances Labeling Act of 1961.¹⁷⁹ A 1977 R.J. Reynolds planning report identified potential FDA regulation as an existential threat to the industry. D.H. Piehl, the RJR executive who compiled the report, warned:

However, should tobacco products ever come under the jurisdiction of the FDA it would have a drastic effect on the industry and consumer. Application of the Delaney Clause to tobacco products would put the industry out of business.¹⁸⁰

¹⁷⁸ Office of the Commissioner, “What We Do,” FDA (FDA, November 3, 2018), <https://www.fda.gov/about-fda/what-we-do>.)

¹⁷⁹ Frederick P. Haas, “Surgeon General’s Committee [Memo]” (Memo), Truth Tobacco Industry Documents, accessed December 19, 2015, <https://industrydocuments.library.ucsf.edu/tobacco/docs/#id=ytmf0028>.

¹⁸⁰ D. H. Piehl, “Planning Assumptions and Forecast for the Period, 1978-1987+,” May 10, 1977, R.J. Reynolds Records, Truth Tobacco Industry Documents, <https://www.industrydocuments.ucsf.edu/docs/pgyb0094>; United States Code, 2010 Edition, <https://www.govinfo.gov/content/pkg/USCODE-2010-title21/html/USCODE-2010-title21-chap9-subchapIV-sec348.htm>.

The Delaney Clause referred to a 1958 addition to the FDA mandate stipulating that “no additive shall be deemed to be safe if it is found to induce cancer when ingested by man or animal, or if it is found, after tests which are appropriate for the evaluation of the safety of food additives, to induce cancer or man or animal.”¹⁸¹

The FDA moved to extend its regulatory reach over tobacco products in 1996, relying upon the tobacco industry’s actions in designing cigarettes as nicotine delivery devices. Cigarette manufacturers promptly sued, and the matter ended in U.S. Supreme Court, which ruled in the industry’s favor in 2000.¹⁸²

With the passage of the Family Smoking and Tobacco Control Act of 2009, Congress established FDA regulatory authority over tobacco products. The FDA now regulates and restricts tobacco advertising and marketing practices. The law bans most, but not all, fruit, and candy flavored cigarettes. The law bans such descriptive terms as “light” and “mild.” The FDA has new powers to prevent purchases of tobacco products by minors. The FDA can regulate nicotine levels in cigarettes. The law directs the FDA to devise and implement new warning labels on tobacco products packaging and advertising. Tobacco manufacturers must disclose the ingredients in their products. New tobacco products must undergo premarket review to ensure that they meet an “appropriate protection of public health.” The law also established a new unit of the FDA, the Center for

¹⁸¹ U.S. Code Title 21 Chapter 9 Subchapter Iv § 348.

¹⁸² FDA v. Brown & Williamson Tobacco Corp., 529 U.S. 120 (2000).

Tobacco Products, to establish standards and oversee the law, funded by user fees paid by tobacco manufacturers.

However, the law has limitations. Tobacco products are not regulated under the standard of safe and effective, as applies to drugs and other products subject to FDA regulation. The FDA may not ban the manufacture and sale of combustible cigarettes. It may not require the complete elimination of nicotine from cigarettes, although it could mandate levels below that which causes and sustains addiction. The act grandfathers in tobacco products that were sold on February 15, 2007, or before and exempts them from premarket review.

Despite FDA regulation, tobacco manufacturers have been able to introduce new line extensions to their product lines under the “Substantial Equivalence” process. This component of the Tobacco Control Act allows tobacco manufacturers to introduce new or modified tobacco products if they are found to be similar to an existing grandfathered product or do not raise new issues of public health. New products sold after February 15, 2007 can continue to be sold under a provisional substantial equivalence order if application was submitted by March 22, 2011.

Today, tobacco manufacturers often tout the fact that they are a regulated industry. But that regulation has not curtailed the advertising, marketing, and promotion of combustible cigarettes. FDA regulation under the Tobacco Control Act has in practice, allowed established cigarette manufacturers to conduct their business as before, with the added benefit of creating new barriers to entry by competitors. The Substantial Equivalence procedures have allowed tobacco manufacturers to introduce new and modified

products as long as they are extensions of previously sold products. Industry legal challenges to the FDA's proposed graphic warnings mean that this part of the law has gone unimplemented some eleven years after the law's passage. Menthol is still used as a flavoring additive, despite its well-documented use by minors.¹⁸³ There has been no regulation of nicotine levels. Point-of-sale advertising at markets, gas stations, and convenience stores, all places frequented by youth, are still heavily employed to promote tobacco products.

SAFER ALTERNATIVE DESIGNS HAVE BEEN FEASIBLE

Cigarette manufacturers have designed their products to deliver addicting levels of nicotine through the inhalation of smoke into the lungs. Alternative designs exist in the historical record that contain very low levels of nicotine in the cigarette rod, or are non-inhalable, or deliver nicotine in noncombustible forms. Despite the development of these designs, cigarette manufacturers have continued to sell traditional combustible cigarettes which cause the injury of addiction and deadly disease.

Cigarette manufacturers have long possessed the ability to create nicotine-free tobaccos, therefore creating a product that would not inflict the injury of addiction. In 1930, the American Tobacco Co. announced that it could cultivate tobacco so that "the nicotine

¹⁸³ Kim Klausner, "Menthol Cigarettes and Smoking Initiation: A Tobacco Industry Perspective," *Tobacco Control* 20, no. Suppl_2 (May 2011): ii12–19, <https://doi.org/10.1136/tc.2010.041954>.

content can almost be entirely eliminated.”¹⁸⁴ Consumer interest in denicotinized tobacco products reaches back at least to the 1920s. Brands such as Sano, O-Nic-O, and Sackett Cigarettes were promoted as denicotinized or low nicotine. While contemporary testing of these various brands revealed that they only contained slightly lower levels of nicotine—approximately half that in contemporary tobacco products—their presence on the marketplace indicates consumer interest in denicotinized products.¹⁸⁵

Philip Morris executives contemplated producing a low nicotine cigarette in 1963. Acknowledging internally that nicotine caused damage to the cardiovascular system, Philip Morris’ vice president for research, Helmut Wakeham explained to senior management that “if forced to, we could produce a fairly tasty low nicotine product.”¹⁸⁶

Over a quarter century later, in 1989, Philip Morris USA introduced Next “de-nic” which was followed by Merit Free and Benson & Hedges “de-nic”. These brands were marketed as combustible cigarettes that had very low levels of nicotine.¹⁸⁷ Vector Tobacco later introduced Quest cigarettes, which offered a series of progressively lower

¹⁸⁴ No Author, “Nicotine Content of Tobacco Can Be Diminished Or Increased By Natural Means, German Research Institute Reports Successful Experiments [Press Release]” (December 1, 1930), <https://www.industrydocuments.ucsf.edu/docs/#id=shvn0137>.

