UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

UNITED STATES OF AMERICA, Plaintiff, v. PHILIP MORRIS USA INC., f/k/a PHILIP MORRIS INC., et al., Defendants.	)	Civil Action No. 99-CV-02496 (GK) Next Scheduled Court Appearance: Trial (ongoing)

WRITTEN DIRECT EXAMINATION

OF

MICHAEL ERIKSEN, Sc.D.

SUBMITTED BY THE UNITED STATES PURSUANT TO ORDER #471

1 **Q. Please introduce yourself to the Court.**

2 A. I am Michael Eriksen.

3 **Q. Have you provided the Court with a copy of your curriculum vitae?**

4 A. Yes, at U.S. Exhibit 78,529.

5 **Q. What is your understanding of the expertise for which you've been offered in this**

6 **case?**

7 A. I understand that the United States is offering me as an expert in public health,

8 particularly tobacco use, youth smoking behavior, and the effect of cigarette marketing

9 on adolescent smoking initiation and continuation.

10 ***I. <u>SUMMARY OF CONCLUSIONS</u>***

11 **Q. Can you summarize the data on teenage smoking behavior that you will discuss?**

12 A. Current data shows that most smokers, over 80%, begin to smoke before the age of 18.

13 Additionally, the 1989 Report of the Surgeon General stated that 80% of smokers born

14 since 1935 started smoking before age 21. Smoking prevalence among teenagers has

15 ranged over time, from as high as 38.8% in 1976 to around 24.4% in 2003. Teenage

16 smoking rates did not steadily decline during this period; in the 1990s, teenage smoking

17 rates rose rapidly, and only lately have begun to fall. Adolescents select a usual brand of

18 cigarettes to smoke before the age of 18 with 85% of teenagers smoking Marlboro,

19 Camel or Newport.

20 **Q. What conclusion have you reached in this case regarding the effect of Defendants'**

21 **cigarette marketing on adolescent smoking?**

22 A. As the Reports of the Surgeon General and substantial other literature concluded, and I

23 agree with the conclusion, that the weight of all available evidence shows that

1 Defendants' cigarette marketing, while not the only factor, is a substantial contributing
2 factor to young people beginning and continuing to smoke.
3 **Q. When you use the term young people what ages are you referring to?**
4 A. My use of this term varies depending on the data source that I am discussing. For
5 example, some of the surveys and studies I rely upon measure the smoking behavior of
6 young people up to and including 20 year olds. Others measure teenagers below the age
7 of 18. Still others measure high school seniors, which would include any high school
8 senior age 17 or 18.
9 **Q. Why do you use the term "marketing" and not "advertising"?**
10 A. I use this term because my testimony covers the peer reviewed literature on the effects of
11 marketing generally. I studied all of this literature, and did not limit my review to
12 literature that only looks at advertising. Generally, cigarette marketing includes a wide
13 range of advertising and promotional activities such as mass media, sponsorship,
14 promotional materials, price discounts, couponing, direct mailings, and more.
15 Advertising is only a small subset of marketing.
16 **Q. Can you explain what you mean by the phrase "the weight of all available**
17 **evidence?"**
18 A. Over the past fifteen years, there have been a number of comprehensive reviews of the
19 peer reviewed scientific literature concerning the effects of cigarette marketing, including
20 advertising and promotion, on the smoking behavior of young people. There is strong
21 empirical evidence that advertising and promotion affect awareness, recognition, recall,
22 attitudes, intentions and actual smoking behavior. In fact, children appear to be even
23 more responsive to advertising appeals and expenditures, at least in terms of brand

1 preference, than are adults. From these reviews it is clear that the weight of all available
2 evidence, including the epidemiology of adolescent tobacco use; behavioral survey data;
3 and peer reviewed scientific, behavioral, and econometric studies, supports the
4 conclusion that cigarette marketing is a substantial contributing factor in the smoking
5 behavior of teenagers, including the initiation and continuation of smoking.

6 **Q. On what do you base your conclusions?**

7 A. I base my conclusions upon official government reports, such as Reports of the Surgeon
8 General and National Cancer Institute Monographs and the peer reviewed scientific
9 literature, as well as my thirty years of public health experience.

10 **Q. Is it important to discuss both the initiation of youth smoking <u>and</u> the continuation**
11 **of youth smoking in the context of marketing's impact on youth smoking behavior?**

12 A. As I will discuss later in my testimony, over 80% of adults who smoke, started smoking
13 before the age of 18. Current smokers report that if they had it to do over again, they
14 would have never started to smoke. Adolescent smoking initiation is an immature
15 behavior, one driven by the psychosocial development of adolescents and the cigarette
16 brand imagery that corresponds precisely to adolescent aspirations. All too often, the net
17 effect of this adolescent behavior results in a life long addiction, where one out of every
18 two lifetime smokers will die prematurely as a result of starting smoking before turning
19 18.

20 **Q. How do you define lifetime smokers?**
21
22 A. A lifetime smoker is a general term that refers to an individual who has smoked for
23 decades, usually a majority of his/her life.

1 **Q. Is it meaningful to ask whether advertising or marketing is the single <u>cause</u> of youth**
2 **smoking initiation or continuation?**
3 A. No. As the Surgeon General concluded in 1994 – a conclusion with which I agree – that
4 question is a misguided one. I will address this issue in greater detail later in my
5 testimony.
6 ***II. <u>EXPERTISE</u>***
7 **Q. Your education and professional experience has been in the field of public health, is**
8 **that correct?**
9 A. Yes, that is correct. For the past 30 years, I have worked exclusively on public health
10 projects, ranging from dental health to HIV/AIDS prevention to cancer control. One of
11 my primary focuses has been on smoking and health and tobacco-related issues.
12 **Q. How have smoking and health or tobacco-related issues been one of the primary**
13 **focuses of your 30 years in the public health field?**
14 A. I first became involved in tobacco-related research when I began my dissertation research
15 in 1979 at Johns Hopkins University. Following my graduate studies, I was employed in
16 a variety of settings including universities, health care settings, the private sector, the
17 Federal government and international agencies where my research included tobacco-
18 related issues, smoking and health, and tobacco control. My research has ranged from
19 analyzing the diffusion of tobacco prevention programs in schools, to counseling cancer
20 patients who continue to smoke. Much of my research has focused on implementing
21 cancer prevention and tobacco control policies in organizations, and the effect of
22 advertising expenditures on adolescent tobacco use behaviors.
23 **Q. What do you mean by the term "tobacco control"?**

1 A. I use the term "tobacco control" as an overarching term that includes preventing the use
2 of tobacco products among young people (before they start smoking), as well as helping
3 current smokers who want to quit smoking, do so. Tobacco control also includes
4 reducing the harm caused by smoking, as well as reducing involuntary exposure to
5 secondhand smoke. Thus, tobacco control is an overarching term that includes
6 prevention, cessation and protection from exposure to secondhand smoke.

7 ***A. Education***

8 **Q. Please tell the Court about your educational qualifications.**

9 A. I received a Bachelor's degree from the Johns Hopkins University in 1972. In 1976, I
10 received a Masters of Science degree (Sc.M.) from the Johns Hopkins University School
11 of Hygiene and Public Health. In 1983, I received a Doctor of Science degree (Sc.D.)
12 from the Johns Hopkins University School of Hygiene and Public Health.

13 ***B. Office on Smoking and Health and Reports of the Surgeon General***

14 **Q. In 1992, you were appointed Director of the Office on Smoking and Health, correct?**

15 A. Yes.

16 **Q. What is the Office on Smoking and Health?**

17 A. The Office on Smoking and Health ("OSH") is a division within the National Center for
18 Chronic Disease Prevention and Health Promotion, which is one of the centers within the
19 Centers for Disease Control and Prevention ("CDC"). CDC is a fundamentally a
20 scientific agency (as opposed to being a regulatory or enforcement agency) with the
21 mission to promote health and quality of life by preventing and controlling disease,
22 injury, and disability. OSH was established in 1978 and was the successor organization
23 of the National Clearinghouse on Smoking and Health that was established in 1965.

1 **Q. How long did you hold the position as Director of the Office on Smoking and**
2 **Health?**
3 A. Until September 2000. I was the longest serving Director of the Office on Smoking and
4 Health, and served as Director during a period of unprecedented growth. During my
5 tenure as Director, the annual budget of the Office on Smoking and Health increased
6 from $3 million to $100 million, with our office providing financial support to all 50
7 states, the District of Columbia and dozens of public health organizations.
8 **Q. What is the role of the Office on Smoking and Health?**
9 A. OSH is responsible for leading and coordinating strategic efforts aimed at preventing
10 tobacco use among youth, promoting smoking cessation among youth and adults,
11 protecting nonsmokers from environmental tobacco smoke (ETS), and eliminating
12 tobacco-related health disparities.
13 **Q. Did the Office on Smoking and Health contribute to advancing these goals under**
14 **your leadership?**
15 A. Yes. During my tenure as Director of the Office on Smoking and Health, we advanced
16 these goals by: (1) expanding the science base regarding tobacco use, (2) building
17 capacity to conduct tobacco control programs; (3) communicating information to
18 constituents and the public; and (4) facilitating concerted action with and among partners.
19 **Q. How did the Office on Smoking and Health "expand the science base regarding**
20 **tobacco use" during your tenure?**
21 A. The Office on Smoking and Health, primarily through our Epidemiology Branch,
22 conducted surveillance and funded research to better understand the public health aspects
23 of tobacco use and how those aspects could best be ameliorated. The scientific expertise

1 in the Office on Smoking and Health included epidemiologists, physicians, dentists,
2 lawyers, economists, pharmacologists, and toxicologists, among other professional
3 disciplines. In addition to our own intramural activities, we provided financial and
4 intellectual support to development of tobacco laboratory research within CDC's
5 National Center for Environmental Health.

6 **Q. How did the Office on Smoking and Health "build the capacity to conduct tobacco**
7 **control programs" during your tenure?**

8 A. We funded all 50 states, the District of Columbia, many territories, and dozens of
9 national organizations to build a national tobacco control infrastructure. Particular
10 emphasis was placed on funding those national organizations that were disproportionately
11 affected by the harm caused by tobacco use.

12 In addition to providing funding, staff of the Office on Smoking and Health also
13 provided training, sponsored conferences, and developed guidelines to conduct effective
14 tobacco control programs.

15 **Q. What are some of the public health organizations to which OSH provided support?**

16 A. We funded organizations such as the National Medical Association, the National
17 Coalition of Hispanic Health and Human Service Organization (COSSMHO), the
18 National Asian Women's Health Organization, the Northwest Portland Area Indian
19 Health Board, and the American Medical Women's Association, among others. We also
20 supported a number of national organizations that supported state and local tobacco
21 control efforts such as the National Conference of State Legislatures, the National
22 Association of City and County Health Officials, the Association of State and Territorial
23 Health Officials, and the National Governors' Association.

1 **Q. How did the Office on Smoking and Health "communicate information to**
2 **constituents and the public" during your tenure?**
3 A. The Office on Smoking and Health maintained a Technical Information Center and a
4 Health Communications Branch charged with informing the public about the hazards of
5 tobacco use. The Technical Information Center maintained a database of tens of
6 thousands of articles on the effects of tobacco use on health, as well as other tobacco
7 control topics, and is the largest repository of tobacco and health information in the
8 world. In addition to serving as a repository for information on tobacco, the Health
9 Communications Branch also developed a Media Campaign Resource Center to assist
10 states in launching tobacco counter-marketing campaigns in a cost effective and efficient
11 manner. The Media Campaign Resource Center secured the rights to tobacco counter-
12 advertisements developed by individual states, so that they could be used by other states,
13 thus avoiding the cost and time of each state developing its own media materials.
14 **Q. How did the Office on Smoking and Health "facilitate concerted action with and**
15 **among partners" during your tenure?**
16 A. The Office on Smoking and Health serves as a focal point within the Federal government
17 for issues related to smoking and health, and endeavors to coordinate its activities among
18 its national partners. In this regard, the Office on Smoking and Health sponsored
19 meetings among its partners, as well as participated in meetings held by others. The
20 Office on Smoking and Health funded numerous national organizations to develop their
21 tobacco control capacity and infrastructure.
22 **Q. What were your duties as Director?**

1 A. As Director, I was responsible for the overall direction, supervision and leadership of the
2 Office and its three branches: Epidemiology, Program Services and Health
3 Communications. In addition to our operation in Atlanta, I was also responsible for our
4 Liaison Office in Washington, D.C. As Director, I oversaw an office with over 100
5 employees including highly trained physicians, epidemiologists, lawyers, economists,
6 toxicologists, behavioral pharmacologists and communication specialists. During my
7 tenure as Director, I managed the publication of scores of Morbidity and Mortality
8 Weekly Reports (MMWR), dozens of peer reviewed scientific articles and a number of
9 Reports of the Surgeon General.
10 **Q. What were your specific responsibilities in relation to Reports of the Surgeon**
11 **General?**
12 A. As Director of the Office on Smoking and Health, I was responsible for managing the
13 development of the Reports of the Surgeon General on behalf of the Office of the
14 Surgeon General. In this capacity, I oversaw a process of identifying potential topics for
15 approval of the Surgeon General, identifying and recruiting the Senior Scientific Editor,
16 and, in conjunction with the Senior Scientific Editor, developing an outline of the
17 structure of the report and recruiting chapter authors. In addition to Surgeon General
18 Report development, as Director, I had responsibilities related to Surgeon General Report
19 peer review, clearance and release.
20 **Q. Did you have involvement with the Reports of the Surgeon General prior to**
21 **becoming the Director of the Office of Smoking and Health?**

1 A. Yes. Prior to becoming Director of OSH, I was involved with drafting a portion of a
2 chapter for the 1989 Report of the Surgeon General, Reducing the Health Consequences
3 of Smoking: 25 Years of Progress. (U.S. Exhibit 63,621).
4 **Q. With which specific Reports were you involved as Director?**
5 A. As Director, I was involved with the release of the 1992 Report of the Surgeon General,
6 Smoking and Health in the Americas, which was developed prior to my tenure. (U.S.
7 Exhibit 58,830). Under the Surgeon General, I was primarily responsible for directing
8 the conceptualization, development, approval and release of three Reports of the Surgeon
9 General:
10 1994: Preventing Tobacco Use Among Young People (U.S. Exhibit 64,693).
11 1998: Tobacco Use Among U.S. Racial/Ethnic Minority Groups (U.S. Exhibit
12 64,831).
13 2000: Reducing Tobacco Use (U.S. Exhibit 64,316).
14 I also was responsible for conceptualizing and planning the development of two
15 additional Reports, but left the Office on Smoking and Health before their release:
16 2001: Women and Smoking (U.S. Exhibit 64,315).
17 2004: The Health Consequences of Smoking
18 **Q. Please describe your responsibilities with regard to the 1994 Report of the Surgeon**
19 **General on Preventing Tobacco Use Among Young People.**
20 A. I was responsible for selecting the topic and proposing it to Surgeon General Novello for
21 approval. I identified and recruited Professor Cheryl Perry of the University of
22 Minnesota to serve as the Senior Scientific Editor, and we worked together to structure

1 the Report and select chapter authors. I was responsible for supervising the production of
2 the Report, as well as the scientific review process.
3 **Q. What was the significance of the 1994 Report of the Surgeon General?**
4 A. The 1994 Report was a landmark Report insofar as it brought national attention to the
5 problem of teenage smoking. While smoking among young people was always of
6 general concern, the 1994 Report highlighted the severity of the problem of teenage
7 smoking, the strength of nicotine addiction, and how the public health problem of
8 tobacco use had its roots in adolescence.
9 **Q. Please describe your involvement with the publication of the Morbidity and**
10 **Mortality Weekly Reports.**
11 A. The Director of the Office on Smoking and Health is responsible for approving tobacco-
12 related articles that appear in the Morbidity and Mortality Weekly Report (MMWR), in a
13 similar fashion as is done for the Reports of the Surgeon General. The major difference
14 is that MMWR Reports appear weekly, while the Reports of the Surgeon General occur
15 every few years. OSH was very productive in publishing tobacco control articles in the
16 MMWR, averaging nearly one a month for the eight years I served as Director. Many
17 extremely important topics were covered in the MMWR, including the annual mortality
18 and economic costs of smoking, teenage brand preference, teenage symptoms of nicotine
19 addiction, increases in teenage prevalence, overall tobacco prevalence among teenagers,
20 as well as other topics.
21 **Q. Who reads or relies upon the Morbidity and Mortality Weekly Reports?**
22 A. The Morbidity and Mortality Weekly Reports are published weekly and distributed free
23 to those interested in public health issues throughout the world. The MMWR present

1 findings from selected research investigations each week, as well as providing weekly
2 updates on the incidence of notifiable diseases for all 50 states and major U.S. cities. The
3 purpose of the MMWR is to keep the public health community apprised of the latest and
4 most important public health findings. Studies published in the MMWR are frequently
5 covered by media outlets, both television and newspaper.

6 **Q. During your time as Director, with what governmental offices or agencies did you**
7 **work?**

8 A. In 1992, my first year as Director of the Office on Smoking and Health, I was appointed
9 by Dr. Louis Sullivan, Secretary of the Department of Health and Human Services
10 (DHHS), to be a member of a formal tobacco trade negotiations team with Taiwan under
11 the auspices of the United States Trade Representative, which is part of the Office of the
12 President of the United States. I was the first Federal health official to be part of bilateral
13 trade negotiations. In addition to the Taiwan trade talks, I also participated in tobacco
14 trade talks with South Korea in 1994. DHHS Secretary Shalala asked me to chair the
15 Tobacco and Drug Abuse Working Group as part of the Bilateral Commission between
16 Mexico and the United States.

