Welcome to Yale Cancer Center Answers with your hosts doctors Anees Chagpar, Susan Higgins and Steven Gore. Dr. Chagpar is Associate Professor of Surgical Oncology and Director of the Breast Center at Smilow Cancer Hospital. Dr. Higgins is Professor of Therapeutic Radiology and of Obstetrics, Gynecology and Reproductive Sciences and Dr. Gore is Director of Hematological Malignancies at Smilow and an expert on myelodysplastic syndromes. Yale Cancer Center Answers features weekly conversations about the research, diagnosis and treatment of cancer and if you would like to join in, you can email your questions and comments to canceranswers@yale.edu or you can leave a voicemail message at 888-234-4YCC. This week it is a conversation about tobacco control and policy making with Mark Greenwold. Mark is an Attorney and Adjunct Professor of Law at Georgetown Law and Senior Consultant for the Campaign for Tobacco Free kids. Here is Dr. Steven Gore.

Gore Tell me a little bit about how you became involved with tobacco control?

Greenwold I had been in Washington for many years and I was in the government. My first job out of law school included a stint with Sandra Ribakoff from Connecticut and then I had been in private practice for about 27 years doing complex civil litigation and I thought there must be more to life than this and I was looking for something in the public sector and there was an opportunity to become the first chief counsel for the National Association of Attorneys General because they just entered into the Master Settlement Agreement with the major tobacco companies and they wanted an experienced litigator to run the settlement for all the States, so that was an unique opportunity. I went there and I have been doing tobacco control ever since.

Gore Remind us when was that settlement or that agreement was, I am thinking in the 2000s but maybe it was earlier, when was that?

Greenwold The agreement was actually executed in 1998.

Gore Wow! I am getting old, it seems more recent than 1998.

Greenwold And it was the result of litigation that was initiated in 1994.

Gore Right.

Greenwold First by Attorney General Mike Moore of Mississippi.

Gore As opposed to the filmmaker, Michael Moore.

Greenwold Right and actually Mike Moore did have a brief film career playing himself. He had a cameo role as Attorney General Mike Moore in a movie called The Informer.

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Gore Is that right?

Greenwold Which you may recall, which was about a tobacco industry scientist who came over from the dark side bringing with him a treasure trove of documents and Mike played himself. Gore Fun facts to know and tell.

Greenwold There are lots of wonderful stories in this area.

Gore So you came on board for the Attorneys General once the settlement was being implemented, is that right?

Greenwold Right, they had the settlement and it was about 150 pages long and in order to get the settlement of course, there had to be compromises made and a lot of ambiguous language put into the agreement, you do not get an agreement without some conscious ambiguity.

Gore Sure.

Greenwold So there were the conscious ambiguities and then there were the unconscious ambiguities. The unintended problems, but we knew that there were going to be problems because we were dealing with the world's most litigious industry, we knew there was going to be litigation over the meaning of the agreement and over the implementation of it and there certainly was. Gore And did you work State by State? I know that each State had a lot of leeway as I recall in terms of how they use their tobacco money, or just around how much money they were going to get.

Greenwold No, this was all about the enforcement of the many public health provisions restricting the advertising and marketing of tobacco and also about the payments. It was not, unfortunately, about how the States would spend their money. The Attorney General had no official role in that process. It is the legislatures and the Governors that determine how the money is to be spent or misspent because the idea was that a portion of the money, a substantial portion of it, was going to be used for tobacco control. In fact, the results have been very disappointing.

Gore Is that right?

Greenwold The legislatures of course are political bodies and they respond to political pressures and it turns out that tobacco control has not been an effective constituency for itself politically. As a result, a number of States have spent little or nothing on tobacco control, although a lot of them have spent a great deal of the money on public health, so it has not been a waste by any means, but it has not been the

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bonanza for tobacco control that was expected.

Gore I know in Maryland where I used to work, a large bulk of this money went to the grants to the major academic institutions, both Johns Hopkins and University of Maryland Medical Centers, some of which I think was really

from a public health epidemiology perspective, but some of it was sort of more laboratory science somehow related to tobacco and cancer but I know not hard on all control issues for sure.

Greenwold Well Maryland was actually one of the most responsible States, with an excellent tobacco control program and some very good people. Other States did not do as well.

Gore How effective do you think the whole settlement has been in terms of taming, if you will, the egregious misbehaviors of tobacco as well as the impact on tobacco education, tobacco use rates? Can you enlighten us at all about that? It sounds like you are a little disappointed at least with the tobacco control side.