¹⁸⁵ E. M. Bailey, O. L. Nolan, and W. T. Mathis, ““Denicotinized’ Tobacco,” Fifty-First Report of the Connecticut Agricultural Experiment Station (1927), 338–51, <https://hdl.handle.net/2027/mdp.39015073297908>.

¹⁸⁶ Wakeham, H. “Technical Forecast,” (October 24, 1963) Philip Morris Records, <https://www.industrydocuments.ucsf.edu/docs/sycp0002>.

¹⁸⁷ “Low-Nicotine Cigarette for Philip Morris: Philip Morris Planning to Offer a Low-Nicotine Cigarette” New York Times (June 1, 1989), D1.

nicotine cigarettes to allow a step-down approach to weaning a smoker from nicotine dependence. Public health groups criticized these products as still possessing enough nicotine to cause and sustain nicotine dependence. These brands were also combustible cigarettes whose smoke was inhaled into the lungs.¹⁸⁸

The propensity for smokers to inhale cigarette smoke (as opposed to pipe and cigars) was a criticism levied by anti-cigarette activists from the beginning of the cigarette epidemic in the early 20th Century. One English critic noted in 1903 that the practice of inhaling smoke “has only come into vogue in this country during the last few years.”¹⁸⁹ Public health authorities advised smokers to “avoid inhaling.” Alton Ochsner warned that “deliberately inhaling adds greatly to the amount of carcinogens and other tobacco poison to which you expose the respiratory tract.”¹⁹⁰

Indeed, cigarette manufacturers designed their products to be more easily inhaled through design factors, largely by using flue-cured tobacco in their blends, and by adding sugars, menthol, and other additives that improved inhalability of the smoke into the lungs and enhanced the delivery of nicotine (see p. 61-68 of this report).¹⁹¹

¹⁸⁸ “Philip Morris is Criticized” New York Times (April 8, 1991), D4.

¹⁸⁹ William Chambers and Robert Chambers, “Confessions of a Cigarette-Smoker,” Chambers Journal, vol 80 (1903), pp. 4-8.

¹⁹⁰ Alton Ochsner, *Smoking and Cancer, A Doctor’s Report*. (New York, 1954), <http://hdl.handle.net/2027/uc1.b4425337>.

¹⁹¹ Carroll G. Tompson, “Chemical Modification of Burley Tobacco,” R&D Scientific Information Services Library, R. J. Reynolds Tobacco Company, November 4, 1954, R.J. Reynolds Records, Truth Tobacco Industry Documents,

Public health advocates called for the industry to develop non-inhalable cigarettes as a means of reducing the burden of cigarette-induced disease, disability, and death. Dr. George E. Moore, Director of Public Health Research, New York State Department of Public Health, Roswell Park Memorial Institute, Buffalo N.Y., testified before the United States Senate:

One important and practical technique would be to alter the smoke in such a way that it cannot be inhaled. We know that only a few cigar and pipe smokers inhale. This affords them a great protection from some smoking hazards. One reason for this is that cigar and pipe smoke is more alkaline than cigarette smoke.¹⁹²

Tobacco industry scientists also understood that the inhalation of cigarette smoke exposed a significant health danger to the smoker. William Farone, Director of Applied Research at Philip Morris, 1977-1984 wrote to Leo F. Meyer, manager of Philip Morris' "New Product Division" to suggest that the company develop "a cigarette that does not require inhalation." Farone noted that "it should be obvious that the ultimate in the move to low delivery cigarettes is to obtain some kind of smoking satisfaction while delivering

<https://idl.ucsf.edu/docs/#id=jkcl0222>; L. A. Elson and T. E. Betts, "Sugar Content of the Tobacco and PH of the Smoke in Relation to Lung Cancer Risks of Cigarette Smoking," Journal of the National Cancer Institute 48, no. 6 (June 1972): 1885-90.

¹⁹² Testimony of Dr. George E. Moore, "Reviewing Progress Made toward the Development and Marketing of a Less Hazardous Cigarette," Hearings before the Consumer Subcommittee of the Committee on Commerce United States Senate, Ninetieth Congress, First Session, August 23, 24 and 25, 1967, Serial No. 90-52. <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=pxxf0189>.

no materials to the lung.” Farone explained that “one type of appropriate technology [to achieve a non-inhalable cigarette] would seem to be to raise the pH of smoke to achieve nicotine transfer in the mouth.”¹⁹³

Cigarette manufacturers also designed and marketed nicotine delivery devices that allowed the release of aerosolized nicotine without the dangerous particulate components in cigarette smoke. In 1966 Charles Ellis, a senior scientist with British American Tobacco Co. [BAT], then parent company of the Brown & Williamson Tobacco Co., patented a “smoking device” that would deliver nicotine without “the products of combustion.” This patent was the product of an extensive BAT research product codenamed “Project Ariel.” This device was never brought to market.¹⁹⁴

R.J. Reynolds developed and marketed a device that delivered aerosolized nicotine to the user. Named Premier, it was released in test markets in 1988.¹⁹⁵ A modified

¹⁹³ William A. Farone, “New Cigarette Products,” (September 24, 1981) Philip Morris Records; Master Settlement Agreement. <https://www.industrydocuments.ucsf.edu/docs/zgwx0119>; For Leo F. Meyer’s position in Philip Morris, see Leo F. Mayer. 1982. Philip Morris Records; Master Settlement Agreement. Unknown. For an account of William A. Farone’s career at Philip Morris, USA, see, Written trial testimony of William Anthony Farone, Ph.D., accepted October 6, 2004, United States Of America V. Philip Morris USA Inc. October 6, 2004, <https://www.industrydocuments.ucsf.edu/docs/qnml0001>, p. 2 lines 2-4, 15-16.

¹⁹⁴ United States Patent Office, “Smoking Device” Patent No. 3,258,015, June 28, 1966. See also, Stephan Risi, “On the Origins of the Electronic Cigarette: British American Tobacco’s Project Ariel (1962–1967),” *American Journal of Public Health* 107, no. 7 (July 2017): 1060–67, <https://doi.org/10.2105/AJPH.2017.303806>.

¹⁹⁵ J. S. Carpenter, “Test Market (Premier),” October 28, 1988, R.J. Reynolds Records, Truth Tobacco Industry Documents, <https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=hsbb0090>.

version, renamed Eclipse, entered the market a decade later. Both relied on heat-not-burn technologies. More recently, R.J Reynolds Vapor Co., a subsidiary of Reynolds American, Inc the parent company of R.J. Reynolds Tobacco Co., introduced the VUSE vape pen. This product uses a nicotine cartridge to deliver a nicotine aerosol to the user. Similar products such as the now-discontinued MarkTen (owned by Altria, parent company of Philip Morris USA), IQOS (owned by Philip Morris International and marketed in the USA by Philip Morris USA) and JUUL (partially owned by Altria) have been introduced into the marketplace. All suffer the design defect of delivering nicotine in levels that can induce and sustain physical dependency and addiction.

