INTRODUCTION

Two roads diverged in a wood, and I –
I took the one less traveled by,
And that has made all the difference

–Robert Frost

In August 2006, I produced a white paper entitled, Tobacco and Tobacco Products at a Crossroads in the 21st Century (see www.tobaccoatacrossroads.com). The paper primarily focused on the "essential elements" that needed to be considered as part of the discussion and debate on tobacco harm reduction. It included consideration of such topics as:

- What is tobacco and what makes it harmful?
- What are some of the Issues, Players, Challenges, and Opportunities?
- Issues related to Transparency, Accountability and Unintended Consequences
- The Relative Risk Reduction Continuum
- Why Government oversight is essential and inevitable

and

- Where do we go from here?: A Process for Future Engagement

For both those familiar and unfamiliar with the issues of tobacco harm reduction (as well as the broader topic of harm reduction), I would encourage you to take some time to review that white paper, as much of what will be proposed in this paper is built upon its elements and recommendations.

In addition there are two other valuable resources for understanding harm reduction issues. One is the "Top 50 Harm Reduction Papers" that can be accessed at www.ihra.net . The other is the landmark report of the Royal College of Physicians released in early October 2007, entitled, Harm reduction in nicotine addiction – Helping People who can't quit. It can be accessed at http://www.rclondon.ac.uk/pubs/contents/e226ee0c-ccef-4dba-b62f-86f046371dfb.pdf .

The purpose of this white paper is to focus more specifically on the elements addressed in the August paper from the standpoint of what I wish to collectively refer to as "smoke-free" products, which includes tobacco-based products as well as nicotine-containing products from which the nicotine has been derived from the tobacco. This paper is designed to provide a suggested Road Map – and more importantly a process – for dealing with a variety of issues in both the short and long term in an open, civil, transparent and productive way. This noncombustible "smokefree" category is where there may be some significant opportunities for developing an appropriate and effective model that could serve the interests of public health, producers, tobacco manufacturers, pharmaceutical and biotech interests, as well as meeting consumer needs and expectations.

With the reintroduction of legislation (S. 625, H.R. 1108) in the 110th Congress that would give the Food and Drug Administration (FDA) authority to oversee the manufacture, sale, distribution, labeling and marketing of tobacco products, many in the public health community have come to view this legislation as the avenue to at long last force change on the tobacco industry. Having been actively involved with this legislation for the last 15 years, I for one have been and continue to be a strong advocate for giving the FDA such authority. An independent, third-party governmental entity is essential to ensure that the rules and regulations of how these products are manufactured sold and marketed are fair and consistent and carry the force of law. We need a level playing field by which all products are regulated based on their risks, relative risks and intended use. We also require a system by which we can ensure that children and adolescents do not use or have access to tobacco or nicotine products.

The current legislation, pending in Congress as this paper is being written, has many of the essential and critical elements needed. But the legislation has not been seriously reviewed or considered in light of a rapidly changing tobacco (and nicotine) environment – one in which there are many new opportunities that can be taken to assist in achieving a goal of reducing disease and death caused by the use of tobacco products, particularly in highly-toxic combustible products (i.e., cigarettes). In fact, the legislation remains virtually identical to legislation introduced in two previous Congresses and in some ways remains very much like the McCain legislation of almost ten years ago. The failure to hold open and comprehensive hearings on the legislation represents a serious failing on the part of Congress. I will address some of these opportunities,

issues, and concerns, particularly as they relate to noncombustible smokefree products further into this paper. I will also present ideas, such as incentives, for what Congress should be considering as it crafts legislation that will need to serve both short- and long-term goals.

It is important to stress, however, that what is being suggested in this paper is not primarily a legislative solution, but rather a way to engage parties in a constructive dialogue that will allow for creative solutions both in the public and private sectors. Constructive legislation (partially through constructive dialogue) may follow; but having worked in the public policy arena on the FDA tobacco front for 15 years, I still am amazed with the lack of engagement and civil discourse on and off Capitol Hill. Yet, where there has been engagement (mostly outside of the Washington Beltway) and a willingness to be transparent and to talk, there have been positive outcomes. These beneficial results are evidenced by cooperation between the public health community and tobacco producers, and, to a more limited extent, with some manufacturers.