17 In addition to collaborations with the United States Trade Representative, I
18 worked closely with a number of Executive Branch agencies, both within DHHS, such as
19 the National Cancer Institute (NCI), the Substance Abuse and Mental Health Services
20 Administration (SAMHSA) and the Food and Drug Administration (FDA), but also with
21 other Departments and Agencies, such as the Department of Justice, the Federal Trade
22 Commission (FTC), the Federal Bureau of Investigation (FBI), the Domestic Policy
23 Council (DPC) and the White House. I also worked closely with staff of the legislative

1 branch of government, conducting numerous briefings on tobacco control issues, and
2 testifying before Congress a number of times.
3 **Q. Did you receive any awards for your service as Director of the Office on Smoking**
4 **and Health?**
5 A. Yes, during my tenure as Director of the Office on Smoking and Health, I received the
6 Special Recognition Award (1994) and the Superior Service Award (1995) from the
7 United States Public Health Service. In 1996, I received the second annual Jeffrey
8 Koplan Award from CDC, and in 1997 and 2000, I received the DHHS Secretary's
9 Award for Distinguished Service. Also in 2000, I received a Presidential Citation and the
10 Rank of Meritorious Executive, the highest award given to a member of the Senior
11 Executive Service by the President of the United States.
12 **Q. While you were Director of the Office on Smoking and Health, did your office**
13 **receive any award?**
14 A. Yes. For the collective efforts of our office on Reports of the Surgeon General we
15 received in 2002 the Charles C. Shepard Award. This award is given annually by CDC
16 for Outstanding Scientific Contributions to Public Health.
17 **Q. Have you received other awards for your work on smoking and health?**
18 A. Yes. In addition to governmental awards, in 1998 I received the 2nd Annual Roger
19 Fossum Award from the New Hampshire Public Health Association and was designated
20 as a Distinguished Fellow by the Society for Public Health Education. In 1998, I also
21 received a Commemorative Medal from the World Health Organization for my work in
22 tobacco control. Most recently, I have been designated as a Distinguished Cancer
23 Scholar by the Georgia Cancer Coalition, which includes five years of unrestricted

1 financial support for my research efforts. The Georgia Cancer Coalition will support my
2 research in better understanding smoking cessation efforts in rural communities, and
3 smokers' perception of the risk and benefits of light cigarettes.

4 **Q. After serving as Director of the Office on Smoking and Health, in what position did**
5 **you serve next?**

6 A. From September 2000 to July 2002, I served as a CDC Distinguished Consultant and was
7 assigned to the World Health Organization in Geneva Switzerland.

8 **Q. What were your duties as a Distinguished Consultant?**

9 A. I served as a senior advisor to the Director of the World Health Organization's
10 Noncommunicable Disease and Health Promotion Department. In that capacity, I was
11 responsible for identifying chronic disease prevention and health promotion research
12 needs, primarily in developing countries, assisting in various tobacco control projects,
13 and participating in the development of the Global Strategy on Diet, Physical Activity
14 and Health.

15 ***C. Employment at Universities***

16 **Q. Please tell the Court about your current position of employment.**

17 A. I am currently the Director of the Institute of Public Health at Georgia State University,
18 and am the founding. I assumed this position in November 2002 with the responsibility
19 of developing a public health research and training program at Georgia State University,
20 a large urban research university in downtown Atlanta. In the short time that I have been
21 at Georgia State University, we have received approval from the University System of
22 Georgia to offer the Masters of Public Health degree, and admitted our first class of
23 graduate students in August 2004.

1 **Q. Do you have responsibilities at Georgia State University for developing public**
2 **health research?**
3 A. Yes. It is my responsibility to develop a robust research program at Georgia State
4 University with colleagues throughout the university. As an urban research university,
5 Georgia State University is committed to expanding the breadth and scope of socially-
6 relevant research. We have already secured funding to better understand public policy to
7 prevent tobacco use and childhood obesity, as well as to establish an Urban Health
8 Research Initiative. In addition, we are seeking Federal funding to advance drug abuse
9 research, including tobacco control, particularly as it affects minority communities. We
10 also plan to expand our research portfolio to include investigations of the epidemiology
11 of lung cancer in Georgia, as well as the combined effect of cigarette smoking and
12 obesity on cancer incidence.
13 **Q. Do you have teaching responsibilities in this position?**
14 A. Yes. I currently teach the graduate course, Social and Behavioral Aspects of Public
15 Health, which is a core course for the Masters of Public Health degree program. In the
16 upcoming year, I will also be teaching a course on Urban Health and a course on Tobacco
17 Control.
18 **Q. Previously to your current position, have you been on the faculty of other**
19 **universities?**
20 A. Yes. I have been on the faculty at the University of Texas and the University of Limburg
21 in the Netherlands.
22 **Q. What was the first position you held at the University of Texas?**

1 A. From September 1986 to January 1992, I served as Director of the Behavioral Research
2 Program, Associate Health Educator, and Assistant Professor of Cancer Prevention in the
3 Department of Cancer Prevention & Control at the University of Texas M.D. Anderson
4 Cancer Center. During that same time period, I also served as an Assistant Professor of
5 Behavioral Sciences at the University of Texas Health Science Center and as a Faculty
6 Associate at the Center for Health Promotion Research and Development at the
7 University of Texas Health Science Center.
8 **Q. Please describe your responsibilities at the University of Texas.**
9 A. My duties in these positions were to conduct scholarly research, community service and
10 graduate instruction. My colleagues and I secured external funding for public health
11 research projects, and reported the results of these projects in the peer reviewed literature.
12 At the University of Texas Health Science Center, I was Co-Principal Investigator on an
13 NCI-funded research project studying the diffusion of effective tobacco use prevention
14 programs in Texas schools. I was also a Co-Investigator on an NHLBI-funded research
15 project studying methods to reduce smoking rates among painters. At the University of
16 Texas M.D. Anderson Cancer Center, I was most involved with research on the smoking
17 behavior of cancer patients, as well as being Principal Investigator on an NCI-funded
18 project on reducing the tobacco use and dietary behaviors of rural energy workers.
19 **Q. After January 1992, did you hold another position at the University of Texas?**
20 A. Yes. From April 1992 to 2001, during my tenure as Director of the Office on Smoking
21 and Health, I served as an Adjunct Associate Professor of Cancer Prevention in the
22 Department of Behavioral Sciences at the M.D. Anderson Cancer Center at the
23 University of Texas.

1 **Q. What position did you hold at the University of Limburg in the Netherlands?**

2 A. From 1988 to 1992, I served as a Visiting Lecturer at the University of Limburg in
3 Maastricht, Netherlands. In this capacity, I would travel to Maastricht a few times a year
4 and work with faculty on public health and disease prevention research projects. I served
5 as a research consultant on a community-based research project to modify the dietary and
6 smoking behavior of a high-risk Dutch community and co-authored a number of peer
7 reviewed articles.

8 **Q. In addition to your positions at the University of Texas and the University of**
9 **Limburg, have you had other public health positions?**

10 A. Yes. From June 1975 to May 1978, I was a health educator in the School of Dental
11 Medicine at the University of Pennsylvania. From March 1978 to March 1982, I was a
12 community health educator for the State of Maryland's Health Education Center. From
13 March 1982 to March 1986, I was Director of Preventive Medicine and Health Education
14 for Pacific Telephone in San Francisco.

15 **Q. In these positions, did you conduct research?**

16 A. Yes. Throughout my career, I have endeavored to conduct research on the best way to
17 address public health problems and to evaluate the effectiveness of program
18 interventions. Results of this work have been published in the peer reviewed scientific
19 literature in areas such as school-based health education, dental health, injury prevention,
20 HIV/AIDS prevention, skin cancer prevention, changing health risk behaviors, and
21 preventive practices by physicians.

22 ***D. Publications***

23 **Q. Have you published on matters involving smoking and health?**

1 A. Yes. I have over eighty publications, including approximately 60 in peer reviewed
2 journals, plus many book chapters, and other invited publications. Most of these
3 publications are on tobacco-related issues.
4 **Q. Are these publications listed on your curriculum vitae at U.S. Exhibit 78,529?**
5 A. Yes.
6 **Q. Could you please identify for the Court some of the topics related to smoking and**
7 **health on which you've published in peer reviewed journals?**
8 A. Yes. I have published peer reviewed journal articles related to smoking and health on
9 topics including: the prevalence, implementation and impact of smoking policies; the
10 diffusion of school tobacco prevention programs; the smoking behavior of cancer
11 patients; the health hazards of passive smoking; tobacco control research needs; trends in
12 tobacco use among adolescents, across states, nationally, and globally; cigarette
13 advertising and adolescent brand preference; the economic value of cigarette brand
14 switching; the prevalence of local smoking ordinances; racial and ethnic differences in
15 serum cotinine; and the socio-economic determinants of cigarette smoking.
16 **Q. I'm going to ask you about some of your publications in more detail. First, what**
17 **article or articles have you published on cigarette advertising and adolescent brand**
18 **preference?**
19 A. In 1996, I co-authored a peer reviewed article entitled, "The Last Straw? Cigarette
20 advertising and realized market shares among youths and adults." This peer reviewed
21 article was published in the Journal of Marketing and analyzed the relationship of
22 advertising expenditures in relation to brand preference of teenagers and adults. The
23 study revealed that teenage brand preference is about three times more sensitive to brand

1 advertising expenditures than is adult brand preference, even after controlling for a
2 variety of possible confounding factors, particularly assuring that teenagers were not
3 simply imitating adult brand preference.

4 **Q. Did you and your co-authors receive an award for this peer reviewed article?**

5 A. Yes. Each year, the American Marketing Association bestows the "Best Article in
6 Advertising Award" for an outstanding contribution to the literature. The award
7 committee assesses research five years after publication to judge research that "has stood
8 the test of time as a much cited, memorable, and significant research effort" from all
9 papers published in the American Marketing Association Journals: the Journal of
10 Marketing, the Journal of Marketing Research, and the Journal of Public Policy &
11 Marketing. In 2001, "The Last Straw" received this award from the American Marketing
12 Association.

13 **Q. In addition to the "Last Straw" article published in the Journal of Marketing, have**
14 **you published other peer reviewed studies that relate to cigarette marketing?**

15 A. Yes. In addition to the "Last Straw" article, I also co-authored an article published in
16 1996 in the American Journal of Preventive Medicine on the relationship between
17 cigarette advertising expenditures and the magnitude of brand switching in the United
18 States. This article is entitled "The Extent of Cigarette Brand and Company Switching:
19 Results from the Adult Use-of-Tobacco Survey."

20 **Q. What articles did you publish on trends in tobacco use among adolescents?**

21 A. I have published a number of peer reviewed articles about tobacco use among
22 adolescents, both in the United States and globally. I was a co-author of two peer
23 reviewed articles that described patterns of tobacco use around the world, including the

1 United States. These articles were based on the results of the Global Youth Tobacco
2 Survey, a joint effort between CDC and WHO, which I initiated as Director of the Office
3 on Smoking and Health. The first article was published in 2000 in the Bulletin of the
4 World Health Organization, and is entitled "Tobacco use by youth: a surveillance report
5 from the Global Youth Tobacco Survey project." The second article was published in
6 2002 in the journal Tobacco Control by the Global Youth Tobacco Survey Collaborative
7 Group, and was entitled "Tobacco use among youth: a cross country comparison." In
8 addition to these peer reviewed publications, I was responsible for numerous publications
9 on adolescent tobacco use that appeared in the Morbidity and Mortality Weekly Report
10 from 1992-2000.

11 **Q. Have you published any peer reviewed articles on adult smoking trends?**

12 A. Yes. In 2000, I co-authored a paper published in the American Journal of Public Health
13 that compared the trends in adult smoking rates in California to that of the rest of the
14 country, entitled "Trends in adult cigarette smoking in California compared with the
15 remainder of the United States, 1978-1994." Also in 2000, I co-authored an article that
16 was published in the American Journal of Public Health on setting national tobacco
17 control objectives for the nation, entitled "Achieving the implausible in the next decade's
18 tobacco control objectives."

19 **Q. Did you publish any articles or books during your assignment at WHO?**

20 A. Yes. The Tobacco Atlas is a book I co-authored with Judith Mackay during my two-year
21 assignment at WHO in Geneva and is a publication of the World Health Organization.
22 The Tobacco Atlas is a compendium of global tobacco facts, divided into sections on
23 issues such as the prevalence and health effects of tobacco use; the economic costs of

1 tobacco; the growing, manufacturer and export of tobacco; the marketing and promotion
2 of tobacco products; and tobacco control programs and policies. This information is
3 presented with vivid graphics and minimal text. It was completed in the summer of 2002
4 and distributed to the delegates of the Intergovernmental Negotiating Body of the
5 Framework Convention on Tobacco Control. The Tobacco Atlas has been translated into
6 Chinese; a second edition is being planned for 2006.

7 **Q. What was your most recent publication?**

8 A. I was asked by the Institute of Medicine to prepare a report on lessons from other public
9 health efforts that might be relevant for the prevention of childhood obesity. This report
10 was published as an appendix to the Institute of Medicine's report, Preventing Childhood
11 Obesity: Health in the Balance, released September 30, 2004.

12 **Q. Are you on the editorial boards of any peer reviewed journals?**

13 A. Yes, I serve as a reviewer for numerous, peer reviewed journals including Health Affairs,
14 Health Education and Behavior, American Journal of Public Health, International Journal
15 of Cancer, Preventive Medicine, Social and Preventive Medicine, among others. I am
16 currently on the Editorial Boards of the American Journal of Health Promotion , Tobacco
17 Control: An International Journal, and Health Education and Behavior. I was recently
18 appointed Executive Editor of Health Education Research, a preeminent journal in the
19 health education and behavior field. I assumed the Executive Editor position in January
20 2005.

21 **Q. Have you participated as a peer reviewer for articles relating to smoking and**
22 **health?**

1 A. Yes. Most of my manuscript review for peer reviewed journals is related to some aspect
2 of smoking and health.
3 **Q. Can you estimate how many journal articles you have reviewed, and over what**
4 **period of time?**
5 A. I have reviewed dozens of submitted scientific manuscripts during my career. Recently,
6 most of the manuscripts that I have been asked to review pertain to tobacco-related
7 research. Of note, I have just been appointed the Editor-in-Chief for Health Education
8 Research and will be ultimately responsible for the review and acceptance of between
9 100-200 manuscripts a year.
10 ***E. Research***
11 **Q. You mentioned your research in the area of tobacco and health. Can you describe**
12 **generally the research you have performed?**
13 A. Yes. Over my career, I have participated in a number of tobacco-related research projects
14 in a variety of roles, including as Investigator, Co-Principal Investigator, and Principal
15 Investigator. While at the University of Texas M.D. Anderson Cancer Center, I was the
16 Co-Principal Investigator on a grant from the National Cancer Institute entitled,
17 "Integrating Tobacco Prevention Programs into Schools." This project assessed the
18 diffusion of tobacco use prevention programs in Texas schools. I also served as an
19 Investigator on a grant from the National Heart, Lung and Blood Institute entitled, "A
20 Lung Risk Reduction Intervention Model for Painters." This project attempted to better
21 understand the smoking and occupational hazard related behaviors of painters, who have
22 among the highest smoking and lung cancer rates due to the interaction between smoking
23 and paint and solvent fume exposure. I also received a grant from the Texas Physician

1 Oncology Education Program entitled, "Physician Leadership in Controlling Tobacco in
2 Texas," which involved training physicians to effectively counsel their smoking patients.
3 My last research project in Texas, before assuming my responsibilities at CDC, was
4 serving as Principal Investigator on the "Workwell - Cancer Prevention for Rural Energy
5 Workers" cooperative agreement from the National Cancer Institute. This project
6 attempted to reduce the cancer risk behaviors of rural energy workers, particularly dietary
7 and tobacco use behaviors.

8 **Q. In addition to conducting your own research, have you had other involvement in**
9 **sponsoring research related to adolescent smoking?**

10 A. Yes. When I served as Director of the Office on Smoking and Health, I did not seek
11 external funding for my own research, but rather served in the capacity of funding
12 universities to conduct tobacco control research that was of strategic importance to
13 national tobacco control policy. In this regard, I was responsible for funding a dozen
14 universities to work collaboratively in conducting qualitative research on teenage
15 smoking behavior through the CDC Prevention Research Center program. I was also
16 responsible for funding Columbia University to convene a group of private sector
17 marketing experts to provide recommendations on how to successfully market "not
18 smoking" to adolescents. The recommendations from the Columbia University Panel
19 were instrumental in the development of counter-marketing campaigns throughout the
20 United States.

21 At Georgia State University, I am currently involved with pursuit of my own
22 research agenda, and have received funds from the Georgia Healthcare Foundation to
23 advance tobacco control policy in a tobacco growing state, as well as to provide policy

leadership in preventing childhood obesity. I have received five years of support from the Georgia Cancer Coalition to support my cancer prevention-related research, with a special emphasis on smoking cessation and cancer communication message development. Lastly, I have received a large internal award from Georgia State University to develop an interdisciplinary program in urban health research, which will involve the hiring of 16 tenure-track faculty over the next four years, and establishing Georgia State University as a national center of excellence in urban health research.

F. Congressional Testimony

Q. Have you been invited to testify before the United States Congress on smoking and health matters?

A. Yes, I have testified on matters related to preventing teenage tobacco use, the health impact of teenage tobacco use, proposed national tobacco control legislation, advertising and promotional activities of tobacco companies, the health impact of secondhand smoke and smokeless tobacco before both House and Senate Committees, including: (1) the Senate Committee on Commerce, Science, and Transportation; (2) the Senate Committee on Labor and Human Resources; (3) the Senate Committee on Environment and Public Works; (4) the House Subcommittee on Health and the Environment; and (5) the Congressional Children's Caucus.

Q. Please explain briefly your invited testimony before the United States Senate Committee on Commerce, Science, and Transportation on Tobacco Advertising.

A. On March 3, 1998, I testified before Senator McCain, Chairman of the Senate Commerce Committee, on the effect of marketing and promotional activities of tobacco companies on teenage tobacco use and the importance of counter-marketing. During the hearing, I

1 testified on the effect advertising has on brand preference, the relationship between
2 promotional items and future smoking, and qualitative data from teenagers themselves. I
3 also testified on the relationship between cigarette advertisements and the psychosocial
4 needs of teenagers and their adolescent aspirations and ideal and actual self-images. I
5 further testified about the significant effect of cigarette marketing on teenage smoking
6 behavior.

7 **Q. Please explain briefly your invited testimony before the United States Senate**
8 **Committee on Labor and Human Resources on the Proposed Tobacco Settlement.**

9 A. On February 10, 1998, I testified before Senator Jeffords, Chairman of the Senate
10 Committee on Labor and Human Resources, on draft national tobacco control legislation.
11 Among other things, I testified about the need for comprehensive tobacco control
12 programs, such as those under way in states like Massachusetts and California, that
13 combine school, community, pricing and media efforts.

14 **Q. Please explain briefly your invited testimony before the United States Senate**
15 **Committee on Environment and Public Works on Secondhand Smoke.**

16 A. On April 1, 1998, I testified before the Senate Committee on Environment and Public
17 Works on secondhand smoke. In my testimony, I reviewed the health effects of exposure
18 to secondhand smoke, as well as the level of exposure to secondhand smoke in the United
19 States population, as measured by the National Health and Nutrition Examination Survey.
20 In addition to reviewing the epidemiology of secondhand smoke, I also testified about
21 prevention measures at the local, state and Federal levels.