THE HUMAN AND ECONOMIC COSTS OF SMOKING HAVE BEEN ENORMOUS

Tobacco use has been related to numerous cancers, including cancers of the bladder, cervix, colon and rectum, esophagus, larynx, lip, liver, lung, oral cavity, pharynx, pancreas, kidney, stomach, and gastric organs as well as acute myeloid leukemia. Cigarettes cause pulmonary disease, including COPD, pneumonia, emphysema, and bronchitis. Cigarette use causes cardiovascular disease, including atherosclerosis and congestive heart failure. The health dangers of smoking are not limited to smokers. Exposure to second-hand smoke also causes cancer and heart disease in non-smokers. Smoking among also increases the risk of a host of perinatal conditions including miscarriage and sudden

unexpected infant death (SUID).¹⁹⁶ Cigarettes are also a significant cause of residential fires.

During the period 1964-2014 over 20 million Americans have died from smoking induced diseases. Over 5 million smokers have died from lung cancer; 1.6 million smokers have died from other cancers attributed to tobacco use. Cardiovascular and metabolic diseases have caused an additional 7.8 million smoker deaths, while pulmonary diseases have caused the deaths of an additional 3.8 million smokers.

Non-smokers exposed to second-hand smoke face enormous health risks. During the period 1964-2014, 108,000 children died of smoking-attributable perinatal conditions. Secondhand smoke caused the cancer deaths of 263,000 non-smokers and the coronary heart disease deaths of another 2.2 million non-smokers. Another 86,000 were killed in residential fires caused by cigarettes.¹⁹⁷

Cigarette smoking has also imposed an enormous morbidity burden upon the American people. In addition to the disease and disability imposed by the deadly conditions indicated above, cigarette use in early pregnancy is casually related to ectopic pregnancy and congenital malformation such as orofacial clefts. Cigarette use is casually related to

¹⁹⁶ Tatiana M. Anderson et al., “Maternal Smoking Before and During Pregnancy and the Risk of Sudden Unexpected Infant Death,” *Pediatrics*, (March 11, 2019), e20183325, <https://doi.org/10.1542/peds.2018-3325>.

¹⁹⁷ U.S. Department of Health and Human Services. The Health Consequences of Smoking: 50 Years of Progress. A Report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014. Printed with corrections, January 2014, table 12.15.

age-related macular degeneration, diminished immune system function, and rheumatoid arthritis.

Cigarette smoking morbidity and mortality has imposed an enormous economic burden, both in lost economic activity and in direct expenditures for treating cigarette-attributable disease. Cigarette attributable morbidity imposes a steep economic toll in lost productivity. The annual value of lost productivity averaged \$150.7 billion during the years 2005-2009. Total health care expenditures to treat cigarette-attributable disease among current and former smokers, age 35+, for just the year 2012 amounted to \$175.9 billion.

**CIGARETTE MANUFACTURERS, AS ADJUDICATED RACKETEERS,
HAVE BEEN COMPELLED TO DISSEMINATE CORRECTIVE STATE-
MENTS BY THE FEDERAL COURTS**

In 2006, cigarette manufacturers were found by the Federal Courts to have had “for decades conspired to deny the health effects of smoking in violation of RICO.”¹⁹⁸ As adjudicated racketeers, cigarette manufacturers have been compelled by the Federal Courts to publish and broadcast “corrective statements” informing the public that their products kill hundreds of thousands each year, that cigarettes cause addiction and that the

¹⁹⁸Judge Gladys Kessler, “Final Opinion, August 17, 2006” *United State of America v. Philip Morris USA, Inc., et al.*, (United States District Court for the District of Columbia. Civil Action No. 99-2496 (GK); “Memorandum Opinion, June 27, 2017” *United State of America v. Philip Morris USA, Inc., et al.*, (United States District Court for the District of Columbia. Civil Action No. 99-2496 (GK).

cigarette manufacturers designed their products to cause addiction, that light, and low tar cigarettes offer no health benefit, and that second-hand smoke also causes disease and death.

CONCLUSION

Knowledge among the public that cigarettes cause disease and that they are addictive developed slowly in the face of a concerted disinformation campaign by the tobacco industry. Even today, smokers evince significant gap of knowledge about the dangers to their health by their cigarette use. The development of the public's understanding of the risks of smoking was impeded by the efforts of the cigarette industry to sow doubt and confusion in the minds of the smoking public as to the true risks of smoking. While publicly denying any risk to smoking, internally, tobacco industry officials understood that cigarettes cause cancer and other deadly diseases, that they shorten life, and that they were physically addictive. Cigarette manufacturers have, through various technological means, enhanced the impact of nicotine—and thus the addictiveness of cigarettes. Cigarette manufacturers have implemented design features such as filters, light, and low tar formulations which they have promoted as safer products while offering no actual health benefit.

Tobacco industry officials, spokespeople, executives, and other agents of the industry never informed the public of what they secretly knew about the deadly effects of using their products. Despite assurances to the public as early as 1954 that “if-we had any thought or knowledge that in any way we were selling a product harmful to consumers,

we would stop business tomorrow,” the industry continued to manufacture deadly, addictive products.¹⁹⁹

To this day, cigarette manufacturers have not voluntarily admitted that they intentionally deceived and lied to the American public, including their customers, regulatory officials, public health and medical officials, and elected officials about their knowledge of the health dangers of cigarette use, including addiction to cigarette delivered nicotine. Cigarette manufacturers have never acknowledged that they have marketed their products to children. They have not voluntarily admitted that filter, light, and low tar cigarettes offer no health benefit and that they have long known this fact. Cigarette manufacturers have not voluntarily admitted that they manipulate cigarette design to promote nicotine delivery and addiction. They have not voluntarily acknowledged that cigarette-induced nicotine addiction leads to deadly diseases. They have not admitted that cigarettes now cause the premature deaths of some half-million Americans each year.

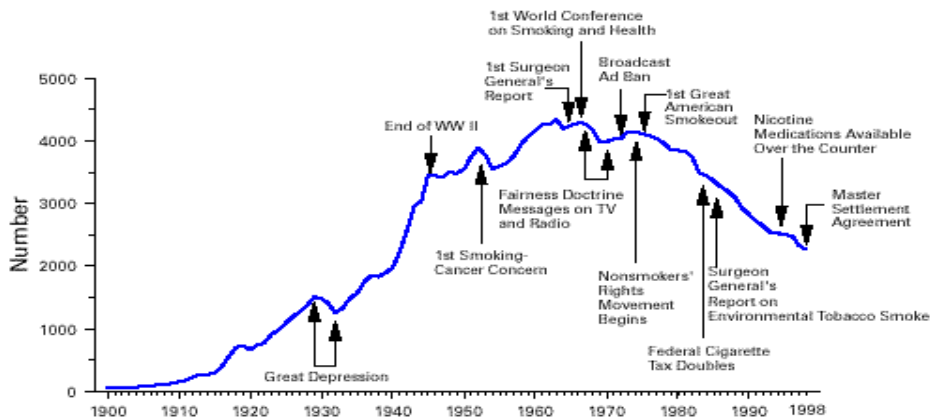
As cigarette manufacturers move into new nicotine-delivery technologies, the United States faces another epidemic of nicotine addiction, unraveling years of public health progress.