Greenwold We are disappointed with how the money has been spent, many things, however, have been extremely beneficial. This was really a watershed because I think you can divide the history of tobacco and tobacco control in the United States into 3 phases. Cigarettes became very popular about the beginning of the 20th century and for the first 50 or 60 years, of course, they were causing all kinds of health problems, but people were pretty much unaware of what those problems were whereas the companies became aware of it before the general public did but until about 1964, with the first surgeon general's report on tobacco, we really did not know what the health effects of tobacco were and then that was the first period and that is when of course tobacco became extremely popular in the United States when you had smoking rates close to 50% of all adults in the United States smoking cigarettes, cigarettes were everywhere.

Gore Right.

Greenwold And then we had another period, a second period from say about 1964 with the Surgeon General's report coming out, until about the mid-1990s when we knew cigarette smoking was a major public health problem, but we did not do very much about it from a policy perspective and then when the Attorneys General brought suit, I think that is the third phase, beginning about 1994 with lawsuits brought by the Attorneys General that really started to change public attitude about smoking and millions of pages of documents were released from the archives of tobacco companies and the law firms that work for them and these documents demonstrated that tobacco companies had misrepresented the health effects of cigarettes, that they had suppressed the research that they misrepresented the effects of secondhand smoke, that they targeted kids, that they misrepresented the

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addictiveness of nicotine, all these things were demonstrated and laid out for the public and so attitudes changed as a result and as a result of the change in attitude, you saw public policies changing. You have to realize that tobacco control is unlike other epidemics, it is an epidemic that is caused by the conduct of the tobacco industry and it is an epidemic that needs to be addressed through public policies, so we began to see many things, such as substantial increases in tobacco taxes which had the result of increasing the price of cigarettes.

Gore To discourage people.

Greenwold To discourage people from smoking, especially kids who do not have a lot of disposable income.

Gore Right.

Greenwold You saw the beginning of smoke free laws in 1994, California was the first State to pass a smoke-free law. Now about 2/3rds of the population of the United States lives in jurisdictions where smoking is not permitted in public places, in work places in bars and restaurants and the Master Settlement Agreement was part of this because it restricted the advertising and promotion and marketing of cigarettes and it also imposed obligations to pay huge amounts of money on the major tobacco companies. Of course, they passed through those costs in the prices of cigarettes. It really has not affected the profitability of the companies but they sell now only about half the number of cigarettes in the United States that they were selling before the settlement, but they were still making efforts right. But the price rises that have been caused by the settlement and by the increases in the federal excise tax and by tax increases in virtually every state since the Master Settlement, those things have all contributed to very substantial increases in the price of cigarettes. Cigarettes now cost an average of almost \$6 a pack and in many places in the United States, it is more than that and that has really changed the consumption of cigarettes and the prevalence rates and we have seen a remarkable decline. Kids were smoking at the rate of about 36% of 12th graders were smoking at the time of the Master Settlement Agreement, now it is 13.6%.

Gore Wow.

Greenwold That is a 63% decline and that is really quite remarkable and there has been a substantial decline in the adult smoking rate as well and this has been brought about both by the Master Settlement Agreement and very significantly by policies that States and the Federal Government and municipal jurisdictions

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as well have implemented since the agreement, but the most important thing I think is really the change in attitude on the part of the American Public that has come about as a result of what took place in the 1990s and what has continued to take place since then. I think the Master Settlement Agreement and the whole movement that was sparked by the Attorneys General in the 90s has had a very profound and positive effect.

Gore That is a really fascinating perspective and I am definitely going to want

to take this up again after our break but right now, we are going to take a break for medical minute. Please stay tuned to learn more about the fascinating history of tobacco control and current status in progress in tobacco control with Attorney Mark Greenwold.

Medical Minute The American Cancer Society estimates that there will be 75000 new cases of melanoma in the US this year with over 1000 of these patients living in Connecticut. While melanoma accounts for only about 4% of skin cancer cases, it causes the most skin cancer deaths. Early detection is the key and when detected early, melanoma is easily treated and highly curable. Clinical trials are currently underway at federally designated comprehensive cancer centers such as Yale Cancer Center and at Smilow Cancer Hospital at Yale-New Haven to test new innovative treatments for melanoma. The goal of the specialized programs of research excellence SPORE, in skin cancer grant is to better understand the biology of skin cancer with a focus on discovering targets that will lead to improve the diagnosis and treatment. This has been a medical minute brought to you as a public service by Yale Cancer Center and Smilow Cancer Hospital at Yale-New Haven. More information is available at yalecancercenter.org. You are listening to WNPR, Connecticut's Public Media Source for news and ideas.