22 **Q. Please explain briefly your invited testimony before the United States Senate**
23 **Committee on Commerce, Science, and Transportation on Smokeless Tobacco.**

1 A. On March 17, 1998, I testified before the Senate Commerce Committee on Smokeless
2 Tobacco. In commenting upon the proposed FDA regulations on tobacco products I
3 testified about the health hazards caused by smokeless tobacco, its addictiveness, its
4 prevalence among young people, and the need for action. In addition, I testified about
5 tobacco marketing's affect on the patterns of use of smokeless tobacco, and the shift in
6 the pattern of use of smokeless tobacco from primarily older men to primarily younger
7 boys as a result of the influence of tobacco marketing.
8 **Q. Were you invited to give similar testimony before the Subcommittee on Health and**
9 **the Environment of the Committee on Energy and Commerce of the United States**
10 **House of Representatives?**
11 A. Yes. I also testified on this issue on November 29, 1994 before the Subcommittee on
12 Health and the Environment of the Committee on Energy and Commerce of the House of
13 Representatives. During this hearing, I testified about: 1) recent changes in the pattern of
14 smokeless tobacco use, 2) estimated current level of usage, 3) brand preference in
15 relation to nicotine addiction, and 4) the difficulty in quitting smokeless tobacco.
16 **Q. Please explain briefly your invited testimony before the United States House**
17 **Subcommittee on Health and the Environment on Preventing Teenage Tobacco Use.**
18 A. On December 9, 1997 I testified before the House of Representatives Subcommittee on
19 Health and the Environment of the Committee on Commerce on the proposed tobacco
20 settlement of the States Attorneys General lawsuits, specifically the behavioral issues and
21 determinants of teenage tobacco use and public health interventions to prevent such
22 behavior. More specifically, I testified about youth risk factors for tobacco use including
23 socioeconomic status, the accessibility and availability of tobacco products, youth

1 perceptions of tobacco use as normal and functional, peer and sibling use, lack of parental
2 involvement, self-image and self-esteem issues, and the influence of tobacco company
3 advertising and marketing.
4 **Q. In the testimony you have described above, did you cite to and rely upon peer**
5 **reviewed and other literature?**
6 A. Yes.
7 **Q. Does that include some of the same literature you cite in this testimony to the**
8 **Court?**
9 A. Yes. My testimony relied heavily upon the 1994 Report of the Surgeon General as well
10 as Morbidity and Mortality Weekly Reports (MMWRs) and the peer reviewed scientific
11 literature, all of which I have also relied upon in this testimony to the Court.
12 **Q. Please explain briefly your invited testimony before the Congressional Children's**
13 **Caucus on Teenage Tobacco Use.**
14 A. On June 24, 1998, I testified before the Congressional Children's Caucus on teenage
15 tobacco use and nicotine addiction.
16 ***G. Professional Committees and Societies***
17 **Q. Have you served on committees related to public health and tobacco?**
18 A. Yes. I have served as an advisor and reviewer for the National Institute of Health, as a
19 Chair of the American Public Health Association anti-tobacco initiative, and as a member
20 of the Robert Wood Johnson Foundation's National Advisory Committee's Tobacco
21 Policy Research Program. I am currently a Senior Program Consultant with the
22 Substance Abuse Policy Research Program funded by the Robert Wood Johnson

1 Foundation. I am also the Association of Teachers of Preventive Medicine liaison to the
2 Task Force for Community Preventive Services.
3 **Q. To what professional societies do you belong?**
4 A. I am a member of the American Public Health Association and the Society for Public
5 Health Education. These organizations are national public health membership
6 organizations and dedicated to advancing the public health through prevention, research
7 and education.
8 **Q. Have you held elected positions in any professional society?**
9 A. Yes. I served on the Board of Trustees of the Society for Public Health Education for
10 seven years, and was its President from 1987 to 1988.
11 ***H. Expert Witness Work and Fees***
12 **Q. Have you previously served as an expert witness in any other litigation?**
13 A. Yes, I served as an expert witness for the Federal Trade Commission ("FTC") in its
14 proceeding against R.J. Reynolds regarding its Joe Camel campaign. I provided an
15 expert report in which I described the epidemiology of adolescent tobacco use and
16 offered conclusions about the Joe Camel. In that proceeding, I was deposed on July 16,
17 1998 and September 1 and 2, 1998 and testified at an administrative hearing on
18 September 17-19, 1998.
19 **Q. What is the rate you have been paid for work in this case?**
20 A. I was not separately compensated as an expert witness when the Department of Justice
21 first retained me in this case because I was still a Federal Government employee while I
22 was the Director of the Office of Smoking and Health and at the WHO. Once I left

1 Federal service in November 2002, I began receiving a rate of $250 per hour for my
2 services, which I continue to receive.

3 ## *III. SMOKING BEHAVIOR OF TEENAGERS AND ADULTS*

4 ### *A. Basis for Conclusions*

5 **Q. Dr. Eriksen, can you briefly summarize your conclusions about smoking initiation,**
6 **smoking prevalence, and brand choice?**

7 A. Tobacco use is a learned and socially mediated behavior that begins and becomes
8 established primarily during childhood and adolescence. Data from official government
9 surveys show that most smokers begin smoking before age 18, and that adolescents select
10 a usual brand of cigarettes to smoke before the age of 18. Smoking prevalence among
11 high school seniors has ranged over time, from as high as 38.8% in 1976 to around 24.4%
12 in 2003, with a current rate of 25.0%. The causes for this decline are not totally clear, but
13 are widely believed to be associated with a sharp rise in the price of cigarettes, as well as
14 a variety of other factors. U.S. Exhibit 17,684 (Johnston, et al., Univ. of Mich. News and
15 Information Services, 2004).

16 **Q. What is the basis for your conclusions on these topics?**

17 A. The peer reviewed scientific literature, Reports of the Surgeon General, and survey data
18 taken from official government surveys, and other surveys of youth tobacco use.

19 **Q. Which Reports of the Surgeon General did you rely upon?**

20 A. I rely on numerous Reports of the Surgeon General, but primarily I rely on the 1989,
21 1994, 1998, 2000, and 2001 Reports because these are relevant to the issues I discuss in
22 my testimony.

23 **Q. Can you briefly state the major topics covered by each of those Reports?**

1 A. Yes.

2 • The 1989 Report of the Surgeon General, Reducing the Health Consequences of
3 Smoking. 25 Years of Progress, was issued 25 years after the first Report of the
4 Surgeon General in 1964. This Report reviewed the health consequences of
5 smoking, the evidence on the causes of smoking, and the effectiveness of
6 interventions to prevent and control the use of tobacco products. (U.S. Exhibit
7 63,621).

8 • The 1994 Report of the Surgeon General, Preventing Tobacco Use Among Young
9 People, was the first to be dedicated to the topic of tobacco use among young
10 people. (U.S. Exhibit 64,693).

11 • The 1998 Report of the Surgeon General, Tobacco Use Among U.S.
12 Racial/Ethnic Minority Groups, was the first Report dedicated to analysis of the
13 smoking patterns and harm caused by smoking for US racial and ethnic minority
14 groups. (U.S. Exhibit 64,831).

15 • The 2000 Report of the Surgeon General, Reducing Tobacco Use, was the first
16 Report to look exclusively at the evidence for how to reduce the use of tobacco
17 products. (U.S. Exhibit 64,316).

18 • The 2001 Report of the Surgeon General, Women and Smoking, updated the
19 original Report on the health consequences of smoking and women published in
20 1980. (U.S. Exhibit 64,315).

21 **Q. Why do you rely upon Reports of the Surgeon General?**

1 A. The Reports of the Surgeon General are considered to be authoritative. They are
2 consensus works produced by top scholars in the field. In addition, the Reports of the
3 Surgeon General go through extensive scientific peer review, and are revised based on
4 comments received before public release of the Reports.
5 **Q. You said you that rely upon survey data from official government surveys. What**
6 **surveys in particular do you rely upon?**
7 A. I rely upon the Monitoring the Future study, which I understand that Dr. Chaloupka
8 testified about in some detail, the Youth Risk Behavior Survey, and the National Survey
9 on Drug Use and Health. The Youth Risk Behavior Survey and the National Survey on
10 Drug Use and Health are official government surveys, funded, conducted and reported by
11 agencies with the Department of Health and Human Services. The Monitoring the Future
12 survey is funded by the National Institute of Drug Abuse, which is part of the National
13 Institutes of Health, but is conducted and reported by the University of Michigan. I also
14 rely on the National Youth Tobacco Survey, which is not an official government survey,
15 but a collaborative effort between CDC and the American Legacy Foundation. Starting
16 this year, CDC will assume full responsibility for the National Youth Tobacco Survey.
17 **Q. What is the Monitoring the Future study?**
18 A. In 1975, the Monitoring the Future study, conducted by the University of Michigan, with
19 funding from the National Institute of Drug Abuse, began collecting smoking, alcohol
20 and other drug use data from high school seniors, and added eighth and tenth graders in
21 1991. In addition to collecting data on self-reported cigarette and smokeless tobacco use,
22 the Monitoring the Future study also collects attitudinal data on the perceived risk,
23 disapproval and availability of tobacco products.

1 **Q. What is the Youth Risk Behavior Survey?**

2 A. The national Youth Risk Behavior Survey (YRBS) is a component of the Youth Risk
3 Behavior Surveillance System and has been conducted in a random sample of public and
4 private schools every other year since 1991. Students in grades 9 through 12 are
5 surveyed and estimates are provided for each of the four grades, as well as providing
6 gender and racial estimates. In addition to the national Youth Risk Behavior Survey,
7 state-specific Youth Risk Behavior Surveys were conducted in 43 states and 22 large
8 cities in 2003. U.S. Exhibit 17,684 (MMWR, Vol. 53/No. SS-2, 2004).

9 **Q. What is the National Survey on Drug Use and Health?**

10 A. The National Survey on Drug Use and Health (NSDUH) is conducted by the Substance
11 Abuse and Mental Health Services Administration, which is an agency of the Department
12 of Health and Human Services. The NSDUH (formerly called the National Household
13 Survey on Drug Abuse (NHSDA)) is the primary source of statistical information on the
14 use of illegal drugs by the U.S. population. This survey has been conducted by the
15 Federal government since 1971 and collects data by administering questionnaires to a
16 representative sample of the U.S. population through interviews at their place of
17 residence. The National Survey on Drug Use and Health collects data on tobacco use
18 from adults and 12 to 17 year olds of tobacco use prevalence, nicotine dependence and
19 brand preference.

20 **Q. What is the National Youth Tobacco Survey?**

21 A. The National Youth Tobacco Survey (NYTS) is a survey sponsored by the American
22 Legacy Foundation among U.S. middle and high school students. It is similar to the
23 Monitoring the Future study and Youth Risk Behavior Survey in that it is school-based,

1 but it is the only surveillance system that measures tobacco use in middle school students.
2 It also differs from these other surveys in that it asks only about tobacco use, while the
3 other surveillance systems also measure other health risk behaviors.

4 ***B. Smoking Initiation***

5 **Q. Based upon these Reports of the Surgeon General and official government surveys,**
6 **what conclusions have you reached about smoking initiation?**

7 A. As set forth in the 1994 Report of the Surgeon General, smoking initiation is a process
8 that does not occur at one point in time, but rather occurs in stages, over a period of time.
9 Regardless of age, young people generally progress through a sequence of stages that
10 takes them from receptivity to smoking, to dependence on tobacco use.

11 **Q. Based on your expertise in tobacco and health, do you agree with these conclusions**
12 **of the 1994 Report of the Surgeon General?**

13 A. Yes.

14 **Q. How many stages are there?**

15 A. The 1994 Report of the Surgeon General describes five primary stages of smoking
16 initiation among children and adolescents.

17 **Q. Could you describe the first stage?**

18 A. During the first or preparatory stage, attitudes and beliefs about the utility of smoking are
19 formed. In this stage, the child or adolescent sees smoking as a coping mechanism, a
20 badge of maturity, as a way to enter a peer group or as a means to display independence.

21 **Q. Could you describe the second stage?**

22 A. The second or trying stage encompasses the first two or three times an adolescent
23 smokes. Peers are often involved in situations that encourage smoking. Whether the

1 physiological effects of smoking are perceived as negative and whether these tries are
2 socially reinforced determine whether a youth will proceed to the next stage.
3 **Q. Please describe the third stage.**
4 A. The third stage, experimentation, includes repeated but irregular smoking. Smoking
5 during this stage is generally a response to a social situation (e.g., a party) or to a
6 particular person (e.g., a best friend).
7 **Q. Could you describe the fourth stage?**
8 A. In the fourth stage, regular use, the adolescent smokes on a regular basis, usually at least
9 weekly, and increasingly over a variety of situations and personal interactions.
10 **Q. Please describe the fifth stage.**
11 A. The fifth and final stage, nicotine dependence and addiction, is characterized by a
12 physiological need for nicotine. The need includes tolerance for nicotine, withdrawal
13 symptoms if the person tries to quit, and a high probability of relapse if the person does
14 quit.
15 **Q. How long does this process of smoking onset take?**
16 A. The time interval from initial try to regular use takes an average of two or three years,
17 with considerable interval variation among individuals. A study by McNeil and quoted in
18 the 1994 Report of the Surgeon General found that of those who experimented with
19 cigarettes, approximately half were smoking on a daily basis within one year. Since a
20 young person may become a regular smoker in only two or three years, the adolescent
21 period of development is a crucial period of time. Many children and adolescents
22 become addicted before the age of 18; others will continue smoking and become addicted
23 as young adults. U.S. Exhibit 17,684 (MMWR 43(41):745-50, 1994).

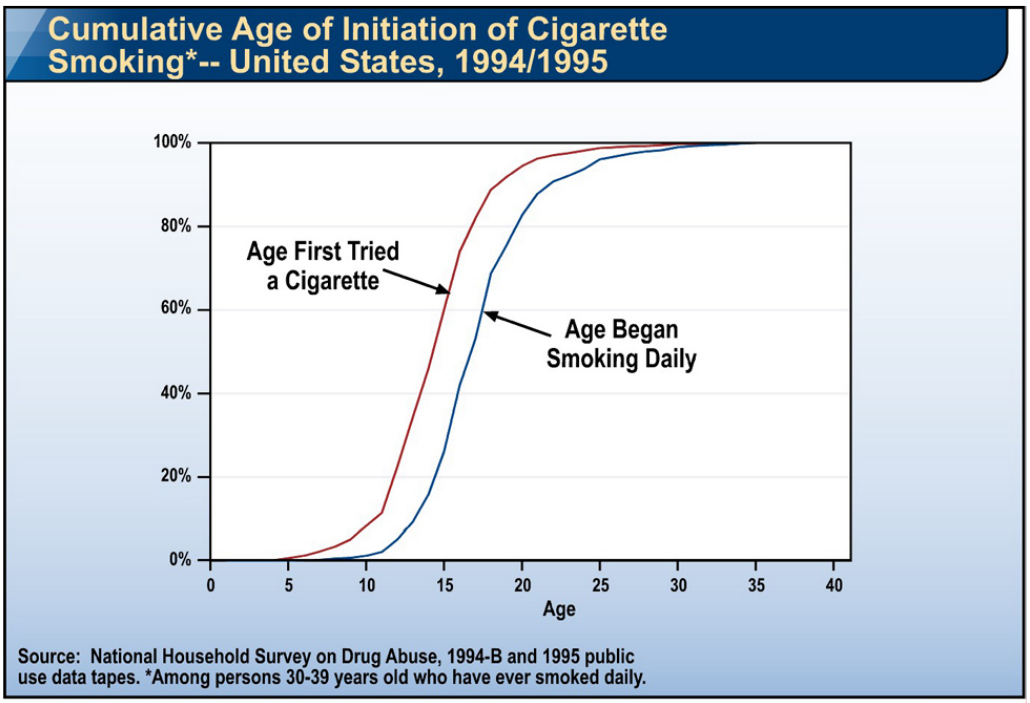
1 **Q. When does smoking initiation occur?**

2 A. As the 1989 Report of the Surgeon General concluded, "Smoking begins primarily during
3 childhood and adolescence." In that Report, the Surgeon General found that: "The age of
4 initiation has fallen over time, particularly among females." The 1989 Report also found
5 that 80% of the smokers born since 1935 started smoking before age 21. The 1994
6 Report of the Surgeon General found that nearly all first use of tobacco occurs before
7 high school graduation.

8 **Q. Can you illustrate that point with a chart?**

9 A. Yes, it is United States Exhibit 17,704 below.

10



U.S. Ex. 17704

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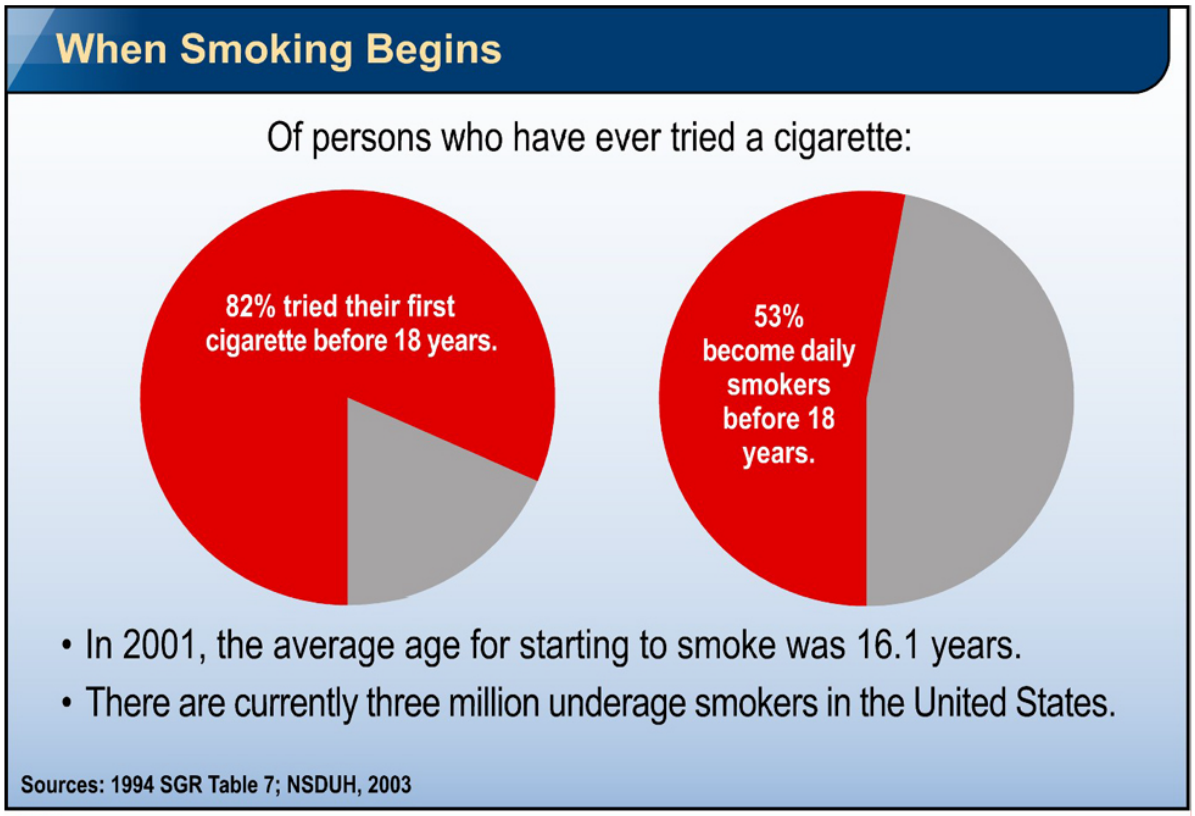
1 **Q. How many smokers start smoking prior to age 18?**

2 A. According to the 1994 Report of the Surgeon General (Table 7, page 65), 81.6 % of
3 persons who had ever tried a cigarette, tried their first cigarette before the age of 18. A
4 similar percent (81.9%) of persons who had ever smoked daily tried their first cigarette
5 before the age of 18, and 53% became daily smokers before the age of 18.