The decades of entrenchment by various stakeholders must come to an end if we are to break away from a war of words and look for effective solutions. There are clearly those in the various camps whose solitary goal is the preservation of the status quo. Many will choose to remain on that path. But many others believe that there are other paths that must be pursued simultaneously.

The discussion of smokeless tobacco has polarized the tobacco control community to the point where science and civility have been replaced with the innuendo of "unintended consequences" and often dogmatic rhetoric. Sound bites, not science or rationale thinking, are preventing us from having important discussions about whether, or most importantly how, we can move forward to resolve and deal with legitimate issues and concerns. The issue is further complicated by the roles of the pharmaceutical industry, new technology-based companies, and even changes by some tobacco manufacturers themselves.

In re-reading one of the primary resource materials that I have relied on for a number years, I was struck by how civil discussion and dialogue can take place, even when you have some of your worst adversaries present. I think it is important to take a moment to consider just how far afield we have gone due

to our inability to move beyond the notion that the only thing we are doing is fighting a "war" with Big Tobacco. We need to separate this out from discussions about science, product regulation and product development.

In the late 1990s the Georgetown University Center for Drug Development Science and the Food Drug and Law Institute sponsored a conference on Tobacco Dependence: Innovative Regulatory Approaches to Reduce Death and Disease (Food Drug and Law Journal, Volume 543 Supplement (1998)). We are fortunate that the discussions that took place as part of that conference were transcribed and published, because they reflect the type of dialogue and discussion that needs to take place regardless of the views and organizations represented. Present at the conference were well known tobacco control experts and scientists, former FDA officials, pharmaceutical representatives and even tobacco industry scientists and representatives. Some of the individuals are still a part of these discussions today; some probably need to be brought back into the fold. Unfortunately for all concerned, however, there is an unfilled void left by the passing of Dr. John Slade, who more than anyone else brought civility and integrity to the discussions and who had a clear vision of what needed to be accomplished.

A few excerpts from the Georgetown proceedings are worth taking a fresh look at because, not only are we today dealing with many of the very same complex issues that were raised in 1998, but we are also provided with an example of a far better and civil approach as to how to discuss those issues:

> **Ken Warner:** *I have to say I think these are three of the very best conference papers that I have ever read. I was deeply impressed with all three of them. They're comprehensive. They are very analytical, very thoughtful and certainly very provocative in many instances. I don't agree with everything I read. I hope and expect that nobody in here agrees with everything they read, probably including the authors who wrote it. But they just laid it out beautifully for us, and I think that the discussion this morning showed us what an incredibly complicated issue we are dealing with. (p. 129)*

Dietrich Hoffman: We have good background knowledge to develop standards for toxin levels in tobacco smoke and I think we should start doing that. The tobacco industry has better knowledge than we do in academia. For example, a number of years ago there was much aversion against the use of the pesticides DDD and DDT. Today you will hardly find DDD and DDT or any organochlorine compounds in American cigarettes, and if you do find them, they stem from imported tobacco. There is a similar situation with snuff. Everybody agrees that the nicotine-derived nitrosamines are the major cancer-causing agents in snuff. The Swedes have managed to develop a method of snuff preparation that significantly lowers the levels of nitrosamine formulation derived from nicotine and nornicotine during curing. Here, nothing is done about product modification. This is a great disappointment. (p.123)

Curtis Wright: We will all be dead from old age before tobacco products cease to be a problem for this culture. No one has discussed the fact that you could try and regulate this product out of existence and you would fail. We have very strong laws against other controlled substances on the books and we enforce them vigorously, with harsh and punitive sentences, and we have failed to substantially reduce their availability. We have kept it under control but we have not eliminated the problem. In that context, failing to provide incentives for a less-toxic product doesn't make much sense. (p.125)

To develop reduced-risk products we do not have the time to conduct the prospective 10 year clinical trials to determine that each specific potentially safer product is, in fact safer, and result in longer life, less morbidity, and less agony. But we do have good surrogates; we have some surrogate measures for how use of tobacco and smoking hurts you. And it would be possible to come up and outline for a biohazard assessment (admittedly flawed, admittedly incomplete, admittedly a surrogate) that would enable us to begin to make judgments. I've heard relatively little dispute around the table about the desirability of upgrading the form of nicotine that people are using, be it in the direction of improving a tobacco product or making a pharmaceutical more like a consumer product. (p.132)