Gore Welcome back to Yale Cancer Center Answers. This is Dr. Steven Gore and I am talking tonight with my guest, Mark Greenwold about his work in tobacco control. Mark, before the break you were telling this fascinating, compelling story about the change in attitudes and change in actual use of tobacco in the United States that derives at least in part from this great tobacco litigation and tobacco settlement and I am fascinated about what you said about change in attitude. Certainly, we have known as a public about the harms of tobacco for quite a long time. It seems to me that the social acceptance of tobacco use was on the decline I would say well before then but maybe not, do you think that people got upset with the tobacco companies because of the knowledge of their deception or do you really think it was the actual implementation of policy that made it difficult to smoke that people like me who are nonsmokers became much more verbal in people's faces. What do you think drove that change in attitude as a society?

Greenwold I think it is both, the change in attitude and the policies that were implemented. Of course, policies do not get implemented out of the blue, they get implemented because there has been a change in public

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attitude and political pressure to make changes but let me give you an example that will show what the problems really were before the Master Settlement Agreement. In 1993, in response to a feisty effort by a smaller tobacco company but still a major one called Liggett who was trying to cut the price of cigarettes in order to increase their market, Philip Morris, the dominant company with

Marlboro that has 40% of the US market, decided that they were going to deal with this upstart by slashing the price of Marlboro which they did very suddenly in April 1993, and of course, every other tobacco company had to follow suit. Well, you can see in the youth smoking numbers beginning in 1993 a huge spike in youth smoking and that lasted until the Master Settlement Agreement and that is not just a spike on a chart, that is 100s and 1000s and maybe millions of kids smoking cigarettes because the price had been cut who otherwise would not have been and getting addicted to cigarettes because nicotine is extremely addictive and when kids experiment with cigarettes, they become addicted and they become lifetime slaves to this product. And so if you follow that cohort, that generation forward, the generation was in high school between 1993 and 1998, you will see their smoking rate remain elevated above that for other cohorts, so there was a permanent change in the public health of millions of Americans as a result of the price of tobacco.

Gore Wow, astonishing.

Greenwold And another thing that was going on at that time of course was Joe Camel.

Gore Right, sure.

Greenwold People who are old enough to remember Joe, Joe was immensely popular with kids.

Gore The cartoon character, very appealing.

Greenwold He was a cartoon character, he was very affable.

Gore Cool.

Greenwold And he was selling Camels.

Gore Yeah.

Greenwold And Camels was a cool brand for kids to smoke, so things really were different then. Joe Camel was banned by the Master Settlement Agreement and stopped the use of cartoon characters, things were very different before the mid-1990s. We have had sea change in attitudes. We have had a sea change in policies and we have had a sea change in results and that is what really counts.

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Gore What do you think about the rise of smokeless to bacco products, in particular e-cigarettes, vaping? It seems like this is increasingly popular in people who are trying to stop smoking which may be a good thing, that is debated as well, as in the youth who is avoiding smoking, but now they have got bubblegum flavors and so on, what is your take on all that? It is currently very poorly or little regulated it seems to me. Greenwold You are absolutely right. It is not regulated at all. E-cigarettes present a very serious and challenging problem primarily because of their impact on kids. In 2012, only about 1.5% of the age cohort from 12-17 was using e-cigarettes. That tripled from 2012 to 2013 and then it tripled again from 2013 to 2014

Gore Wow!

Greenwold So in 2014, the last year for which we have data, 13.5% of kids were using e-cigarettes and one of the reasons for this is the industry is targeting kids in their advertising. You can see it in the content of their ads and as you mentioned, Steve, the use of flavors that are particularly popular with kids, sweet flavors, flavors with names like gummy bears. Who is going to be attracted by gummy bears? It is not going to be somebody who wants to quit smoking. Gore I have a lot of colleagues who likes gummy bears.

Greenwold Maybe so, but the reason that this is a terrible problem is because e-cigarettes deliver nicotine to the lungs. Gore It is just like tobacco.