6 **Q. Can you illustrate that information in a chart?**

7 A. Yes, it is United States Exhibit 17,695 below.



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1 **Q. What is the average age for starting to smoke?**

2 A. According to the National Survey on Drug Use and Health, in 2001, the average age for
3 starting to smoke was 16.1 years of age. This is up slightly from previous years. The
4 youngest mean age for starting to smoke was 14.7 years in 1973. According to the
5 National Survey on Drug Use and Health, the average age for daily smoking in 2002 was
6 19.4 years. The lowest age for daily smoking was 17.3 years in 1975.

7 **Q. Will every teenager who tries a cigarette eventually become addicted?**

8 A. Not all teenagers who try a cigarette once will go to become daily smokers. However,
9 almost all youth who do become established daily smokers go through these stages of
10 smoking onset during adolescence. The 1994 Report of the Surgeon General found that
11 initiation of smoking as a youth is harmful because, the earlier a person begins smoking,
12 the more likely that person will become addicted. In fact, the 1994 Report also found
13 that, among addictive behaviors, cigarette smoking is the one most likely to become
14 established during adolescence.

15 ***C. Teenage Smoking Prevalence***

16 **Q. What does "smoking prevalence" mean?**

17 A. Smoking prevalence is a measure of the proportion of adolescents who are smoking
18 during a fixed period of time (typically a year), expressed as a percentage of the entire
19 population of adolescents. In understanding adolescent smoking prevalence data, it is
20 important to know that different surveys use different methods, measures, and age
21 groups. For example, some surveys use data collection methods that obtain data from
22 adolescents in school classrooms (e.g., the Monitoring the Future study, the Youth Risk
23 Behavior Survey, the National Youth Tobacco Survey), while other surveys collect data

1 from household interviews (e.g., the National Survey on Drug Use and Health).
2 Similarly, surveys may measure smoking slightly differently. All surveys obtain a
3 measure of regular or current smoking, which is typically a response from subjects that
4 they have smoked cigarettes on at least one of the previous 30 days (YRBS, MTF). All
5 surveys also collect and report a measure of daily or frequent smoking. For example, the
6 YRBS defines frequent cigarette smoking as having smoked cigarettes on 20 or more of
7 the previous 30 days, while the Monitoring the Future study reports 'daily' (as opposed to
8 'frequent') smoking. Lastly, each of the surveys assess smoking among slightly different
9 age groups. The National Survey on Drug Use and Health surveys 12-17 year olds, the
10 Youth Risk Behavior Survey surveys high school students, the Monitoring the Future
11 study surveys 8th, 10th and 12th graders, while the National Youth Tobacco Survey studies
12 middle and high schools students.
13 **Q. Why is it important to understand that different surveys use different methods,**
14 **measures and ages?**
15 A. Depending upon the measure of smoking frequency and the age of the adolescents being
16 measured, one can get different pictures of the magnitude of the problem of youth
17 smoking, as well as have a difficult time understanding trends in teenage tobacco use, if
18 comparing different measures of smoking frequency among different age group of
19 children.
20 **Q. Do studies include different measures of smoking?**
21 A. Yes.
22 **Q. Why are these different measures included?**

1 A. The public health community relies on both measures of regular or current smoking, and
2 measures of frequent or daily smoking, but for different purposes. Regular or current
3 smoking -- which is often measured as smoking at least once in the last 30 days -- is the
4 best estimate of the proportion of adolescents who are considered to be current smokers.
5 The epidemiology of adolescent smoking is such that young people begin to smoke
6 infrequently, but quickly progress to smoking on most days. Having smoked at least one
7 day among the previous 30 days provides a stable estimate of the current level of
8 smoking among adolescents.
9 Frequent or daily smoking, on the other hand, is more of a measure of committed
10 smoking, often associated with symptoms of nicotine addiction. Many fewer teenagers
11 are likely to report that they are daily smokers, and by only looking at daily smoking
12 rates, one tends to severely underestimate the magnitude of the smoking problem. In
13 general, for teenagers, current smoking rates are likely to be twice as high as daily or
14 frequent smoking rates.
15 **Q. Can you provide an illustration of the data that you have just discussed?**
16 A. Yes, it is shown below, United States Exhibit 17,686.
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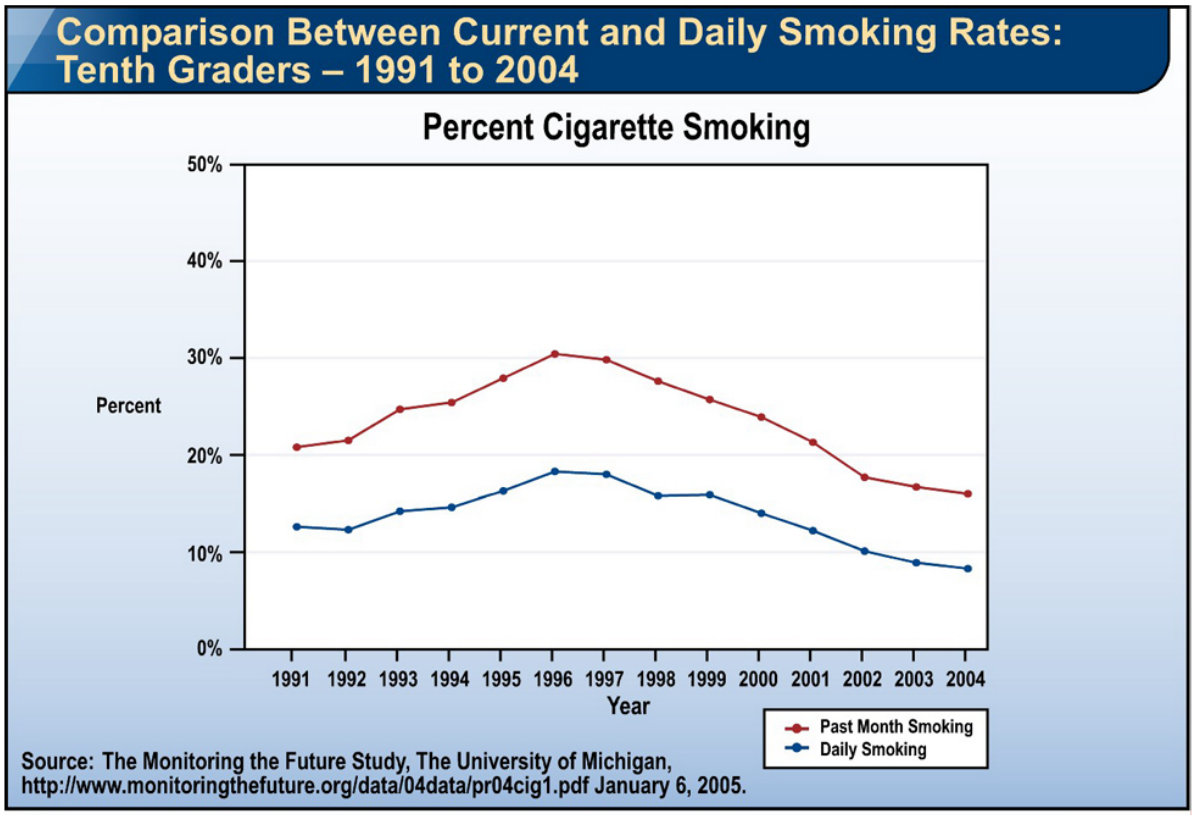

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Q. Can you provide a concrete example of the differences between current and daily smoking?

A. Yes. The most recent data, released last month, from the Monitoring the Future survey shows that daily smoking prevalence is approximately one-half the level of current or "thirty day" smoking rates, particularly for younger children. For example, in 2004 for eighth graders, 4.4% smoked daily, and 9.2% were current smokers who had smoked at least once in the last month. For eighth graders, 8.3% were daily smokers, and 16.0% were current smokers who had smoked at least once in the last month. Lastly, for twelfth graders, 15.6% were daily smokers, and 25% were current smokers who had smoked at

1 least once in the past month. Cigarette smoking among American teenagers continues to
2 decline, but more slowly than in the past, and may have reached a plateau among high
3 school seniors. U.S. Exhibit 17,684 (Johnston, et al., Univ. of Mich. News and
4 Information Services, 2004).

5 **Q. What are the earliest dates at which surveys began collecting data on adolescent**
6 **smoking and smoking initiation?**

7 A. As the 1989 Report of the Surgeon General reported, from 1968 to 1979, data on 12-18
8 year olds was collected by the United States Department of Health Education and
9 Welfare (now U.S. Department of Health and Human Services ("HHS")) Teenage
10 Smoking Surveys. The 1989 Report of the Surgeon General also reported, the National
11 Health Interview Survey collected data on the general population starting at age 20. In
12 1975, the Monitoring the Future Study ("MTF") began collecting smoking, alcohol and
13 other drug use data from high school seniors, and added eighth and tenth graders in 1991.
14 MTF is conducted by the University of Michigan, with funding from the National
15 Institute of Drug Abuse.

16 **Q. What were the estimates found by the Monitoring the Future study in 1975?**

17 A. In 1975, the current thirty day smoking rate among high school seniors was 36.7%.

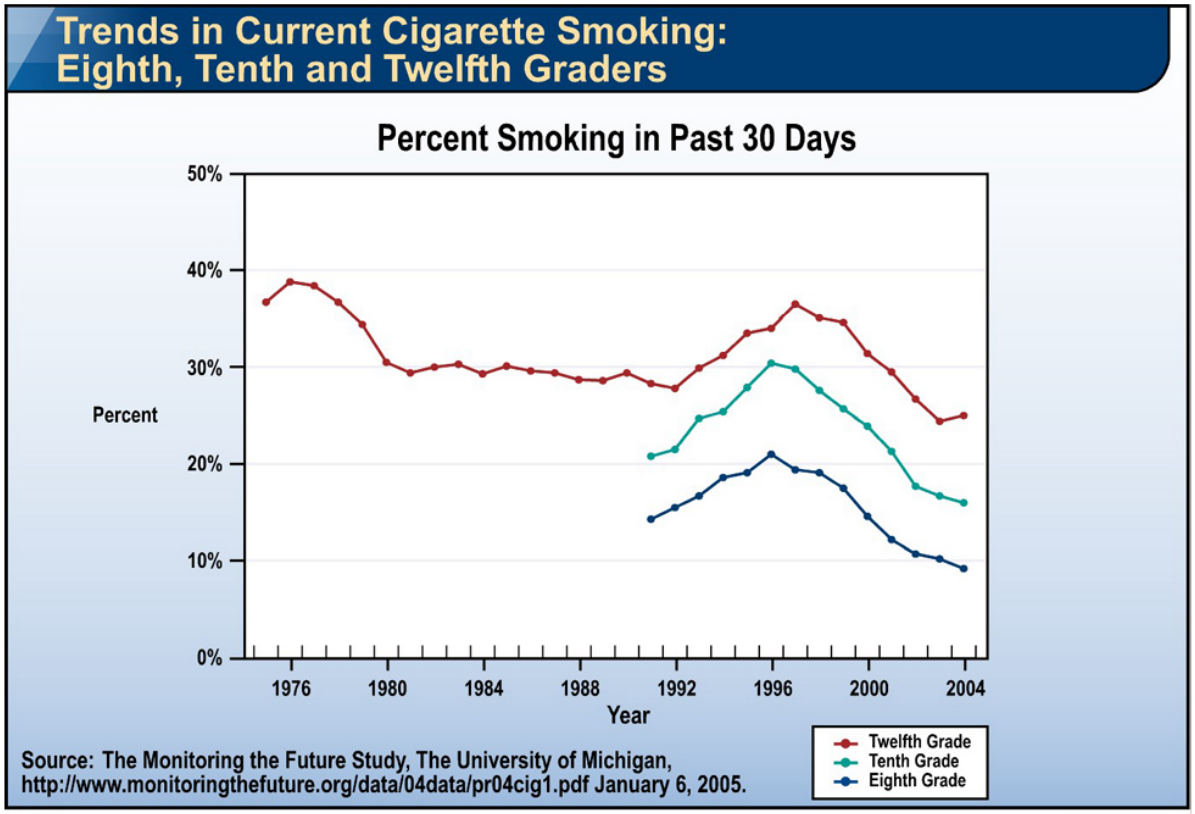
18 **Q. Has that rate remained steady from 1975 to the present?**

19 A. No. During the period between 1975 and 2004, according to the Monitoring the Future
20 study, smoking rates among high school seniors varied greatly, peaking at 38.8% in 1976,
21 dropping to 27.8% in 1992, increasing again to 36.5% in 1997, and dropping again to
22 24.4% in 2003. The 2004 Monitoring the Future survey reported current smoking rates
23 of 9.2% for eighth graders, 16.0% for tenth graders, and 25.0% for twelfth graders. The

results for eighth and tenth graders are small and insignificant reductions from 2003. The results for twelfth graders showed a small and insignificant increase in smoking rates, the first increase since 1997. U.S. Exhibit 17,684 (Johnston, et al., Univ. of Mich. News and Information Services, 2004).

Q. Can you provide a chart illustrating the data on eighth, tenth, and twelfth graders that you have just described?

A. Yes, the chart below illustrates that data; it is United States Exhibit 17,688.



ME005

U.S. Ex. 17688

1 **Q. Were the findings of the Monitoring the Future study consistent with the findings of**
2 **other studies?**
3 A. Yes. All national data systems that monitor youth smoking have shown dramatic
4 increases in smoking during the early 1990s followed by sharp reductions since 1997,
5 particularly for high school students. For example, like the Monitoring the Future study,
6 the Youth Risk Behavior surveys have shown lower smoking rates in the early 1990s,
7 followed by a surge in the mid 1990s, with today's rates being the lowest reported. In
8 1991, current high school smoking was 27.5%, which peaked at 36.4% in 1997, declining
9 to 21.9% in 2003. U.S. Exhibit 17,684 (MMWR Vol. 53/No. 23, 2004).
10 **Q. Were these findings also confirmed by Reports of the Surgeon General?**
11 A. Yes. The 2000 Report of the Surgeon General found that much of the progress in
12 reducing smoking prevalence among girls in the 1970s and 1980s was lost with the
13 increase in prevalence in the 1990s. Current smoking among high school senior girls was
14 the same in 2000 as in 1988. The 1998 Report of the Surgeon General found that, among
15 adolescents, cigarette smoking prevalence increased in the 1990s among African
16 Americans and Hispanics after several years of substantial decline among adolescents of
17 these minority groups.
18 **Q. Did the 18-24 year old group experience the same trends in adolescent prevalence**
19 **during the 1990s that you have just testified about?**
20 A. No. In 1995, current smoking rates among 18-24 year olds was 24.8%. By 2002, it had
21 increased to 28.5%. The 18-24 year age group is the only age group that is not
22 experiencing a reduction in smoking rates. All other age groups report declines in
23 smoking prevalence, except 18-24 year olds.

1 **Q. Can you explain the increase in smoking prevalence among 18-24 year olds during**
2 **this time when every other age group has experienced a reduction in smoking**
3 **prevalence?**
4 A. This increase is due to two separate factors: 1) the cohort effect – that is, the fact that the
5 extraordinarily high rates of teenage smoking seen during the 1990s have now "grown"
6 into the next age group; and, 2) marketing efforts by cigarette companies aimed at
7 encouraging smoking among 18-24 year olds. U.S. Exhibit 17,684 (Rigotti, et al.,
8 American Journal of Public Health 95: 138-144, 2005).
9 **Q. Has adolescent prevalence remained steady from 2000 to today?**
10 A. The data is mixed. The National Youth Tobacco Survey showed a significant decrease in
11 current smoking (measured as smoking at least once in the past month) among high
12 school students between 2000 and 2002 from 28.0% in 2000 to 22.9% in 2002. Among
13 middle school students, however, the decrease from 11% in 2000 to 10.2% in 2002 was
14 not statistically significant, suggesting that reductions in smoking among middle school
15 students may have stalled in recent years. The National Survey on Drug Use and Health
16 is also reporting a slight reduction in past month cigarette smoking among 12 to 17 year
17 olds, from 13.0% in 2002 to 12.2% in 2003. JD-067884. The most recent national Youth
18 Risk Behavior Survey indicated that current high school smoking prevalence was 21.9%
19 in 2003.
20 **Q. How many underage smokers are there today in the United States?**
21 A. The National Survey on Drug Use and Health estimates that in 2003, there were over
22 three million 12-17 year olds who were current smokers. JD-067884.
23 **Q. Do any studies estimate how many adolescents begin smoking every year?**

A. Yes. The National Survey on Drug Use and Health also reports on the number of new cigarette smokers each year. The latest such survey reports:

> The number of Americans who smoke cigarettes for the first time each year has remained above 2.5 million in nearly every year since 1965. In 2001, the most recent year for which cigarette incidence estimates are made, an estimated 2.7 million Americans used cigarettes for the first time. This translates to an average of more than 7,000 new smokers each day. <u>About three quarters (76 percent) of these initiates were under age 18</u>.