My research is ongoing. This report documents only a fraction of the materials I have reviewed in forming my opinions in this matter.

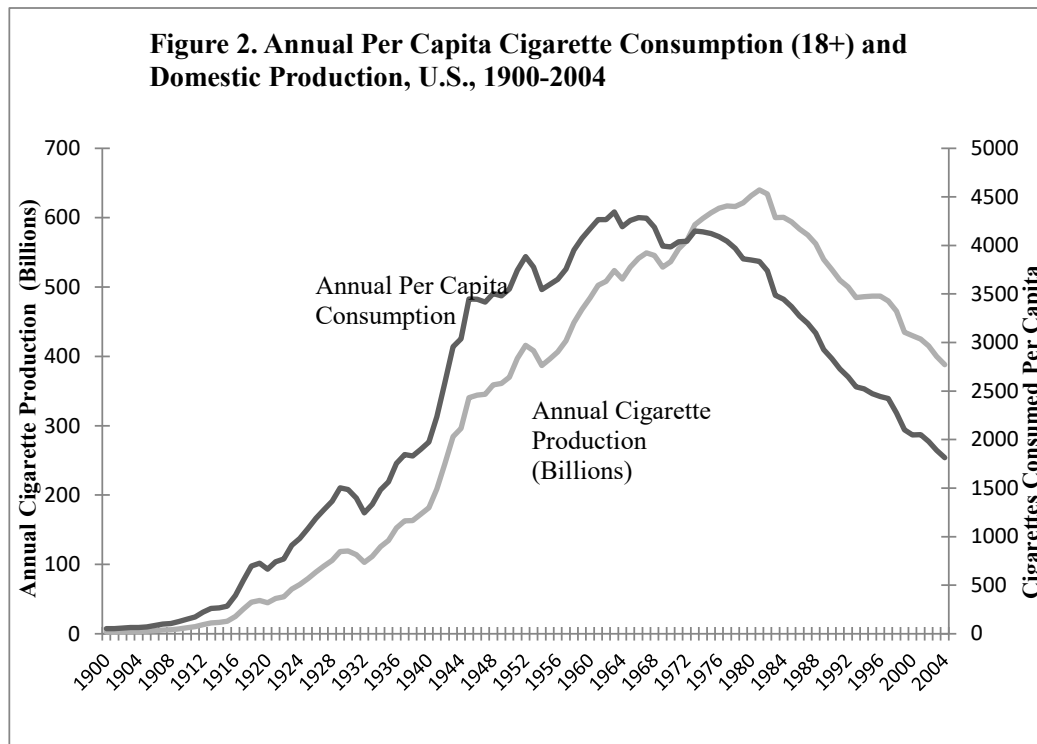
¹⁹⁹ Weissman, George. Public Relations and Cigarette Marketing. 1954. Philip Morris Records. Unknown. <https://www.industrydocuments.ucsf.edu/docs/nqxf0189>.

APPENDIX I: FIGURES 1-5

FIGURE 1. Annual adult per capita cigarette consumption and major smoking and health events — United States, 1900–1998