Greenwold Tobacco and nicotine are highly addictive especially when delivered to the lungs because there is a close pathway from the lungs to the brain and there is a real danger that kids who initiate tobacco use with e-cigarettes are going to be addicted to nicotine when they think they are just doing nothing more than experimenting with an interesting new product and it is possible that kids who become addicted to nicotine will then progress to smoking combusted cigarettes because the nicotine fix from combusted cigarettes is a lot more satisfying than what they get from e-cigarettes, so even though e-cigarettes may not contain the 100s of cancer causing chemicals that occur in combusted cigarettes, the fact that they deliver nicotine to the lungs of millions of kids, is extremely disturbing. Now on the other hand, it is possible, as you said, that e-cigarettes may be an effective way for existing adult smokers, particularly those who find it very hard to quit, to actually quit smoking and there is no question that if an existing smoker quits smoking completely and switches to e-cigarettes, they will

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have lowered their health risks but whatever benefit e-cigarettes may confer on those smokers, it is really not appropriate for that benefit to be purchased at the expense of addicting our children to nicotine and that is not a good deal. It is imperative that this product be regulated.

Gore What is the strategy for that to happen? What are the barriers to getting the FDA or whomever to take this on? It does not have the big tobacco lobby, does it or is there a surreptitious ownership of the e-cigarette industry by big tobacco?

Greenwold Big Tobacco is involved in the e-cigarette industry in that 2 major US companies both have important e-cigarettes products, there are hundreds of

e-cigarette companies, or maybe 1000s of e-cigarette companies so the market is much more diffuse than it is for cigarettes but the question is, why doesn't the FDA use its authority? The FDA has had authority since 2009 to regulate all tobacco products. In 2011, it said it was going to regulate e-cigarettes but it took the FDA 3 years even to issue a proposed rule. They issued a proposed rule in April 2014, three weeks from now it is going to be 2 years since that proposed rule has been pending and still we have not seen a final rule. This is an enormous public health problem. Huge numbers of kids have become exposed to e-cigarettes in the time the FDA has been considering its proposed rule. It is essential that the promotion of e-cigarettes to kids be reined in. It is essential that the American public be guaranteed that if e-cigarettes are going to be on the market, they are manufactured in accordance with good manufacturing practices. Now virtually all of the e-cigarettes sold in the United States are manufactured in China. We have no idea really what is in all these products. We have no idea how many of them are defectively manufactured. There need to be standards. There needs to be regulation at the White House and the FDA and I really do fault the White House on this because political support for doing something starts with the leadership and that leadership has not been there on this issue, it is time to make this rule final, it is time to do what needs to be done about e-cigarettes and we are not talking about eliminating them. We are talking about responsible regulations which even most of the companies advocate.

Gore That is fascinating, particularly given the First Lady's interest in child-hood obesity, this would seem like a no-brainer extension of her interest in youth health that you think that the White House would be very interested in promoting.

Greenwold I think everybody's heart is in the right place and there are a lot of issues that they have to deal with.

Gore Competing issues, right.

Greenwold And that is why I talked at the beginning about political will and the need for a public health issue to have a constituency that speaks for it and without public pressure to do something about this issue

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even people of good will who have many things on their plate may not see this as something they have to do now which is why it is important for the public to make its views known to the White House that 2 years to consider a proposed rule about regulating e-cigarettes, that is way too long, it is certainly long enough and we would hope that sometime before the second anniversary of the promulgation of this rule, we would see it moved to final rule status. Gore Makes sense. How does the cost of e-cigarettes and vaping compare to the cost of combustible cigarettes, which as you pointed out took smoking cigarettes a little bit out of the range of many adolescents?

Greenwold Well it is a little bit difficult to compare since the products are different.

Gore And with e-cigarettes you have to get the machine.

Greenwold At the beginning, but in general, e-cigarettes are less expensive per unit of nicotine than cigarettes largely because they are not subject to taxes and the Federal Government does not have an excise tax on e-cigarettes and most State Governments do not have it either, so they are a lot cheaper than cigarettes and that has been one of the reasons for their popularity.

Mark Greenwold is an Attorney and Adjunct Professor of Law at Georgetown Law and Senior Consultant for the Campaign for Tobacco Free Kids. We invite you to share your questions and comments, you can send them to canceranswers@yale.edu or you can leave a voicemail message at 888-234-4YCC and as an additional resource, archived programs are available in both audio and written form at yalecancercenter.org. I am Bruce Barber hoping you will join us again next Sunday evening at 6:00 for another edition of Yale Cancer Center Answers here on WNPR, Connecticut's Public Media Source for news and ideas.