JD-067884 (emphasis added).

Q. Has the change in prevalence – the percentage of adolescents who smoke – from the 1990s to today also affected the number of new smokers?

A. Yes. The 2003 National Survey on Drug Use and Health found that:

> Following a period of increase from 1990 to 1997, cigarette initiation decreased from 3.3 million in 1997 to 2.7 million in 2001. . . . The number of new daily smokers decreased from 2.0 million in 1997 to 1.4 million in 2002. Among youths under age 18, the number of new daily smokers decreased from 1.1 million per year between 1997 and 2000 to 734,000 in 2002. This corresponds to a decrease from about 3,000 to about 2,000 new youth daily smokers each day.

JD-067884.

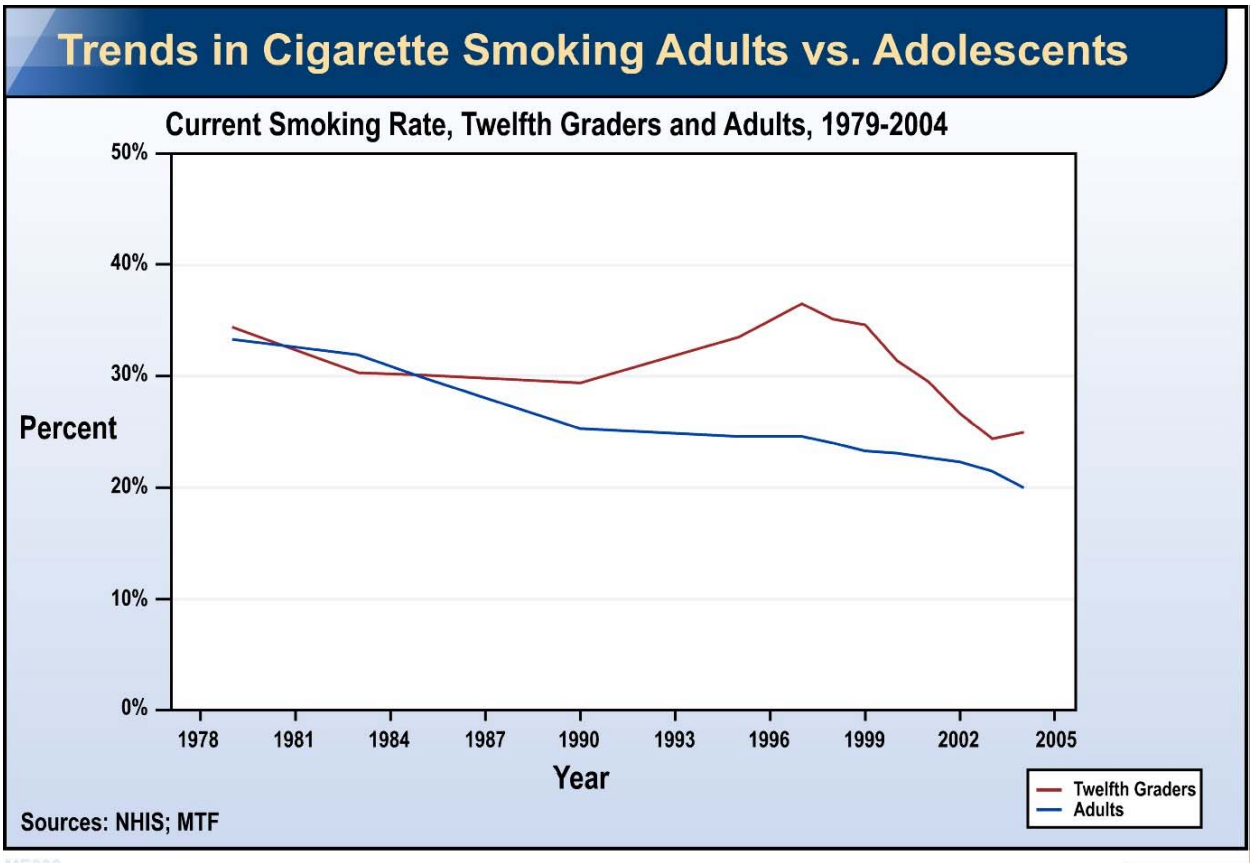
Q. Are adult and adolescent smoking rates similar?

A. No. Adult smoking rates are much more stable and have been slowly dropping annually since 1964. The reduction in adult smoking prevalence has been largely predictable, averaging about one-half of a percentage point reduction over the last few years. Adolescent smoking rates, however, are much more variable, rising and falling rapidly over relatively short periods of time, with annual changes as of much as two or three percentage points in either direction.

1 **Q. Can you provide a chart that illustrates the different trends in adult and adolescent**

2 **smoking prevalence that you have just described?**

3 A. Yes, the chart below, United States Exhibit 17,690, illustrates those trends.



U.S. Ex. 17690

4

5 **Q. What is the significance of different patterns of change among adult and adolescent**

6 **smoking prevalence?**

7 A. The reasons for different smoking prevalence patterns among adolescents and teenagers

8 are not entirely clear. They may be related to differing levels of nicotine addiction. Also,

9 adolescents appear to be more susceptible to stimuli that might encourage or discourage

10 smoking. For example, adolescent smoking behavior is more sensitive to cigarette price

1 increases than is adult smoking behavior (1994 Report of the Surgeon General; Direct
2 Testimony of Dr. Chaloupka 93:3-94:7 filed November 19, 2004) and adolescent brand
3 preference is more sensitive to advertising expenditures than is adult brand preference
4 (U.S. Exhibit 17,684 (Pollay, et al., Journal of Marketing 60(2) 1-16,1996)).
5 **Q. How can adolescent brand preference be more sensitive to cigarette prices when, at**
6 **the same time, adolescents smoke the premium brands of cigarettes, Marlboro,**
7 **Newport, and Camel?**
8 A. Both are true for teenagers and clearly illustrate how marketing is a substantial
9 contributing factor to youth smoking behavior. As I understand Dr. Chaloupka has
10 extensively covered in his written direct testimony submitted in this case, scientific
11 research demonstrates that adolescent smoking behavior is more price sensitive than adult
12 smoking behavior, but that overall, price sensitivity for tobacco products is relatively
13 inelastic, i.e., the rate of decline in cigarette consumption is less than the rate of increase
14 in cigarette prices. The fact that the premium brands are the most heavily marketed
15 cigarette brands illustrates the contribution of imagery marketing to youth smoking
16 uptake that I understand Dr. Krugman and Dr. Biglan testified quite extensively about
17 and that I will not repeat here.
18 **Q. Is it accurate, as counsel for Philip Morris suggested in a question on December 9,**
19 **2004 at page 8222, that, of the population of smokers overall, "98 percent of the**
20 **population . . . is legal-age smokers"?**
21 A. No, this underestimates the number of underage smokers in the United States. The
22 National Survey on Drug Use and Health estimates that in 2003, there were over three
23 million 12-17 year olds who were current smokers. Thus, I would estimate the

1 proportion of smokers who are underage to be closer to 5%. Irrespective of the current
2 proportion of underage smokers, the important point is that 83% of smokers begin to
3 smoke before the age of 18.

4 **Q. Is it accurate, as counsel for Philip Morris suggested in a question on December 9,**
5 **2004 at page 8238, that "sales of cigarettes to under-age smokers account for only**
6 **approximately two percent of all the cigarettes sold in this country," and, at page**
7 **8239, that "the legal-age marketplace . . . makes up 98 percent of the market"?**

8 A. No. This is an underestimate. The only published literature on this topic that I am aware
9 of suggests that the percent of cigarettes consumed by underage smokers is closer to 4%.
10 Because young people under the age of 18 consume a small number of cigarettes before
11 they become addicted, the percentage of cigarette sales to those young people is
12 comparatively small. The more important point, however, is that 83% of smokers begin
13 to smoke before the age of 18.

14 **Q. Is it accurate, as counsel for Brown & Williamson suggested in a question on**
15 **January 10, 2005 at page 9612, that "approximately 25 percent of people who**
16 **become established smokers become established smokers between the ages of 18 and**
17 **21?"**

18 A. Understanding "established" to mean daily smoking, I am not aware of any data that
19 quantifies this fact as stated. The 1994 Report of the Surgeon General (Table 7, page 65)
20 indicates that, among persons who have smoked daily, 53% became daily smokers before
21 the age of 18, and another 24% became daily smokers before the age of 20. Thus, what I
22 can state is that 77% of persons who had ever smoked daily, started daily smoking by age
23 19.

1 **Q. Is it accurate, as counsel for Brown & Williamson suggested in a question on**
2 **January 10, 2005 at page 9612, that "the marketplace for people who start to smoke**
3 **between the ages of 18 and 21 is a very significant marketplace"?**
4 A. While some 18, 19 and 20 year olds initiate smoking during those years, 83% of smoking
5 initiation occurs before the age of 18.
6 ***D. Teenage Brand Preference***
7 **Q. You testified that adolescents select a usual brand of cigarettes to smoke before the**
8 **age of 18. What do you mean?**
9 A. When adolescents begin to smoke, they generally smoke one of three brands, Marlboro,
10 Newport, and Camel, and they remain loyal to those brands. Adolescents, like cigarette
11 smokers generally, are extremely brand loyal. Once a brand of cigarettes is selected,
12 smokers tend to continue to smoke this brand. Cigarette companies are aware of
13 smoker's brand loyalty and also that most smokers start to smoke and choose a brand as
14 adolescents.
15 **Q. Why do adolescents tend to smoke primarily three brands of cigarettes?**
16 A. In its 1994 Report, "Changes in the cigarette brand preferences of adolescent smokers,"
17 the CDC established that the same three cigarette brands (Marlboro, Newport, and
18 Camel) were also the most advertised brands, suggesting that underage smokers were
19 more likely to smoke the most advertised brands than were adults. U.S. Exhibit 17,684
20 (MMWR 43(32):577-581, 1994). This observation was confirmed in a 1996 peer
21 reviewed study by Pollay et al., published in the Journal of Marketing, which concluded
22 that adolescent brand preference was about three times more sensitive to advertising

1 expenditures than adult brand preference. U.S. Exhibit 17,684 (Pollay, et al., Journal of
2 Marketing 60(2): 1-16, 1996).
3 **Q. Has adolescent brand preference been measured by surveys?**
4 A. Yes. Surveys and other academic research have found that, from the late 1980s (when
5 adolescent brand data are first available) to the present, the vast majority of teenagers
6 typically smoke three brands: Marlboro, Camel, and Newport. U.S. Exhibit 17,684 (1989
7 and 1993 Teenage Attitudes and Practices Survey ("TAPS I" and "TAPS II") cited in
8 MMWR 43(32): 577-581, 1994). Marlboro is still, by far, the most popular brand among
9 adolescents, but its teenage market share has fallen from a high of 68.7% in 1989 (TAPS
10 I) to 49.2% (NSDUH) in 2003. Camel's market share among adolescents has fluctuated.
11 In terms of teenage market share, Newport is clearly the winner, growing from 8.2% in
12 1989 (TAPS I) to 23.4% (NSDUH) in 2003.
13 **Q. Can you illustrate the data on the adolescent brand share of Newport, Marlboro,**
14 **and Camel that you have just described?**
15 A. Yes, that data is shown below in United States Exhibit 17,692. Adolescent brand
16 preference data for 1989, 1993, and 2003 is shown in the bar graph, with Marlboro shown
17 in red, Newport in green, and Camel in gold.
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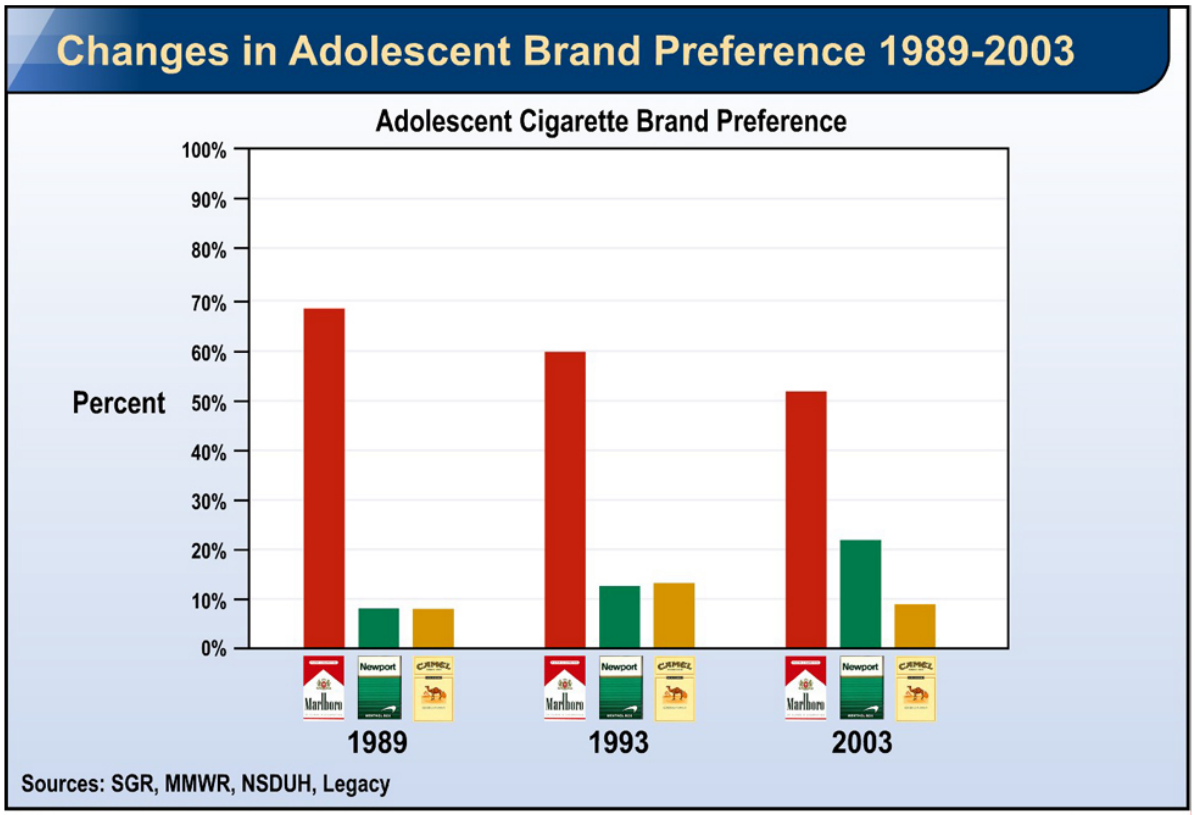

ME008

U.S. Ex. 17692

Q. What is the earliest survey work you can point to?

A. The 1989 Teenage Attitudes and Practices Survey (TAPS I) among adolescents aged 12-18 years found that 85% of adolescents smoked Marlboro, Camel and Newport in 1989: 68.7% smoked Marlboro; 8.1% smoked Camel; and 8.2% smoked Newport.

Q. What is the next relevant survey?

A. The 1993 Teenage Attitudes and Practices Survey (TAPS II) found that 86% of adolescents smoked Marlboro, Camel and Newport in 1993. 60.0% smoked Marlboro; 13.3% smoked Camel; and 12.7% smoked Newport.

Q. What is the next relevant survey?

1 **A.** The 1998 Monitoring the Future survey, which measured brand preference among eighth,
2 tenth and twelfth graders, found very similar results, with Marlboro, Camel, and Newport
3 accounting for 88% of the brands usually smoked by twelfth graders, 86% of tenth
4 graders, and 82% of eighth graders.

5 **Q. What is the next survey?**

6 A. The 2002 National Youth Tobacco Survey found that 52% of high school students
7 smoked Marlboro, 22% smoked Newport, and 9% smoked Camel.

8 **Q. What is the next survey?**

9 A. The 2003 National Survey on Drug Use and Health continues to document that just three
10 brands constitute the brands most commonly smoked among 12-17 year old smokers.
11 These brands are Marlboro (49.2%), Newport (23.4%) and Camel (9.7%). Together,
12 these brands account for 82.3% of all cigarettes smoked by adolescents. No other
13 individual cigarette brand was reported by more than 3% of youths. JD-067884.

14 **Q. Do adults also smoke Marlboro, Newport, and Camel?**

15 A. Yes, but not in such high percentages. Adolescents disproportionately smoke these three
16 brands.

17 **Q. What data underlies your testimony that adolescents disproportionately smoke**
18 **Marlboro, Camel, and Newport?**

19 A. The National Survey on Drug Use and Health reports that adolescents are more likely to
20 smoke Marlboro, Newport, and Camel than adult smokers. Adolescents are about 10
21 percentage points more likely to smoke Marlboro than those 26 and older, three times as
22 likely to smoke Newport, and twice as likely to smoke Camel.