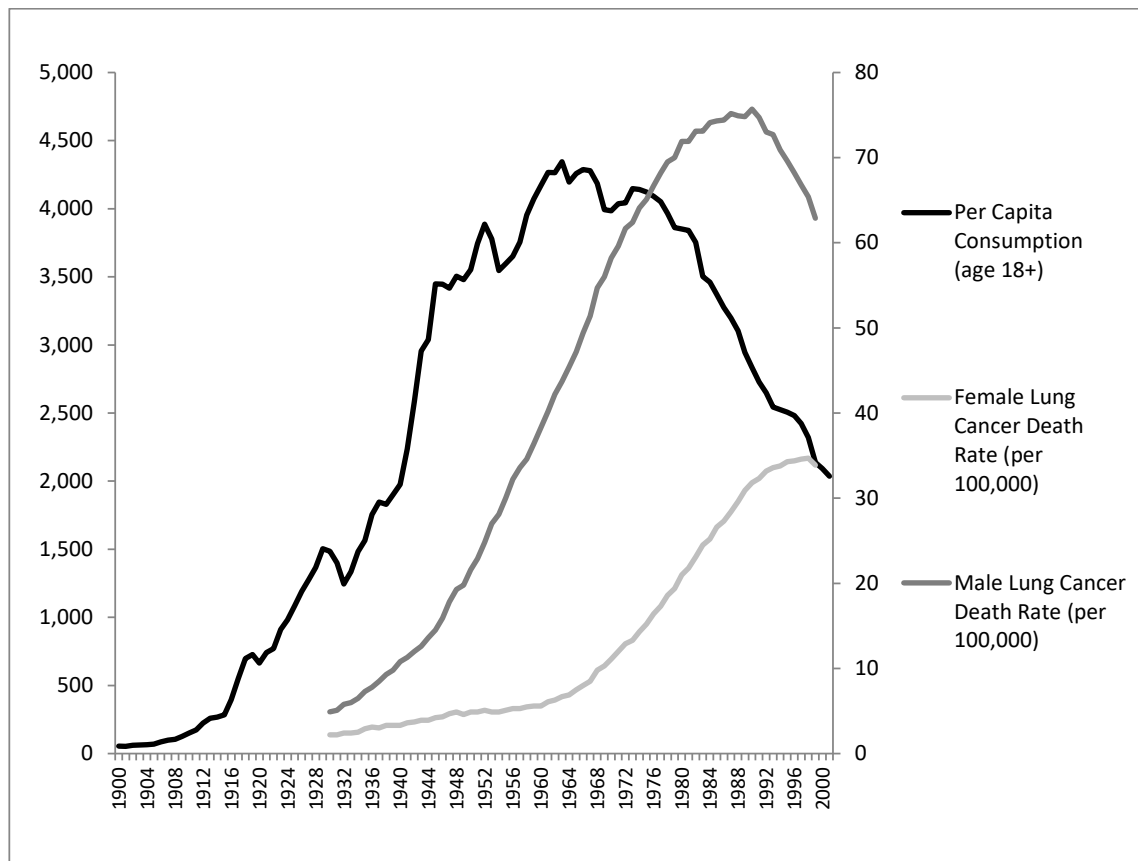


Source: Centers for Disease Control and Prevention



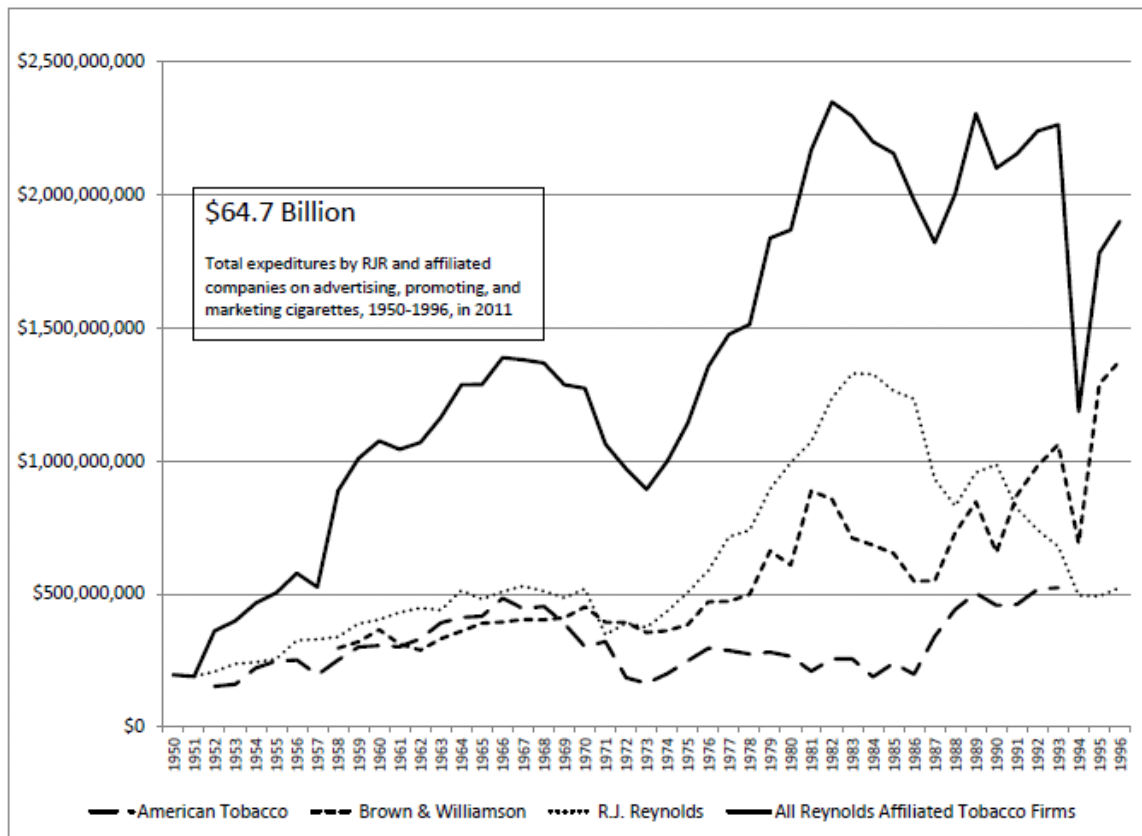
Source: Centers for Disease Control and Prevention

Figure 3. Annual Per Capita Cigarette Consumption and Lung Cancer Death Rate



Source: Centers for Disease Control and Prevention

Figure 4. Annual Advertising Expenditures: R.J. Reynolds, American Tobacco, and Brown & Williamson, 1950-1996 (in 2011 Dollars)



Source: R.J. Reynolds Tobacco Co., Response of Defendant R.J. Reynolds Tobacco Company To Plaintiffs' Interrogatories

Figure 5. Representative Cigarette Advertisements

Part 3—Page 12 F
Chicago Daily Tribune
Monday, April 12, 1954

EXCITING MONEY-SAVING EASTER SPECIAL!
100% All Wool Suits
REGULARLY \$55 AND \$40... NOW
\$44
Distinctively tailored 100% all-wool, shawl collar, single-breasted, flared, and wide-leg... in a large variety of all the new Spring colors and patterns.
Your Size is Here.

ALTERATIONS FREE
NO MONEY DOWN • OPEN AN ACCOUNT
"Where Style Begins"
Burton-Miller
(Formerly Liberal Clothing Co.)
HOLLYWOOD CHICAGO MIAMI
314 S. STATE ST.
OPEN EVERY NIGHT UNTIL EASTER

SHOP MON. 9:15 to 8:30
MANDEL BROTHERS
Value-Prize
Subway Suits
New Shipment
Just Arrived
SHEER NYLON ELASTIC FULL-FOOTED HOSE
YOU NEED NO OVERHOSE

Phone State 2-1000 or call order — your money buys you maximum value... of the most perfect, most modern, and most comfortable hose ever made.
MANDEL BROTHERS SUGAR—UPPER SUBWAY, WARREN

SEARS
ROEBUCK AND CO.
The perfect Springtime coiffure... softer, more natural looking than you could imagine... personally styled and shaped for you.
... CUSTOM CUT ...
Complete your hair styling...
SEARS
STATE STREET STORE
6th Floor
Chicago, Ill. 60602

CALLUSES?
Only 6 more shopping days until Easter!
Dr. Scholl's Linapads
Why not have the Tribune delivered regularly to your home? Call your local newsdealer, or phone KIDGILIAN 2-6300, Chicago Tribune Home Delivery department

Budd Says CTA Has No Money for Installation of Escalators

Proposal Dropped After Deficit
Ralph Budd, chairman of the Chicago Transit Authority, said yesterday the CTA would like to install escalators at transfer points on the elevated system if it only had the money.
A need for escalators at "L" stations was expressed recently by Dr. Howard B. Sprague of Boston, past president of the American Heart Association, in a speech at a convention here. Dr. Sprague said escalators would be especially beneficial for persons with heart ailments.
The CTA had tentative plans earlier this year for installing an escalator between the subway and elevated stations at State and Van Buren sts., Budd explained, "but these plans have been shelved because of our financial difficulties."

CTA Has Deficit
Budd was referring to the CTA deficit of approximately \$1,400,000, and the probability "My idea was that we could probably pay the interest on a loan we would need for installing an escalator at State and Van Buren by putting up and renting a large display advertising space on the 'L' station structure." Budd said. An escalator between the subway and "L" stations at State and Van Buren would cost an estimated \$100,000, Budd said. A survey of the State and Van Buren to be

Monday's News: Chicago 11 to 8:30 • National Week 10 to 8:30
La Crosse Post 12 to 9

boarding or alighting from the elevated.
Budd said it would be unwise to consider long term improvements along either the "L" or "E" lines of the "L" in the Loop in view of plans to tear down these sections.
The completion of the CTA showing 13,851 persons either

an "open cut" subway feeding into the tubes under Dearborn at about enable the CTA to run the Walsh and Lake "L" structure, Budd said.
Budd said the CTA would like to install escalators at transfer points on the elevated system if it only had the money.
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Maytag WASHDAY BARGAIN!
FLOOR SAMPLES—DEMONSTRATORS
Only a few! Prices reduced due to slight scratches and wear. If you want a top quality product, order today.
ONLY \$99
\$500 DOWN \$150 PER WEEK
Phone Orders Accepted
Call Now **AN 3-0777**
TELEVISION APPLIANCE MART
201 N. La Salle Street
OPEN TIL 9 P.M.