23 **Q. Can you provide the exact findings of the National Survey on Drug Use and Health?**

A. Yes, those findings are in the table that directly follows.

Adolescent and Adult Brand Preference – 2003

National Survey of Drug Use and Health, SAMHSA

	Adolescent Smokers (age 12-17)	**Adult Smokers (age 26 and up)**
Marlboro	49.2%	38.0%
Newport	23.4%	8.0%
Camel	9.7%	4.7%

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1 **Q. Can you illustrate the differences in adolescent and adult brand preference in a**

2 **chart?**

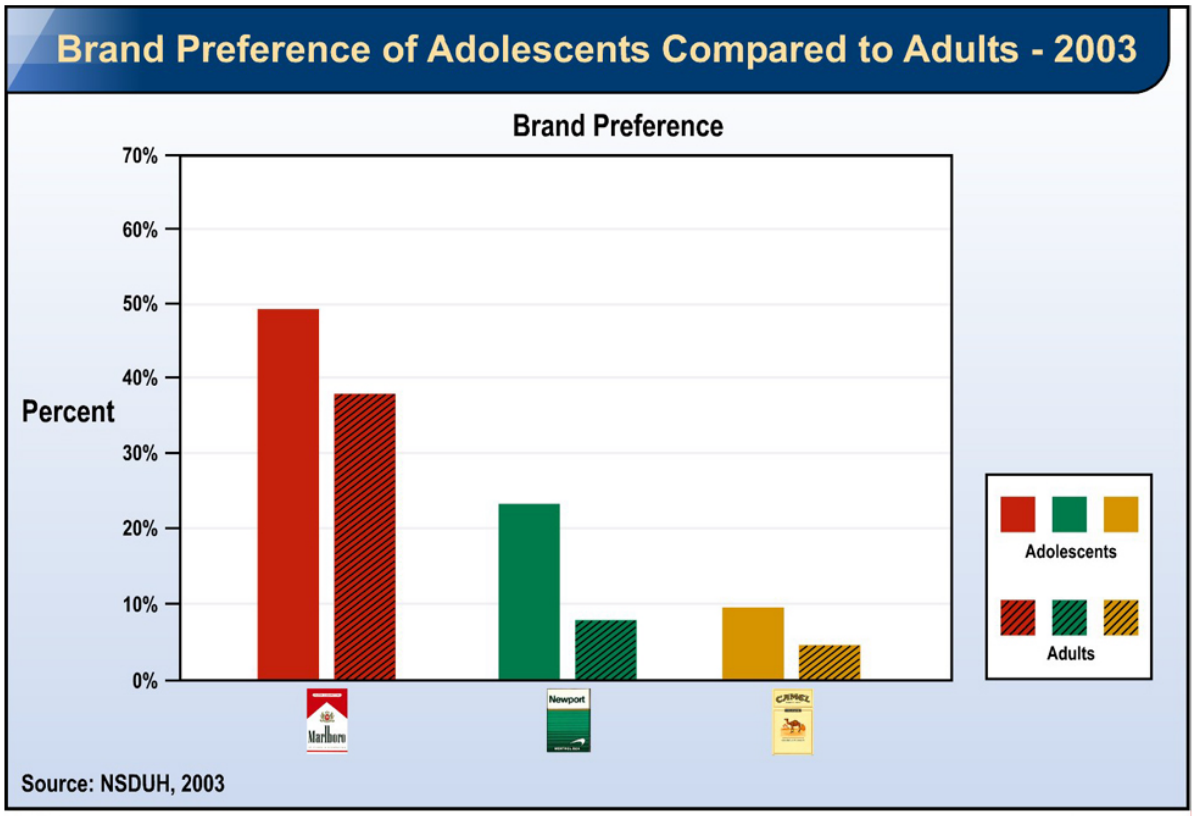
3 A. Yes, United States Exhibit 17,693 below illustrates those differences. Adolescent brand

4 preference for Marlboro is shown in red, for Newport in green, and for Camel in gold;

5 adult brand preference for the same three brands is shown in the same colors with

6 diagonal lines. The data shows that adolescents disproportionately smoke Marlboro,

7 Newport, and Camel.



ME009

U.S. Ex. 17693

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IV. CONCLUSION: DEFENDANTS' CIGARETTE BRAND MARKETING IS A SUBSTANTIAL CONTRIBUTING FACTOR TO YOUTH SMOKING

Q. Dr. Eriksen, what conclusion have you reached regarding the effect of Defendants' cigarette marketing on youth smoking?

A. I have concluded that the weight of all available evidence shows that Defendants' cigarette marketing, while not the only factor, is a substantial contributing factor to young people's beginning and continuing to smoke.

A. Weight of the Evidence

Q. Upon what did you rely to reach the conclusion that Defendants' cigarette marketing affects teenage smoking behavior?

A. I am relying on the weight of scientific evidence as reflected in peer reviewed government reports, such as the Reports of the Surgeon General, systematic reviews, and empirical research published in peer reviewed journals. In addition, my conclusion was informed by the epidemiology of adolescent tobacco use, qualitative research with young people conducted by academic research universities, and an understanding of the principles of developmental psychology as best reflected in the 1994 Surgeon General's Report and the 1994 Institute of Medicine Report. After reviewing this evidence, I came to the inescapable conclusion that marketing is a substantial contributing factor in adolescent smoking initiation and continued smoking.

Q. What relevant conclusions has the Surgeon General reached?

A. Many Reports of the Surgeon General have concluded that advertising and promotion affects smoking behavior. The Reports of the Surgeon General consistently conclude there is a positive relationship of advertising and promotion on cigarette consumption.

Reports of the Surgeon General also conclude that it is clear that the preponderance of the evidence suggests that cigarette marketing influences adolescent smoking behavior.

Q. Have other authorities reached the same conclusion, that marketing is a substantial contributing factor to youth smoking initiation and continuation?

A. Yes, other authorities including several United States Surgeons General have studied and cited the same body of evidence that I considered. This conclusion is reflected in multiple Reports of the Surgeon General, systematic reviews of the scientific, peer reviewed literature, and is the conclusion of governments around the world. The National Cancer Institute's Monograph 14, Changing Adolescent Smoking Prevalence, states:

> The studies reviewed here comprise an impressive body of evidence that tobacco advertising and promotional activities are important catalysts in the smoking initiation process. Any particular study, taken alone, is subject to criticism and alternative explanations. When viewed as a group, however, the conclusion that there is a causal relationship between tobacco marketing and smoking initiation seems unassailable.

U.S. Exhibit 72,977.

Q. Are there studies that do not show a positive relationship between cigarette marketing and youth smoking initiation and continuation of smoking?

A. While most studies do show a positive relationship, some studies have failed to show a relationship, particularly econometric analyses that have looked at the relationship of advertising expenditures or advertising bans on overall cigarette consumption. I have considered those studies in reaching my conclusion that Defendants' cigarette marketing is a substantial contribution factor to youth smoking. I considered those, as well as the other materials I relied upon: (1) official peer reviewed government reports issued by

scientific agencies, such as Reports of the Surgeon General and Tobacco Control Monographs issued by the National Cancer Institute; (2) systematic reviews of published literature, such as the Cochrane Reviews; and (3) individual scientific studies that have been published in the peer reviewed literature.

Q. Briefly, what is the Cochrane Systematic Review?

A. Increasingly, medicine and public health decisions are being driven by "evidence-based" science to avoid these decisions being simply a reflection of an individual's opinion or previous practice patterns. Accordingly, there have been a variety of efforts to synthesize the scientific evidence and to summarize the evidence so as to influence practice. The largest such effort is called the Cochrane Database of Systematic Reviews. To date, over 2000 reviews have been published on all aspects of medicine and public health. Wiley Interscience publishes the Cochrane Database of Systematic Reviews http://www3.interscience.wiley.com/cgi-bin/mrwhome/106568753/HOME and describes systematic reviews as follows:

> A systematic review identifies an intervention for a specific disease or other problem in health care, and determines whether or not this intervention works. To do this authors locate, appraise and synthesise evidence from as many relevant scientific studies as possible. They summarise conclusions about effectiveness, and provide a unique collation of the known evidence on a given topic, so that others can easily review the primary studies for any intervention.
>
> Systematic reviews differ from other types of review in that they adhere to a strict design in order to make them more comprehensive, thus minimising the chance of bias, and ensuring their reliability. Rather than reflecting the views of the authors, or being based on a partial selection of the literature, (as is the case with many articles and reviews that are not explicitly systematic), they contain all known references to trials on a particular intervention and a comprehensive summary of the available evidence. The reviews are therefore also valuable sources of information for those receiving care, as well as for decision makers and researchers.

1 **Q. How do you interpret those reports, reviews, and studies?**

2 A. There is clear and compelling evidence in the peer reviewed literature that advertising
3 and promotion influences each of the factors that lead directly to adolescent tobacco use,
4 including the initiation and continuation of cigarette smoking. These factors, which I
5 derive from health behavior theories, find that most adolescent health behaviors begin
6 with 1) awareness and recognition; 2) progress to favorable attitudes toward the behavior;
7 3) specific intentions to perform the behavior; and 4) culminate in actual behavior
8 change.

9 **Q. Have others also examined adolescent awareness, attitudes, intentions and behavior**
10 **to understand the relationship between cigarette advertising and promotions and**
11 **adolescent smoking behavior?**

12 A. Yes. This served as the conceptual framework, or logic model, of a recently completed
13 systematic review of this very topic. In this systematic review, the authors described
14 their logic model as follows: "Our logic model was that exposure to tobacco industry
15 advertising and promotion increases awareness of cigarettes and engenders positive
16 attitudes towards smoking that in turn lead to increased uptake." U.S. Exhibit 17,684
17 (Lovato et al., The Cochrane Systematic Reviews Issue 3, 2004).

18 ***B. Awareness of Smoking and Brand Recognition***

19 **Q. What is the evidence about awareness of smoking and brand recognition?**

20 A. Defendants' advertising and promotion have affected awareness of smoking and brand
21 recognition in a way that would lead to changes in adolescent smoking behavior,
22 including initiation of smoking and continuation of smoking.

23 **Q. What is the significance of awareness, brand recognition and brand familiarity?**

A. There is evidence from multiple peer reviewed studies that young people who are more familiar with advertising, who have favorite advertisements, or who possess cigarette promotional items, are more likely to begin smoking. U.S. Exhibit 17,684 (Arnett, et al., Tobacco Control 7:129-133, 1998; Feighery, et al., Tobacco Control 7:123-128, 1998).

Q. What has the Surgeon General concluded regarding the effect of advertising and promotion on awareness of smoking and brand recognition?

A. In the 2000 Report of the Surgeon General, Reducing Tobacco Use, Surgeon General Satcher stated,

> [I]ndirect evidence of the importance of advertising and promotion to the tobacco industry is provided by surveys that suggest that most adolescents can recall certain tobacco advertisements, logos, or brand insignia; these surveys correlate such recall with smoking intent, initiation, or level of consumption.

(emphasis added).

Q. Can you provide some examples of other studies that have found that Defendants' advertising and promotion have affected awareness of smoking and brand recognition in adolescents?

A. Peer reviewed studies from the early 1990s illustrated the familiarity of young children with cigarette logos. An example is provided by the peer reviewed study published by Fischer et al. in 1991 that showed 30% of three-year-olds and nearly all (91%) six-year-old children could correctly match a picture of Joe Camel with a picture of a cigarette. This was the same percent of children who associated Mickey Mouse with the Disney Channel. U.S. Exhibit 17,684 (Fischer, et al., Journal of the American Medical Association 266(22):3145-3148, 1991). While Fischer's study did not claim to assert a relationship between children's familiarity with cigarette brand logos and subsequent

smoking behavior, it did establish that marketing efforts were reaching very young children and that these children were aware that the Joe Camel cartoon character was associated with cigarette smoking.

Q. Was Fischer's research consistent with other research?

A. Yes. Earlier peer reviewed studies of 11-14 year olds in Australia found that adolescents who smoked were much more likely to correctly identify advertisements with missing words and complete cigarette slogans than were adolescents who were not smokers. U.S. Exhibit 17,684 (Chapman, et al., American Journal of Public Health 72: 491-494, 1982). This documents the association between awareness of cigarette marketing campaigns and smoking behavior. Similar findings were reported in the peer reviewed literature in 1985 in Scotland and in 1987 in the United States. U.S. Exhibit 17,684 (Aitken, et al., Social Science & Medicine 7:785-797, 1985; Goldstein, et al., Journal of Pediatrics 110: 488-491, 1987).

C. The Impact of Defendants' Marketing on Adolescents' Attitudes Toward Smoking

Q. What has the Surgeon General concluded regarding the effect of advertising and promotion on adolescents' attitudes toward smoking?

A. The 1994 Report of the Surgeon General concluded:

> Current research suggests that pervasive tobacco promotion has two effects: it creates the perception that more people smoke than actually do, and it provides a conduit between actual self-image and ideal self-image – in other words, smoking is made to look cool. Whether causal or not, these effects foster the uptake of smoking, initiating for many a dismal and relentless chain of events.

(page iii) (emphasis added).

The 1994 Report of the Surgeon General further concluded:

> Cigarette advertising uses images rather than information to portray the attractiveness and function of smoking. . . .
>
> Cigarette advertisements capitalize on the disparity between an ideal and actual self-image and imply that smoking may close the gap.

(page 195) (emphasis added).

In addition, the 2001 Report of the Surgeon General also concluded:

> Whatever children's view of smoking may be, as they approach the middle-school years, they become increasingly concerned with self-image, and messages contained in tobacco advertising and promotions likely play a role in changing their attitudes and behaviors.

(page 504) (emphasis added).

Q. What has research found that has examined adolescent attitudes toward smoking?

A. This research found that cigarette advertising and promotion have created favorable attitudes toward smoking in a way that would lead to changes in adolescent smoking behavior, including initiation of smoking and continuation of smoking.

Q. Could you provide an example?

A. There is extensive scientific support that adolescents are regularly exposed to cigarette advertising; that adolescents like many of these advertisements; and that advertisements tend to make smoking seem appealing, and increase adolescents' desire to smoke. For example, one peer reviewed study was published in 1998 that evaluated students' (grades 6 – 12) responses to cigarette advertisements in seven states. Of the more than 500 adolescents studied, nearly all (95%) had seen at least one advertisement featuring Joe Camel or the Marlboro Man, and fully half had seen these advertisements six or more times. More than half believed that Joe Camel and 40% believed the Marlboro Man

made smoking appear more appealing. U.S. Exhibit 17,684 (Arnett, et al., Tobacco Control 7:129-133, 1998). Other researchers have shown that, the more often brand advertisements were seen, the more likely children were to like them, particularly Camel and Marlboro, and also made smoking look more appealing. U.S. Exhibit 17,684 (Arnett, et al., Journal of Research on Adolescence 11(4):425-443, 2001).

Q. Has other peer reviewed scientific evidence demonstrated that cigarette advertising and promotion affects adolescents' attitudes toward smoking?

A. Yes. In a study among California middle school students, researchers at Stanford found that most students were at least moderately receptive to tobacco marketing materials, and those who were more receptive were also more susceptible to start smoking. U.S. Exhibit 17,684 (Feighery, et al., Tobacco Control 7:123-128, 1998). These researchers also reported that the adolescents' susceptibility increased when a parent or friends smoked, but that susceptibility increased as a function of receptivity to promotional items, even when controlling for friend and parent smoking. Other researchers randomly assigned adolescents to briefly view magazines with and without cigarette advertisements, and those reviewing the magazines with advertisements reported more favorable attitudes toward smoking . U.S. Exhibit 17,684 (Turco, et al., Journal of Applied Social Psychology 27(13):1115-1130, 1997). In another experimental study, seventh grade students who were randomly assigned to view cigarette advertisements were more likely to have positive thoughts about smokers than those who viewed antismoking advertisements, or advertisements unrelated to smoking. U.S. Exhibit 17,684 (Pechman, et al., Journal of Consumer Research 21:235-251, 1994). Similar research was conducted by the same lead investigator in 2002 among ninth grade students, and similar

results were found, with students exposed to cigarette advertisements having significantly more positive beliefs about smokers, as well as more positive intentions to smoke in the future. U.S. Exhibit 17,684 (Pechman, et al., Journal of Consumer Research 29:5-19, 2002).

D. The Impact of Defendants' Marketing on Adolescents' Intentions to Smoke

Q. What has the Surgeon General concluded regarding the effect of advertising and promotion on adolescents' intentions?

A. The 1994 Report of the Surgeon General stated:

> Advertising and promotional activities also appear to influence risk factors for adolescent tobacco use, even if this is not the intention of the tobacco industry. These psychosocial risk factors – having a low self-image, attributing positive meanings or benefits to smoking, and perceiving smoking as prevalent and normative – strongly predict smoking intentions and smoking onset.

The 2001 Report of the Surgeon General, Women and Smoking, concluded with respect to advertising:

> Tobacco industry marketing, including product design, advertising, and promotional activities, is a factor influencing susceptibility to and initiation of smoking.

Q. What has the research found that has examined adolescents' intentions to smoke?

A. This research found that advertising and promotion have created favorable behavioral intentions toward smoking in a way that would lead to changes in adolescent smoking behavior, including initiation of smoking and continuation of smoking.

Q. Could you provide an example?

A. Recent peer reviewed evidence from Norway suggests that even in the presence of advertising bans, residual exposure to tobacco marketing predicts current smoking and

intention to smoke in the future. Surveys were conducted among 13-15 year old adolescents in Norway in 1990 and 1995 and, despite an advertising ban in Norway, 50% of the adolescents in each cohort reported exposure to other forms of tobacco marketing on tobacco-related paraphernalia and in venues such as cafes, kiosks, and shops. After controlling for possible confounding factors, adolescents exposed to tobacco marketing were significantly more likely to be smokers, or expected to smoke by age 20 than those not exposed. U.S. Exhibit 17,684 (Braverman, et al., American Journal of Public Health 94: 1230-1238, 2004).

This peer reviewed study establishes a clear link between early exposure and current and future smoking status, even in a country where most forms of advertising is banned and the level of exposure to tobacco marketing is much lower than most other countries.

Q. What other peer reviewed scientific evidence has demonstrated that cigarette advertising and promotion affects intentions to smoke?

A. A 1991 peer-reviewed study of 640 children in Glasgow, Scotland showed that children whose intention to smoke grew more positive over the course of a year, were more aware of cigarette advertising at baseline. Similarly, those children whose intentions to smoke grew more negative over the course of the year, were less appreciative, or less likely to like, or find the advertisements appealing at baseline. U.S. Exhibit 17,684 (Aitken, et al., British Journal of Addiction 86: 383-390, 1991).

Q. Do behavioral intentions to smoke have other relevance?

A. Yes. A recently published peer reviewed study has illustrated the importance of intentions not to smoke, and the need to develop and sustain firm future non-smoking

intentions among young people. Analyzing Monitoring the Future data, Wakefield and colleagues concluded, "having a firm intention not to smoke in 5 years' time exerts a generally protective effect upon the likelihood of future established smoking." The authors go on to conclude, "[T]hus, we can conclude that firm intentions to *not* be smoking in 5 years' time has a protective effect, regardless of the level of current smoking experience." U.S. Exhibit 17,684 (Wakefield, et al., Addiction 99: 914-922, 2004) (emphasis in original).

E. The Impact of Defendants' Marketing on Actual Adolescent Smoking Behavior

Q. Does the peer reviewed scientific evidence demonstrate that cigarette advertising and promotion affect actual adolescent smoking behavior?

A. Yes. There is substantial evidence, from a variety of peer reviewed empirical studies, as well as conclusions from official government reports, that advertising and promotion affects overall cigarette consumption, brand preference, and adolescent smoking behavior.

Q. What is the peer reviewed scientific evidence that advertising and promotion have resulted in actual changes in smoking behavior, such as brand preference, initiation, or increased consumption?

A. There are various types of peer reviewed studies that have analyzed the possible impact of advertising and promotion on tobacco use behaviors. Some studies have looked at the association between advertising expenditures and overall cigarette consumption; other studies have looked at the relationship between advertising expenditures and brand preference; while still other studies have looked at the effect of marketing on children and adolescents' smoking behavior.

1 **Q. What types of research approaches have been used to examine the issue of actual**
2 **changes in smoking behavior?**
3 A. There are various types of research methodologies available to answer this broad
4 question, each with their own strengths and weaknesses. Econometric analysis is used
5 most often to look at the effect of advertising and promotion efforts on overall cigarette
6 consumption. These econometric analyses look both at the relationship over time
7 between marketing expenditures and cigarette consumption, as well as the relationship
8 between advertising bans and cigarette consumption, typically measured as per capita
9 consumption of cigarettes, or sometimes defined as grams of cigarettes. There are also
10 observational studies, both cross-sectional and longitudinal, that look at the relationship
11 between advertising and promotional activities and adolescent brand preference and
12 adolescent smoking behavior.
13 **(1) Effect on Overall Cigarette Consumption**
14 **Q. I am going to ask you to discuss the scientific evidence for each of the three aspects**
15 **of tobacco use behavior separately. First, what kind of evidence is available to**
16 **analyze the effect of advertising and marketing on overall cigarette consumption?**
17 A. Econometric analyses assess the relationship between marketing efforts and overall
18 cigarette consumption. These analyses look at the relationship between the independent
19 variable of marketing expenditures on the dependent variable of overall cigarette
20 consumption, over time, while simultaneously controlling for possible confounding or
21 extraneous variables.
22 **Q. What have econometric or time-series analyses that have looked at the relationship**
23 **between marketing expenditures and overall cigarette consumption found?**

A. The results of the econometric analyses on the relationship between cigarette marketing expenditures and overall cigarette consumption is mixed, with some studies showing a small positive effect (i.e., increases in cigarette advertising and promotional expenditures are associated with small increases in cigarette consumption), while other studies have found no relationship.

Q. Can you provide some examples of econometric studies that have shown a positive relationship between marketing expenditures and overall cigarette consumption?

A. Yes. In a 1992 econometric analysis, the Economics and Operational Research Division of the United Kingdom Department of Health, referred to as the Smee Report, analyzed the results of 19 time-series studies of cigarette advertising, including seven from the United States, seven from the United Kingdom, two from New Zealand, and one each from Australia and New Zealand. The Smee Report concluded that, while comparisons between countries are difficult because of questions about the direction of causality, year-to-year variations within countries leads to the conclusion:

> [T]he great majority of results [of aggregate statistical studies] point in the same direction – towards a positive impact [on tobacco consumption]. The balance of evidence thus supports the conclusion that <u>advertising does have a positive effect on consumption</u>.

U.S. Exhibit 34,282 (emphasis added).

Q. Are other econometric studies relevant?

A. Yes. While econometric analyses provide mixed results on the effect of advertising and promotional expenditures on cigarette consumption, a recent study on the effects of advertising and price on cigarette consumption following the Master Settlement Agreement ("MSA") is of particular relevance. In a peer reviewed study published in

2004, researchers at the University of California, Berkeley and Stanford University analyzed the effect of cigarette price increases and advertising changes associated with the MSA and concluded that an increase in advertising and marketing expenditures, immediately before and following the MSA, blunted the reduction in consumption that would have otherwise been observed as a result of the price increase. This econometric analysis documented an increase in cigarette consumption as a result of increased marketing expenditures. The authors stated:

> Results show that the increase in cigarette prices stemming from the Settlement reduced per capita cigarette consumption in the USA by 8.3%. However, the cigarette companies also increased advertising in the years immediately preceding and following the Settlement. <u>This study estimates that this increased advertising partially offsets the effects of the higher prices, increasing cigarette consumption by 2.7 to 4.7%, and hence blunting the effects of the price increase by 33-57%.</u>

U.S. Exhibit 17,684 (Keeler, et al., <u>Applied Economics</u> 36: 1623-1629, 2004) (emphasis added).

Q. Are there other ways of using econometric or time-series techniques to look at the relationship between advertising and promotion and overall cigarette consumption?

A. Yes. Another way to determine the effect of advertising on overall cigarette consumption is to use econometric or time series techniques to analyze the effect of <u>advertising and promotion bans</u> and the reduction, if any, in cigarette consumption. These studies have generally found that <u>partial</u> bans have no effect on cigarette consumption primarily because marketing dollars flow to other advertising and promotion outlets that are not regulated or banned. Total bans on advertising and promotion have been associated with a reduction in cigarette consumption. A recent econometric analysis of 22 Organization for Economic Cooperation and Development (OECD) countries by Saffer and Chaloupka

reported a 7.4% reduction in cigarette consumption if all OECD countries had enacted a comprehensive ban on advertising and promotion. U.S. Exhibit 17,684 (Saffer, et al., Journal of Health Economics 19:1117-1137, 2000). The recent findings by Braverman and Aaro published in 2004 reinforce the conclusions of Saffer and Chaloupka and the importance of a comprehensive ban on all tobacco marketing. U.S. Exhibit 17,684 (Braverman, et al., American Journal of Public Health 94: 1230-1238, 2004).

Q. What are the limitations, if any, of using econometric analysis to assess the relationship between advertising and marketing efforts and overall cigarette consumption?

A. The results from the econometric literature are mixed and as a result it is difficult to draw a firm conclusion. Most of the econometric studies do not find a statistically significant relationship between marketing and cigarette consumption, but more studies report a statistically significant positive relationship than report a significant negative relationship. U.S. Exhibit 17,684 (Lancaster, et al., International Journal of Advertising 22: 41-65, 2003; Franke, et al., International Journal of Advertising 22: 461-468, 2003; Lancaster, et al., International Journal of Advertising 22: 469-485, 2003).

Part of the problem is the difficulty of fully explicating cigarette marketing as an independent variable for two reasons. One reason is that typically, econometric analyses rely upon aggregate marketing expenditures as a measure of the effect of marketing, which do not necessarily take into consideration the qualitative aspects of advertising, particularly the use of imagery. Another reason is that econometric analyses have limited value when marketing expenditures are extremely large with the marginal effect of additional dollars difficult to assess. Aggregated data, with little variance from year to

year (except increasing in aggregate) limits the utility of econometric analyses. Some economists suggest that disaggregated data would have more variance and more likely allow for assessment in changes in specific marketing expenditures and changes in cigarette consumption. U.S. Exhibit 17,684 (Saffer, et al., Journal of Health Economics 19:1117-1137, 2000). A 2004 peer reviewed study analyzed data from more recent years when there has been larger year-to-year changes, and found a very strong positive effect of marketing spending on cigarette sales. U.S. Exhibit 17,684 (Keeler, et al., Applied Economics 36: 1623-1629, 2004).

Second, econometric analysis sheds very little light on the effect of advertising and promotional activities on adolescent smoking behavior. Econometric analyses tend to use overall cigarette consumption as the outcome variable, and as previously discussed, adolescents consume a very small proportion of the overall cigarettes sold; they likely smoke less than 5% of the cigarettes consumed because, as I have explained, they smoke a fewer number of cigarettes during the stages before they become addicted. It is important, however, to analyze adolescent smoking behavior, not in terms of the number of cigarettes they smoke as adolescents, but rather their smoking initiation behavior during adolescence and their subsequent smoking behavior into adulthood. Most econometric analyses are not sensitive to adolescent cigarette smoking, but rather assess the effect of marketing expenditures on the entire cigarette market. One recent peer reviewed study in 2003 attempted to assess the relationship between advertising restrictions and adolescent smoking prevalence, and reported no relationship. U.S. Exhibit 17,684 (Nelson, Applied Economics Letters 10: 805-811, 2003). This study, however, is limited because the measure of the dependent variable - smoking prevalence -

1 was from a single point in time, rather than from multiple measures over time, which is
2 the more typical of econometric or time-series analyses.

3 **Q. Does your analysis above address limitations on the advertising ban studies?**

4 A. The same type of specification problem, which I described above, exists in adequately
5 specifying advertising bans, since most are not comprehensive and the literature clearly
6 shows that partial bans simply result in expenditures moving from the restricted venue to
7 an allowable one. This is most clearly seen in the magnitude and distribution of
8 advertising and promotional expenditures following Defendants' signing of the Master
9 Settlement Agreement, with a dramatic increase and shift in marketing expenditures to
10 non-restricted categories. U.S. Exhibit 17,684 (FTC, Cigarette Report for 2002, issued
11 2004).

12 **Q. Do Defendants agree that the scientific literature supports the conclusion that**
13 **marketing contributes to youth smoking initiation?**

14 A. No. In their Final Findings of Fact, filed July 1, 2004, starting at page 763, Defendants
15 state that "the literature as a whole does not show that advertising increases the number
16 of people who smoke."

17 **Q. What do Defendants cite in support of their view?**

18 A. Defendants cite to a literature summary written by a Federal Trade Commission
19 employee in 1989 entitled, "The Effect of Advertising on the Level and Composition of
20 Cigarette Consumption," in which he concluded "Although theory and anecdotal
21 evidence suggest the likelihood that advertising has some stimulative effect on cigarette
22 demand, the empirical research indicates that this effect is probably not large."

23 **Q. How, if at all, did you consider this literature review?**

1 A. This was a review of the literature up until 1989, and necessarily, has not reflected the
2 peer reviewed scientific literature published over the last 15 years. In addition, the
3 literature review has not been published, or peer reviewed, and is not cited in the
4 scientific literature.

5 **Q. You said some econometric studies had found that advertising bans had no effect on**
6 **consumption. Can you provide some examples?**

7 A. Yes. There have been a few recent studies that have concluded that there is no evidence
8 of an effect of advertising bans on cigarette consumption or on youth smoking
9 prevalence. For example, an analysis of some of the same literature I have reviewed on
10 the effect of marketing expenditures and advertising bans on cigarette consumption has
11 concluded that there is no such evidence. U.S. Exhibit 17,684 (Lancaster, et al.,
12 International Journal of Advertising 22: 41-65, 2003). Another author who has looked at
13 advertising bans, both in relation to youth smoking and overall consumption, reached a
14 conclusion similar to Lancaster's conclusion. U.S. Exhibit 17,684 (Nelson, Contributions
15 to Economic Analysis & Policy 2(1): Article 10, 2003; Nelson, Applied Economics
16 Letters 10: 805-811, 2003).

17 **Q. How are these studies relevant to your conclusions?**

18 A. Econometric studies go to the weight of the evidence, but make up a small and limited
19 part of the overall body of scientific evidence. These studies influence the conclusions I
20 have reached by reinforcing the limitations of econometric analyses and the need to look
21 at the entire weight of the scientific evidence to determine advertising and promotions'
22 influence on smoking behavior. In addition, some of these studies have potential biases
23 and are conducted by researchers funded by cigarette companies, including both Drs.

Lancaster and Nelson who have consulted with or testified in litigation on behalf of the tobacco industry. In fact, Dr. Nelson has suggested that advertising may actually reduce cigarette consumption because of the added cost of advertising to the price of a pack of cigarettes, and the communication of mandatory health warnings on the cigarette packs. In this particular article, Nelson states, "[a]dvertising…increases the cost of cigarettes and many advertisements contain mandated health warnings. Thus, a ban on advertising could increase consumption by reducing prices or reducing awareness of health risks." U.S. Exhibit 17,684 (Nelson, Contributions to Economic Analysis & Policy 2(1): Article 10, 2003).

(2) Effect on Brand Preference

Q. Second, you testified that studies have looked at the relationship between advertising expenditures and brand preference. What studies have done so?

A. In 1994, the CDC published a report documenting for the first time that the vast majority of adolescents smoke just three brands of cigarettes – Marlboro, Newport and Camel – and that adolescents are much more likely to smoke these brands than are adults. U.S. Exhibit 17,684 (MMWR 43(32): 577-581, 1994). This report also showed that these three brands were the brands with the largest advertising expenditures. This pattern of adolescents smoking fewer brands, but more advertised brands continues today. Subsequent peer reviewed research showed that, after controlling for possible confounding variables, adolescent brand preference is in fact about three times more sensitive to advertising expenditures than is adult brand preference. U.S. Exhibit 17,684 (Pollay, et al., (Journal of Marketing 60:1-16, 1996).

Q. Are there any longitudinal studies that look at the relationship between advertising and subsequent brand preference?

A. In 1999, researchers in Massachusetts studied the relationship between the magnitude of brand-specific cigarette advertising in magazines in 1993 and subsequent brand-specific cigarette smoking behavior four years later among the same adolescents. These researchers found extraordinarily high, statistically significant correlations between exposure to brand specific advertising and the brand they started smoking and the brand that they currently smoke. The authors concluded:

> We believe that this is also the first study to relate baseline brand-specific magazine advertising exposure among a cohort of youths to the subsequent brand of initiation among new smokers in that cohort. We found that the brand of initiation among Massachusetts youths who started smoking between 1993 and 1997 was highly correlated with their exposure to brand-specific advertising in magazines in 1993.

U.S. Exhibit 17,684 (Pucci, et al., Preventive Medicine 29:313-320, 1999).

Q. What, if any, other studies have examined brand preferences of adolescents?

A. According to peer reviewed analysis of brand specific advertising patterns in magazines, researchers in Massachusetts found that those brands disproportionately preferred by teenagers were more likely to be advertised in magazines with a higher proportion of youth readers. The tobacco companies were more likely to advertise cigarette brands popular among youth than adult brands in magazines with high youth readership. U.S. Exhibit 17,684 (King, et al., Journal of the American Medical Association 279:516-520, 1998).

1 **(3) <u>Effect on Smoking Behavior of Children and Adolescents</u>**

2 **Q. Third, you testified that other studies have looked at the effect of marketing on**
3 **<u>adolescents'</u> smoking behavior. What kind of evidence is available to analyze the**
4 **effect of advertising and promotions on the actual smoking behavior of children and**
5 **adolescents?**

6 A. The previous section has discussed the evidence of the impact of advertising and
7 promotion on overall consumption (children and adults combined) and on brand
8 preference. There is a separate body of literature that looks at advertising and promotion
9 in relation to whether it has been shown to increase adolescent cigarette consumption.
10 This body of literature consists of both cross-sectional and longitudinal studies.

11 **Q. Can you explain how those two types of studies – cross-sectional and longitudinal –**
12 **are relevant to the question of whether marketing affects youth smoking?**

13 A. Cross-sectional studies are studies which collect data at one point in time. Cross-
14 sectional studies are useful for better understanding perceptions of advertising, current
15 levels of awareness, and for descriptive purposes. Longitudinal studies, which collect
16 data at two or more points in time, can help sort out the "directionality" of the
17 relationship between advertising and smoking behavior.

18 **Q. What are some examples of cross-sectional studies that that have analyzed the**
19 **relationship between advertising and promotion and adolescent smoking behavior?**

20 A. Cross-sectional studies have associated adolescent smoking behavior with awareness,
21 recognition, approval, exposure and receptivity to cigarette advertisements and
22 promotions. Cross-sectional studies have also found a relationship between receipt or
23 ownership of a promotional cigarette item, and feeling that cigarette advertising may

make them want to smoke a cigarette and actual adolescent smoking status (e.g., U.S. Exhibit 17,684 (Aitken, et al., British Journal of Addiction 86: 383-390, 1991; Armstrong, et al., The Medical Journal of Australia 152: 117-124, 1990; Evans, et al., Journal of the National Cancer Institute 87:1538-1545, 1995; Gilpin, et al., Preventive Medicine 26:14-21, 1997; Schooler, et al., American Journal of Public Health 86:1216-1221, 1996)).

Q. How are longitudinal studies useful to answer the question of whether marketing affects smoking behavior?

A. Longitudinal studies examine the relationship between exposure to cigarette marketing and subsequent changes in adolescent smoking behavior, and controlling for possible confounding factors. When this is done, according to the Cochrane Database of Systematic Reviews, which conducted the largest assessment of longitudinal studies on this subject, these studies "can provide evidence supporting the causal links between tobacco marketing and smoking behavior." U.S. Exhibit 17,684 (Lovato, et al., The Cochrane Database of Systematic Reviews, Issue 3, 2004).

Q. What are some examples of longitudinal studies that have analyzed the relationship between advertising and promotion and adolescent smoking behavior?

A. A peer reviewed prospective study on California adolescents who had never smoked looked at their progression toward smoking. The study found that these adolescents who had never smoked at baseline (those who never tried or even experimented with smoking) who had a favorite cigarette advertisement, or who possessed or were willing to use a cigarette promotional item, were significantly more likely to progress toward smoking,

1 including increased susceptibility and intention to smoke. U.S. Exhibit 17,684 (Pierce, et
2 al., Journal of the American Medical Association 279 (7): 511-515, 1998).
3 **Q. Can you provide an example of another longitudinal study that is relevant to your**
4 **conclusions?**
5 A. Yes. In 2000, a peer reviewed prospective study in Massachusetts was reported that
6 looked at the subsequent smoking behavior of never smokers in 1993 who were
7 resurveyed in 1997. Similar to the 1998 peer reviewed Pierce study in California, this
8 study found a significant relationship between owning a promotional tobacco item and
9 having a favorite cigarette advertisement and subsequent smoking. Biener and Siegel
10 concluded that those who both owned a promotional item and had a favorite
11 advertisement were more than twice as likely to become established smokers than those
12 adolescents who did neither. U.S. Exhibit 17,684 (Biener, et al., American Journal of
13 Public Health 90:407-411, 2000).
14 **Q. Can you provide an example of another longitudinal study?**
15 A. In 2000, researchers in New Hampshire reported the results of a longitudinal study
16 conducted among a cohort of rural Vermont students. Baseline data were collected in
17 1996, with follow up surveys in 1997 and 1998. The researchers found that being
18 receptive to cigarette advertising (owning or being willing to own a cigarette promotional
19 item) at baseline was associated with higher smoking rates at the 18 month follow-up.
20 After controlling for possible confounding factors, the researchers reported that the
21 probability of adolescents taking up smoking were nearly double for those adolescents
22 who were receptive to advertising than those who were not receptive (OR 1.9, 95% 1.3-
23 2.9). The authors concluded:

> In summary, our study documents a strong and statistically significant association between receptivity to cigarette promotions and increased smoking uptake over time in a cohort of adolescents.

U.S. Exhibit 17,684 (Sargent, et al., Preventive Medicine 30:320-327, 2000).

Q. The articles that you have cited so far focus on the progression of smoking among "never smokers," or adolescents who have never smoked. Do any studies examine the progression to established smoking among young people who have experimented with smoking?