STEVENS
Mid-Money Dresses as 3
YOU'RE A SMART
SCIENTIFICATE
in color rayon
for parties and
half-circles!
Such a smiling way to look this season! There's fashion seen in the elegant wrap of white collar and cuffs, the sophisticated look of the white-on-white design. Flattering, low-cut, rayon, chic's washable, soft, and comfortable—easy, black or mid blue. Petite 12-14, full size 16-18-20-22, \$14.95
Mid-Money Dresses, 3rd floor, 3rd floor, 3rd floor, 3rd floor
CHAS. A. STEVENS & CO., CHICAGO
What's the best show in town? You keep posted on the musical and dramatic world when you read Claude Casidy's "On the Air" in the Chicago Tribune.

UP GO SALES. DOWN COMES PRICE OF L&M
You Save Up to 4¢ a pack—40¢ a Carton!

FROM L&M TO YOU... JUST WHAT THE DOCTOR ORDERED

- 1. THE MIRACLE TIP...** for most effective filtration. Selects and removes the heavy particles, leaving you a Light and Mild smoke.
- 2. PUREST AND BEST filter made.** Exclusive with L&M. Result of 3 years of scientific research... 3 years rejecting other filters. This is it!
- 3. MUCH MORE FLAVOR... MUCH LESS NICOTINE**
L&M Filters are the first filter cigarette to taste the way a cigarette should. The premium quality tobacco... and the miracle filter work together... to give you plenty of good taste.

Now Every Smoker can afford L&M—America's highest quality Filter Cigarette
In the 92 days since L&M Filters were put on sale across the country they have gained a nation-wide demand never before equalled by any other cigarette in so short a time.
So naturally... down goes the price to you of L&Ms—America's highest quality and best filter tip cigarette.
Thousands of dealers in America's largest cities (New York, Boston, Philadelphia, Chicago and Los Angeles) in signed statements report L&M's their largest selling filter tip cigarette.

Why have L&M Filters rolled up sales records like this? For the first time filter tip smokers are getting what they want... much more flavor and aroma... with much less nicotine. After the first few puffs from an L&M, most smokers sum it up this way:
"THIS IS IT—JUST WHAT THE DOCTOR ORDERED."

L&M—AMERICA'S HIGHEST QUALITY AND BEST FILTER TIP CIGARETTE

Source: Chicago Tribune (April 12, 1954), p. 12F

12 • Section 2B • CHICAGO TRIBUNE, THURSDAY, JUNE 13, 1963

**FOR FATHER'S DAY—
Put exciting Tribune Time
into his life—
the
Chicago Tribune
delivered at home
every day
of the week**

Give father something exciting to look forward to every day of the week. Give him Tribune Time — those 41 magical minutes most readers spend on weekdays with the Chicago Tribune — those 41 deeply satisfying minutes most readers spend with the Tribune on Sunday.

This is the Father's Day gift that will remind him daily of your thoughtfulness — the Chicago Tribune delivered by carrier or mail where carrier service is not available.

We handle all details. Phone your order today and the first copy will arrive in time for Father's Day, June 16, with your name on a smart gift card.

Prices by the month for home delivery start at 95 cents for the Sunday Tribune, \$1.95 for the Daily Tribune, and \$2.90 for the Daily and Sunday Tribune.

Dial 223-3772—that's the Home Delivery Service number. Or phone your local distributor of out-of-town newspapers. Or fill in and mail the request for quotation of cost below.

CUT HERE

Chicago Tribune, Room 215, 415 N. Michigan Ave., Chicago 11, Ill.

Without cost or obligation to me, please give me quotation of cost of a subscription to the Chicago Tribune to be delivered for _____ months daily ☐ and Sunday ☐ by carrier (or by mail where home delivery service is not available) to the person whose name and address are immediately below:

Mr. _____
Name of person who is to receive the subscription)
No. and Street _____
City _____ State _____
Appt. No. _____ Floor _____ House _____ Room _____
Send quotation of cost to _____
Mr. _____
Mrs. _____
No. and Street _____
City _____ State _____
Phone Number _____
(Please PRINT in pencil—ink may blot)

**RECOVER BOY'S
BODY IN SWAMP
IN WISCONSIN**

Mountain, Wis., June 12 (AP)—Douglas Colabishale, 7, was found dead today, lying face down in a swampy area of the Nicolet National Forest.

Douglas, son of Dr. Henry Colabishale, director of the V. W. C. A. camp, Unadilla, had been the object of a search by about 100 persons in the densely wooded area since he was reported missing Tuesday night.

On June 11, 100 of searchers located the body about one mile from the camp. Officials arriving on the scene said the boy was lying in a small amount of water and appeared to be the victim of drowning or asphyxiation.

Missing Child Found Dead in Wisconsin
(Story in adjacent column)

Volunteer searchers lined up along a road at Chute Lake in Oneida county, Wis., to hunt for Douglas Colabishale, 7, missing from camp operated by his father. Boy's body was found later in a swamp.

**HINT RUSSIA
WILL LAUNCH
SPACE WOMAN**

MOSCOW, June 12 (AP)—Rumors persisted today that Russian authorities may soon launch a woman cosmonaut into space.

One rumor had it that she is 35, but not especially pretty. She was allegedly chosen because she got dirty her training course with better grades than her male counterpart.

There was no official confirmation, but one fact added a bit of plausibility to the rumors. Hundreds of women from all parts of the globe soon will be gathering here for the communist-run world women's congress, which opens June 24.

It is possible the Kremlin has decided this is the time to impress the women with the communist body hard, and by launching a space woman.

**4 FLEE WAUPUN
STATE PRISON
IN WISCONSIN**

MADISON, Wis., June 12 (AP)—Warden John Burke of the state prison in Waupun reported that four prisoners were missing last night.

He identified one as Anthony D. Holsen, 36, sentenced for forgery, and said Nichols had been on cleanup duty in Madison.

The other men, still working in a prison warehouse outside Waupun, Burke identified them as Robert E. Allen, 36, sentenced for forgery; Earl W. Jackson, 35, sentenced for burglary; and Paul Demers, 37, sentenced for second degree murder, several with names to press the women with the communist body hard, and by launching a space woman.

**L&M is sure getting pushed around
...and we like it.**

L&M is one of the fastest growing brands of all. More people are discovering—when a cigarette means a lot, you get lots more from L&M. L&M's special rich flavor leaf gives you more body...more flavor...more taste. And

L&M's filter is the modern filter—all white inside and outside—so only pure white touches your lips. So try it. Give us a push. Right on the L&M button. L&M—the filter cigarette for people who really like to smoke.

When a cigarette means a lot...
you get Lots More from L&M

Source: Chicago Tribune (June 13, 1963), p. 2B-12.