A. Yes. Choi and his colleagues studied nearly 1000 California adolescents who experimented with smoking in 1993 in relation to their follow-up smoking status in 1996. As with the previous studies, this peer reviewed study found that marketing affected the likelihood that adolescents would progress to established smoking. While having peers who smoked, poor relationships with family members were also associated with progression to established smoking, the strongest predictor was related to the effects of cigarette marketing efforts. The authors concluded:

> Adolescents who were willing to use a promotional item and who believed that they could quit anytime had the highest rate of progression to established smoking (52%).

U.S. Exhibit 17,684 (Choi, et al., American Journal of Preventive Medicine 22(4):228-233, 2002).

Q. Have there been any systematic reviews of the scientific literature on the impact of cigarette advertising and promotion on adolescent smoking?

A. Yes.

Q. Are systematic reviews considered reliable in the public health field?

A. Yes. Increasingly, medical and public health officials rely on systematic reviews of the scientific literature to assess the quality of the evidence on the effectiveness of intervention strategies. This approach is also used to gauge the quality of the evidence regarding the relationship between exposures and outcomes.

Q. Can you name a recent systematic review on the impact of cigarette advertising and promotion on adolescent smoking?

A. A Cochrane Review was recently completed and just published. The Cochrane Database of Systematic Reviews is the largest and most comprehensive assessment of the scientific evidence in medicine and public health. The Cochrane Review process recently published a systematic review on the impact of tobacco marketing on adolescent smoking behaviors. Because the Cochrane Review found that experimental studies on the effect of marketing on adolescent smoking behavior could not ethically or practically be conducted, the authors relied on an analysis of longitudinal studies. The authors identified nine longitudinal studies that met their acceptance criteria. These studies were conducted in the United States, Australia, England and Spain, between the years 1983 and 2000. The authors concluded:

> This review found a consistent relationship between advertising and smoking uptake across the nine longitudinal studies included. The exclusion of other, less robust study designs would threaten the validity of our conclusions only if a very strong effect were observed in the opposite direction. In fact, other study designs support the conclusion that advertising influences adolescences to begin smoking.

The authors of the Cochrane systematic review further concluded:

> Longitudinal studies suggest that exposure to tobacco advertising and promotion is associated with the likelihood that adolescents will start to smoke. Based on the strength of this association, the consistency of findings across numerous observational studies, temporality of exposure

> and smoking behaviours observed, as well as the theoretical plausibility regarding the impact of advertising, we conclude that tobacco advertising and promotion increases the likelihood that adolescents will start to smoke.

U.S. Exhibit 17,684 (Lovato, et al., The Cochrane Database of Systematic Reviews, Issue 3, 2004).

Q. How, if at all, were the findings of the Cochrane Review relevant to your conclusions?

A. The Cochrane Review was just published in 2004 and is the first systematic review conducted on the impact of cigarette marketing on adolescent smoking behavior. It reviewed the extant longitudinal studies on the relationship between adolescent exposure to cigarette marketing and subsequent smoking behavior and concluded that cigarette advertising and promotion increases the likelihood that adolescents will start to smoke. This finding is consistent with and reinforces my position that cigarette marketing is a substantial contributing factor to the initiation and continuation of adolescent smoking.

Q. What has the Surgeon General concluded regarding the effect of advertising and promotion on actual smoking behavior?

A. In the 1994 Report, the Surgeon General said:

> Even though the tobacco industry asserts that the sole purpose of advertising and promotional activities is to maintain and potentially increase market shares of adult consumers, it appears that some young people are recruited to smoking by brand advertising. Two sources of epidemiologic data support this assertion. Adolescents consistently smoke the most advertised brands of cigarettes, both in the United States and elsewhere. . . . Moreover, following the introduction of advertisements that appeal to young people, the prevalence of use of those brands – or even the prevalence of smoking altogether – increases.

(page 194) (emphasis added).

> A substantial and growing body of scientific literature has reported on young people's awareness of, and attitudes about, cigarette advertising and promotional activities. Research has also focused on the effects of these activities on psychosocial risk factors for beginning to smoke. Considered together, these studies offer a compelling argument for the mediated relationship of cigarette advertising and adolescent smoking.

(page 188) (emphasis added).

The 1998 Report also stated:

> Advertising is an important influence on tobacco use initiation and maintenance. . . . Cigarette advertising and promotion may stimulate cigarette consumption by…encouraging children and adolescents to experiment with and initiate regular use of cigarettes. . . . In addition, cigarette advertising appears to influence the perceptions of youths and adults about the pervasiveness of cigarette smoking and the images they hold of smokers.

The 2000 Report of the Surgeon General, Reducing Tobacco Use concluded with respect to advertising:

> The tobacco industry has argued that its main purpose in advertising is to maintain brand loyalty and to capture a greater market share of current smokers *(USDHHS 1994*). Intensive review of the available data, however, suggests a positive correlation between level of advertising and overall tobacco consumption – that is, as advertising funds increase, the amount of tobacco products purchased by consumers also increases.

Q. Have other government reports commented on the relationship between marketing and adolescent smoking behavior?

A. Yes. The U.S. Food and Drug Administration, in their efforts to regulate the sale and marketing of tobacco products to young people, concluded:

> FDA recognizes that advertising may not be *the* most important factor in a child's decision to smoke; however, the studies cited by the agency establish that it is a substantial, contributing, and therefore material, factor . . . The proper question is not, 'Is advertising the most important cause of youth initiation?' but rather, 'does FDA have a solid body of evidence establishing that advertising encourages young people's

> tobacco use such that FDA could rationally restrict that advertising?' The answer to this question is 'yes.'

FDA, Federal Register, 61(168): 44476, 44488, August 28, 1996.

F. ***Many Factors Affect Smoking Behavior***

Q. Do you believe that cigarette marketing is the only reason young people start to smoke cigarettes?

A. Absolutely not, and I have testified before Congress to this effect as well as testified to this in depositions. Human behavior is complex and there are few if any things that are determined by only one factor. I believe that tobacco marketing is an important and substantial factor in starting and continuing to smoke, but it is not the only reason. Socioeconomic status, racial and ethnic classification, parental smoking, peer pressure all contribute to the initiation of smoking.

Q. What is your basis for this conclusion?

A. All Reports of the Surgeon General as well as reports from other governments acknowledge that advertising and promotion is one factor of many factors that influence adolescent smoking behavior. The European Union in 2001, in their directive to ban tobacco advertising concluded:

> Although it is not universally accepted that advertising has been shown to be uniquely and directly responsible for people trying out smoking or getting addicted to the habit, the fact remains that it does play a fundamental role in promoting tobacco products.

The Report further stated:

> Highlighting the role of advertising for tobacco products does not mean that there are no other factors contributing to inducing young people to start smoking, including the behaviour of friends, teachers, parents and relations and role-model personalities. It is a fact, though, that tobacco advertising sets out precisely to conjure up an image of congeniality,

> adventure and the personality cult – in other words, it appends to the imagination.

U.S. Exhibit 17,684 (Commission of the European Communities, Directive of the European Parliament and of the Council, Brussels, 30.5.2001 COM (2001))

Q. Does marketing affect these other factors, such as parental and peer smoking?

A. Yes, a peer reviewed study in California looked at the relationship between exposure of adolescents to tobacco marketing and susceptibility to smoking, examining other factors such as peer and family smoking, perceived school performance. This study concluded:

> Our results support the hypothesis that tobacco marketing may be a stronger current influence in encouraging adolescents to initiate the smoking uptake process than exposure to peer or family smokers or sociodemographic variables including perceived school performance.

U.S. Exhibit 17,684 (Evans, et al., Journal of the National Cancer Institute 87:1538-1545, 1995).

Q. Do adolescents begin to smoke because of peer pressure rather than because of cigarette marketing?

A. No. It is not an either/or question. The weight of the evidence shows that cigarette marketing, particularly image-based advertising, and peer pressure are inextricably intertwined.

Q. What has the Surgeon General concluded regarding the relationship between cigarette marketing and peer pressure?

A. In an article I co-authored, published a few months after the release of the 1994 Report of the Surgeon General, Surgeon General Elders stated:

> Adolescents may perceive that smoking is a way for them to improve their self-image around their peers. By adopting cigarette smoking, young people may believe they are adopting an image that makes them appear

> tough, sociable, or sexually attractive. If peers respond favorably to this image, smoking becomes functional and is likely to continue.

U.S. Exhibit 17,684 (Elders, et al., American Journal of Public Health 84: 543-547, 1994).

Q. What role do parents play in the initiation of smoking among young people?

A. It has long been known that, if your parent or parents smoke, you are more likely to smoke. Parents have another role as well. There is evidence that parenting style is associated with adolescent smoking behavior, and specifically that children living in families with authoritative parents are less likely to smoke than adolescents in families with parents who are less authoritative. In fact, some studies have shown that parenting style is even more important for adolescent smoking than whether the parent smokes. Moreover, a recent peer reviewed study has shown that cigarette marketing can actually undermine the influence that authoritative parents have on the smoking behavior of their children. U.S. Exhibit 17,684 (Pierce, et al., American Journal of Preventive Medicine 23(2): 73-81, 2002).

G. The Unethical And Infeasible Randomized Control Study That Would Determine Whether Marketing Causes *Youth Smoking Initiation*

Q. Why do you rely upon the weight of the evidence rather than a single study for your conclusion that Defendants' cigarette marketing is a substantial contributing factor to young people's beginning and continuing to smoke?

A. No one has conducted a single randomized control study that could definitively prove or disprove that the type and magnitude of cigarette marketing that has been seen in recent decades causes young people to start and continue to smoke. This is for several reasons, including: 1) ethical concerns about purposefully exposing children to a sustained,

1 imagery-laden cigarette marketing effort to determine whether it will cause them to start
2 smoking; 2) the difficulty in finding an unexposed control group, meaning a group of
3 children and young people not previously exposed to cigarette marketing efforts; 3) the
4 inability of a research project to replicate experimentally the magnitude of marketing
5 efforts to which young people are actually exposed; and 4) other feasibility issues,
6 including the difficulty of gaining tobacco company corporation to cease all marketing
7 efforts in certain communities. Rather than relying on one single study, I rely on the
8 multiple studies that shed light on the effect of marketing on adolescent smoking
9 behavior, systematic reviews of the peer reviewed scientific literature, as well as the
10 Reports of the Surgeon General, and from other governments and organizations around
11 the world.

12 **Q. What would a randomized control trial study involve?**

13 A. A randomized control trial is considered to provide the highest level of assurance that the
14 results from the study are valid and reliable. By randomizing subjects to different
15 experimental conditions, various threats to validity are eliminated, or at least reduced.
16 For instance, true randomization would assure that subjects would have equal probability
17 of being assigned to experimental and control conditions, thus reducing the risk that there
18 would be significant differences between the groups at baseline. In a classic randomized
19 control trial, often referred to as a double-blind trial, neither the investigator nor the
20 subject is aware of the experimental condition to which they were assigned. Half the
21 subjects are provided the intervention (typically a drug), and half receive a placebo. In a
22 randomized control trial examining marketing, some subjects would be assigned to

1 receive no marketing exposure, and other subjects would be exposed to marketing.
2 Smoking initiation and smoking behavior would be measured for both groups.
3 **Q. First, please explain the ethical concerns of conducting a randomized control study**
4 **to determine whether marketing causes youth smoking.**
5 A. Given the conclusion of the public health community, that cigarette advertising and
6 promotions are harmful to children, it would be unethical to intentionally expose children
7 to a sustained, imagery-laden cigarette marketing effort that would have a harmful effect.
8 It is highly unlikely that any Institutional Review Board at any university would approve
9 research that would intentionally expose children to a sustained cigarette marketing effort
10 that would be similar to the magnitude of cigarette marketing that has actually taken
11 place over the last few decades.
12 **Q. Second, please explain why an unexposed control group would be difficult to find?**
13 A. Cigarette marketing is ubiquitous, with billions of dollars spent a year attempting to
14 associate smoking with glamour, success, pleasure and sophistication. Since 1986 alone
15 over $100 billion unadjusted dollars has been spent to market cigarettes in the United
16 States. Thus, it would be virtually impossible to find young people who have not been
17 exposed to some level of cigarette advertising. As I have discussed earlier in this
18 testimony, there is substantial research documenting the familiarity with cigarette
19 advertisements among children as young as three years old, and commonly with pre-
20 adolescent children.
21 **Q. Third, can you explain why a randomized control experiment could not**
22 **experimentally replicate marketing efforts?**

1 A. There has been some experimental research conduced where children are exposed briefly
2 to cigarette advertisements, but these brief exposures (e.g., five minutes looking at four
3 advertisements, etc.) would not serve as an adequate representation of actual real world
4 exposure to cigarette marketing. Today's young people have been exposed to billions of
5 dollars of image-based cigarette advertising and this level of influence could not be
6 replicated in a research experiment.
7 **Q. Fourth, can you explain what other feasibility issues may prevent such a study?**
8 A. Clearly, an experimental study to assess the effect of cigarette marketing that resembles
9 the current environment that teenagers are and have been exposed to would not be
10 feasible for a number of additional reasons. First, a researcher would want to eliminate
11 exposure to cigarette marketing other than that which is being experimentally studied.
12 This would be extremely difficult, if not impossible, because of children and adolescents'
13 extensive historical and ongoing exposure to cigarette marketing efforts. While cigarettes
14 are no longer advertised on billboards, they are still advertised and promoted in
15 magazines, and extensively in hundreds of thousands of retail outlets. Cigarette
16 marketing has created an environment where smoking is considered to be normative and
17 functional among the general population. It would take years or decades to test the
18 impact of individuals who have not been exposed to these normative effects.
19 Moreover, much of this research is difficult if not impossible for the public health
20 community to conduct for two reasons. First, as I have explained, to randomly assign
21 certain communities to receive or not receive cigarette marketing, a researcher would
22 need the cooperation of the tobacco companies. Second, the cigarette companies
23 consider their brand specific advertising expenditures that they report to the Federal

Trade Commission (FTC) to be trade secrets, and therefore do not made them available to the public health community for research purposes. If these data were available, researchers would be able to look at brand specific marketing expenditures in specific geographic markets in relation to changes in adolescent brand preference, initiation rates and consumption patterns in these same geographic markets. Finally, such a randomized control trial would require entire communities to be static for decades while the trial progressed. If a researcher wanted to maintain a control group that was exposed to no cigarette marketing, the individuals in that control group would have to consent to stay in a single location until the study is completed. A researcher would have to obtain the agreement of a whole community never to travel or leave the community.

Q. Have other scientists expressed the same view?

A. Yes, this view is widely shared within the public health community and was recently succinctly stated in the Cochrane Systematic Review on the impact of tobacco advertising and promotion on adolescent smoking:

> Randomized control trials of advertising would be unethical and impractical**.** In addition, advertising strategies and their effects are very complex. Even if true experiments were ethically possible with randomization of exposure to advertising and promotion, they could not capture the vast array or marketing strategies that are employed by tobacco companies such as event sponsorship, and portrayal of smoking in movies, television programmes and popular music. Any true experiment might underestimate the overall effects of tobacco marketing because only a limited number of key factors could be studied at once.

U.S. Exhibit 17,684 (Lovato et al., The Cochrane Database of Systematic Reviews Issue 3, 2004) (emphasis added).

Q. Has the Surgeon General commented on this issue?

A. Yes. The 1989 Report of the Surgeon General, Reducing the Health Consequences of Smoking: 25 Years of Progress, after reviewing the scientific evidence on the relationship between advertising and promotion and cigarette consumption, stated:

> There is no scientifically rigorous study available to the public that provides a definitive answer to the basic question of whether advertising and promotion increase the level of tobacco consumption. Given the complexity of the issue, none is likely to be forthcoming in the foreseeable future. The most comprehensive review of both the direct and indirect mechanisms concluded that the collective empirical, experiential, and logical evidence makes it more likely than not that advertising and promotional activities do stimulate cigarette consumption. However, that analysis also concluded that the extent of influence of advertising and promotion on the level of consumption is unknown and possibly unknowable (Warner 1986b).

Q. Did the 1994 Report of the Surgeon General comment on this issue?

A. Yes. In the preface of the 1994 Report of the Surgeon General, Surgeon General Elders stated:

> A misguided debate has arisen about whether tobacco promotion 'causes' young people to smoke – misguided because single-source causation is probably too simple an explanation for any social phenomenon. The more important issue is what effect tobacco promotion might have. Current research suggests that pervasive tobacco promotion has two major effects: it creates the perception that more people smoke than actually do, and it provides a conduit between actual self-image and ideal self-image – in other words, smoking is made to look cool. Whether causal or not, these effects foster the uptake of smoking, initiating for many a dismal and relentless chain of events.

(p. iii).

Q. Why did the Surgeon General refer to the issue of "cause" as a "misguided debate"?

A. The Surgeon General explained that human behavior is not so simple. The debate about whether tobacco marketing "causes" youth smoking is misguided because causation implies that, every time there is an exposure, there will always be the same effect, and

that each effect is due to one and only one factor. The Surgeon General further explained that the research community should instead examine the effect of marketing.

Q. Have Defendants in this case admitted that marketing is a factor in youth smoking initiation or continuing smoking?

A. No. Defendants continue to deny that marketing has any influence whatsoever on youth smoking initiation and continuing smoking. They continue to claim that the only purpose of cigarette marketing is to influence existing adult smokers to switch brands. In their opening statement, the Defendants compared the marketing of cigarettes to the marketing of gasoline, suggesting that advertisements for gasoline are not intended to get people to start using gas, or to use more gas, and that cigarette marketing was the same.

Q. What has been Defendants' public response to the body of scientific literature on the impact of marketing on youth smoking behavior?

A. As I have testified, tobacco companies publicly deny even in this litigation that advertising and promotion influence smoking initiation and continuance, or play a role in stimulating the primary demand for tobacco products. The basis for their position is the purported absence of a single study that definitively proves that their advertising and promotion causes smoking behavior, the very type of study that would be impossible to conduct for more than one reason. Rather than admitting that advertising and promotion influence smoking initiation and continuation, the tobacco companies continue to claim that the only purpose of cigarette marketing is to influence existing adult smokers to switch brands.

Q. What, if any, harm results to the American public from these continuing statements?

1 A. Cigarette companies' continuing denials of the impact of their marketing effort have had
2 a profound negative effect on the public health. Their past and ongoing denials of the
3 effect of cigarette marketing on smoking initiation which, as I have testified and the
4 tobacco companies well know, primarily takes place before a person turns the age of 18
5 years, offsets meaningful prevention and cessation efforts and distracts the public health
6 community from doing all that it can to prevent adolescent smoking initiation and assist
7 people with quitting smoking.
8 **Q. Thank you, Dr. Eriksen.**

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