Louis M. Kyriakoudes Ph.D.

Louis M. Kyriakoudes, Ph.D.

Date: February 9, 2022

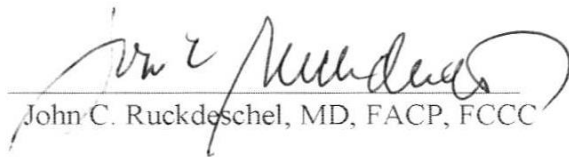
DECLARATION OF JOHN RUCKDESCHEL, M.D.

I, John Ruckdeschel, M.D., declare as follows:

1. My name is John Ruckdeschel. My address is 7 Tucker Court, Laurel Springs, NJ 08021.
2. I am a Chief Medical Officer for two tech firms where my work requires me to remain up to date in the management of diseases such as cancer. Prior to that, I was a practicing oncologist for 45 years, and I have served as director or chair of various cancer institutes and programs.
3. I have reviewed the medical records, deposition testimony and interrogatory answers of Sandra Camacho.
4. It is my professional opinion within a reasonable degree of medical probability that the smoking of L&M, Marlboro and Basic brand cigarettes all substantially contributed to Sandra Camacho being diagnosed with laryngeal cancer.
5. The opinions rendered in my expert report (attached to this declaration) represent my opinions, all held to a reasonable degree of medical certainty, and are based on a reasonable medical probability and scientifically reliable evidence.
6. I reserve the right to amend my opinions if further information is provided in any form.

Pursuant to NRS 199.120, under penalty of perjury, I declare that I have read the foregoing document and that the facts stated in it are true.

Dated: June 6, 2022.


John C. Ruckdeschel, MD, FACP, FCCC

Summary Report: 01-28-2022

Re: Sandra Camacho v Phillip Morris

Consultant: John C. Ruckdeschel, MD, FACP, FCCC

To whom it may concern:

I currently serve as the Chief Medical Officer of two tech firms, MetiStream, Inc and Real Time Medical Spectroscopy (RTMS). RTMS is in the process of developing a new methodology to detect diseases, including lung cancer, at an earlier date using breath analysis. I am responsible for designing and overseeing the clinical trials for this device. At MetiStream we are focused on cancer and are involved in using Natural Language Processing to identify patients for screening or clinical trials and following them over time for response, toxicity and survival. Both positions require me to be up to date in the management of cancer, among other disorders. I am retired from the active practice of oncology as of 9/1/20 after 45 years. I remain an Adjunct faculty member at the University of Mississippi.

I most recently served as the Director of the University of Mississippi Cancer Institute, the Ergon Chair in Cancer Research, Professor of Medicine in the School of Medicine and Professor of Population Health Science in the John D. Bower School of Population Health in Jackson, Mississippi. My previous positions include : Director, Oncology Clinical Program, Intermountain Health Care, Salt Lake City, Utah; Professor of Medicine, University of Utah, Salt Lake City, UT, Professor of Medicine , University of Nevada School of Medicine; Chief Executive Officer and Director, Nevada Cancer Institute, Las Vegas, NV; President and Chief Executive Office, Barbara Ann Karmanos Cancer Institute; Associate Dean, Cancer Affairs, Wayne State University School of Medicine; Professor of Medicine and Oncology, Wayne State University School of Medicine; Senior VP - Cancer, The Detroit Medical Center, Detroit, MI. Professor of Oncology and Medicine , University of South Florida College of Medicine ; Director and Chief Executive Officer, H. Lee Moffitt Cancer Center, Tampa, FL; and President, Florida Division of the American Cancer Society; Professor of Medicine at Albany Medical College and Director of the Joint Center for Cancer and Blood Disorders.

I served in leadership positions in the Lung Cancer Study Group and the Eastern Cooperative Oncology Group. I chaired or co-chaired nearly 100 clinical trials in cancer. Most recently, I was awarded the St. George Medal from the American Cancer Society for Lifetime Achievement.

I graduated from Rensselaer Polytechnic Institute, Troy, NY with a Bachelor of Science in Biology in 1967. I attended and graduated from Albany Medical College, Albany, NY in 1971. My internship was at Johns Hopkins in Baltimore, MD and my residency at Beth Israel Hospital in Boston, MA. My fellowship in medical oncology was completed at the National Cancer Institute's Baltimore Cancer Research Center

in Baltimore, MD. I am board certified in Internal Medicine and Medical Oncology. I am currently licensed to practice in New Jersey.

I have received various grants over the years and have conducted research on many aspects of cancer. I have authored or co-authored over 144 peer-reviewed publications and multiple invited presentations, abstracts and book chapters. While many of these discuss issues related to lung cancer, I have also published extensively on cancer-related pain, patient-physician communication, complications of cancer therapy, quality of life, malignant pleural effusions, spinal cord compression and the economics of cancer care. A copy of my Curriculum Vitae, which more fully sets forth my qualifications, is attached hereto as Exhibit "A".

I have diagnosed and treated thousands of patients with cancer, primarily lung and other thoracic malignancies, but during several intervals I saw general oncology patients including a number with head and neck cancer. Many patients develop both lung and laryngeal cancers over time, and I have treated dozens of such patients. Head and neck cancers are part of a group of cancers known as aerodigestive cancers that share similar etiologies, therapies and complications of therapy. Through my education, training, and experience, I am very familiar with how cancer develops generally, how cancer develops in the lung and aerodigestive tract, the causes of cancer of the aerodigestive tract, the association between cigarette smoking and aerodigestive cancer and the way carcinogens in smoke cause cancer. Through my education, training, and experience, I am very familiar with the way cancers behave in the body, patterns of metastases, treatment modalities and the way cancers are diagnosed both pathologically and clinically.

I have been provided with the following records:

1. Multiple records from Comprehensive Cancer Centers of Nevada pertaining both to her original referral for polycythemia vera and her later referral for management of laryngeal cancer.
2. Ronald Reagan UCLA Medical Center
3. Multiple records from St. Rose Dominican Hospitals
4. Intermountain Healthcare
5. Sunrise Hospital
6. Aurora Diagnostics
7. Quest Diagnostics
8. Desert Radiology
9. Steinberg Diagnostics
10. Physician practices of:
 - a. Dr. Weingarten
 - b. Wikler Family Practice
 - c. Dignity Medical group
 - d. Women's Health
 - e. Digestive Disease Specialists
 - f. Pulmonary Associates
 - g. Heart Center of Nevada

- h. Healthcare Partners
 - i. Urology Specialists
 - j. Dr. Moxley
 - k. Touro University
 - l. Aloha Clinic
- 11. Various Homecare agencies
 - a. Valley Home Health
 - b. UR First LLC
 - c. Preferred Homecare
- 12. Fact Depositions/Interrogatories.
 - a. Sandra Camacho 1/2/21, 1/3/21, 2/7/21 and 2/7/21
 - b. Anthony Camacho 1/4/21 and 2/7/21
 - c. Initial, first revision and second revision interrogatories.
- 13. Unrelated practices
 - a. Podiatry
 - b. Ophthalmology
 - c. Various pharmacies

I have reviewed all the available records and depositions that were provided.

The medical records document a heavy cigarette smoking history for Mrs. Camacho. While in this report I have not set forth all the many references in her medical records to her smoking, I have reviewed them and different medical records at different times reflect minor differences in her smoking history as is often seen in clinic records. However, they, consistently reflect the fact that Sandra Camacho was a regular and heavy cigarette smoker with at least a 50-pack year smoking history. Her predominant brands were L&M, Marlboro and Basic. There were several notes confirming she had no history of alcohol abuse.

Regarding her laryngeal cancer, the following information was gleaned from the medical records. Note that I have not set forth in detail in this report all medical records that I may discuss or reference in respect to her laryngeal cancer, its treatment, and its clinical course. I have endeavored herein to provide a summary of diagnosis and treatment and may, at trial, discuss in greater detail these records and other medical records that I have reviewed. Her medical history was complicated by several conditions, both related and unrelated to her smoking history, that will not be discussed further unless they impacted on her treatment and outcome:

1. Vitamin D deficiency
2. Morbid Obesity
3. Polycythemia vera
4. Paroxysmal atrial fibrillation
5. Colon polyps
6. Chronic Obstructive Pulmonary Disease (COPD)
7. Gastrointestinal Reflux (GERD)

8. Microscopic hematuria
9. Coronary artery disease
10. Diabetes mellitus
11. Hypothyroidism

Her laryngeal problems were as follows:

1. On 12/17/15 the patient saw Dr. Atkinson at Dignity Medical Group for loss of voice and failure to respond to standard conservative treatment. A smoking history of 50 pack years was noted starting at age 18. A CT exam of the sinuses was ordered, and she was referred to ENT. There is neither a record of a CT of the sinuses nor a visit with an ENT specialist.
2. On 11/21/16 she saw Dr. Malik at Health Care Partners for evaluation of possible polycythemia vera. No note was made of hoarseness or sore throat.
3. On 7/5/17 she saw Dr. Weingarten for hoarseness with bilateral vocal cord leukoplakia. A micro direct laryngoscopic biopsy showed inflammation and mild dysplasia on the right and moderate dysplasia on the left vocal cord. He then referred her to Dr. Burke at UCLA for a micro direct laryngoscopy with CO₂ laser ablation.
4. On 9/19/17 she had a micro direct laryngoscopy with CO₂ ablation and stripping. All biopsies at UCLA were negative for cancer, showing only dysplasia.
5. On 12/29/17 she saw Dr. Weingarten with worsening symptoms and a return to UCLA and Dr. Burke was recommended.
6. Dr. Malik's notes at Health Care Partners disclosed that she went to a University Medical Center (UMC) in Las Vegas on 3/16/18 with respiratory distress and was found to have an obstructing mass requiring an emergency tracheotomy and urgent transfer to UCLA. Biopsy showed squamous cell carcinoma. This was confirmed in the UCLA notes, but I did not receive any records from UMC.
7. On 3/16/18 she was found to have an obstructing, bilateral glottic mass that required a total laryngectomy. There was an invasive keratinizing squamous cell carcinoma, moderate to poorly differentiated, and 4 cm in size with a depth of invasion of 1.5 cm. There was trans glottic involvement and invasion of the left thyroid cartilage. All lymph nodes were negative for cancer, and she was staged as stage III (T3N0M0).
8. On 5/3/18 she saw a radiotherapist, Dr. Pomerantz, in Las Vegas who gave her the potential risks and benefits of post-operative radiation therapy with well documented notes concerning potential complications. She ultimately opted not to have the radiation, despite recommendations from several of her physicians.
9. She underwent several problems related to her trach but otherwise did well with no evidence of recurrence until July of 2019 when she developed a mass in her right neck, which biopsy disclosed as recurrent squamous cell cancer.
10. She was seen at Comprehensive Cancer Centers of Nevada (CCCN) and informed

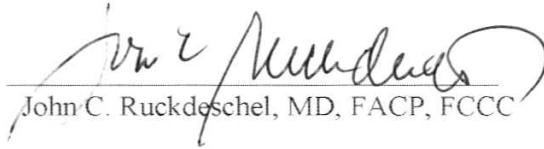
that she would need combination chemotherapy and radiation. In preparation for this she saw a dentist for full mouth extractions and had a PEG tube placed, both required when the head and neck area is being radiated. She was begun on weekly carboplatin and radiation therapy with the usual significant complications of therapy.

11. On follow-up at CCCN on 1/13/20 she had no clinical evidence of recurrence, but CT showed what was considered a possible recurrence or scarring. A PET scan done on 3/9/20 showed no evidence of recurrence and she has had no evidence of recurrence since then.
12. On 2/4/21 at the time of her deposition she was still in remission from the cancer, but continued to suffer the sequelae of the surgery, radiation and chemotherapy. Her current symptoms (as of 2/21) included:
 - a. Inability to talk
 - b. Scarring of the neck
 - c. Inability to eat solid foods
 - d. Shortness of breath with chronic oxygen required
 - e. Frequent need for tracheal suctioning
 - f. Frequent cleaning of stoma
 - g. Some intermittent loss of focus
 - h. Extremely limited ability to shop or go anywhere.
 - i. Depression

My opinions are based on Mrs. Camacho's medical records, the fact depositions, my education, training, experience, general medical knowledge and the scientific literature. I hold the following opinions in this case to a reasonable degree of medical certainty.

1. Sandra Camacho has primary laryngeal carcinoma, specifically squamous cell carcinoma of the larynx. Her primary carcinoma of the larynx was caused by her smoking of cigarettes. She had no history of alcohol abuse nor was mention made of human papilloma virus (HPV) infection
2. The major brands that she smoked were L&M, Marlboros and Basic and she was reported to have a 50-pack year exposure. All of these cigarettes contributed to the development of her cancer.
3. Her cancer was first diagnosed in March of 2018 despite earlier evaluations at her local hospital in Las Vegas and at UCLA. It was stage III (T3N0M0) and was obstructing her airway.
4. There is little or no difference in outcome when T3N0M0 glottic tumors are treated initially with surgery alone, radiation alone or with combined modality therapy. While immediate post-operative radiation is a standard recommendation there is no evidence that radiation delivered to a recurrent lymph node is any less effective than when the radiation is given post-operatively. Consequently, her refusal to accept post-operative radiation did not substantively change her stage or prognosis.

5. The clinical and social impact of a total laryngectomy can be severe, and Mrs. Camacho has had virtually all the common complications. Her husband is significantly impacted by her illness and their entire life now revolves around the care of her airway.


John C. Ruckdeschel, MD, FACP, FCCC

3/14/22
Date