Neal Benowitz: The challenges involving regulation highlight the importance of the issue and the resources needed by FDA to implement a regulation. Because of the issues of the pharmacology of nicotine, the addiction, and the safety issues, there are very few agencies or bodies that could intelligently regulate tobacco. It requires the sophisticated knowledge of drug action and its various manifestations, which FDA has, to do this properly. So I think there's really not much choice, other than to have an agency like FDA, or something parallel to FDA do this. One thing that will be required, that's much different, is the capacity to do a lot of research which cannot be done by NIH alone. It's not something which the industry can be relied on to do properly. I think that if FDA gets involved in regulating tobacco there's a need for enough resources to be able to evaluate the products, to evaluate their safety, and to really develop a very substantial research program. And I think that any legislation that occurs involving FDA must include adequate resources for doing all this because there's no other body which can really do it. (p.121)

Dorothy Hatsukami: I think we need incentives for tobacco companies to make safer products. But we also need incentives for pharmaceutical companies to develop new indications for nicotine replacements or to come up with indications for different populations of tobacco users. We have to be expeditious in this. (p.125)

Jed Rose: I worry about moving too slowly. There would be some very big immediate advantages to having these other alternatives out there. For one thing, as new products with reduced toxicity (according to whatever surrogates seem reasonable) do reach the market, that would speed up the process by which existing products could be viewed as defective and incur additional liability. The longer it takes to get the safer products out there the longer we have to live with the current products. (p.122)

Carl Peck: I am of the persuasion that clever and visionary regulation can actually be a major incentive to the flow of useful products into the market that are safe and effective and benefit public health. There are actually numerous examples during the last couple of decades…
What I heard this morning is the need for safer tobacco products, more and better medications to treat nicotine and tobacco abuse, and more research. And so I'd like

to stimulate discussion of how the government (through incentive programs, either money for research funneled in the right directions or regulation, perhaps through the Food and Drug Administration) might stimulate the kinds of medications to treat nicotine and tobacco abuse that we want or produce nicotine products that are safer and more fully disclosed and labeled. (p.131)

Ken Warner: *I think it was that our representative from RJ Reynolds who was reminding us of this at the end of the morning discussion. He's absolutely correct. We must have consumer-acceptable alternatives to existing cigarettes if we are going to continue this discussion at all. Consumer acceptability does not mean that we're talking about a product that is as satisfying as cigarettes. We are extraordinarily unlikely to ever come up with a product that is that successful at delivering nicotine and satisfying consumers, however you want to define satisfying. What it means is that we're going to come up with products that will be acceptable substitutes that people will find adequate when they balance the fact that they are reducing their risks significantly. So they are willing to give up a little bit of satisfaction in exchange for a great risk reduction. (p.129)*

Jack Henningfield: *With respect to abuse liability of new products, it is worth noting that the actual use of nicotine medications in people who have never been nicotine-addicted is very low, but that is not just due to the products. It's also due to how they are packaged, marketed, labeled and so forth. (p. 132)*

David Burns: *The advantage that we have with FDA regulation currently (for pharmaceutical), if it is applied to these products, is that the approval can be removed. So if either the marketing practice or the formulation of the products turns out to not fulfill its promise, then it can be removed from the market. The critical piece I think, that several people pointed out, is that for incentives to work, they have to be very clear. I think we have been very unclear about the incentives, particularly as we get into this harm-reduction strategy. (p.132)*

John Pinney: *I think rather than incentives, we need a reasonable regulatory framework. And it seems to me that I heard some ideas about what that might look like. And*

then we need to forge ahead with that because I think the product is going to be there, whether we like it or not. I think it's inevitable. I don't think Congress is going to block the appearance of these products. So faced with the inevitable, what do you do? Well, you adopt some reasonable standards. And you do the other thing that I keep hearing, and that is you put surveillance in place. (p.136)

Dr. Slade closed the conference. Here are a few of his closing thoughts:

John Slade: *This has been an extraordinary day. It has explored dimensions of this problem that I expected and dimensions that I hadn't expected, and it has put things in a framework that I found really helpful…. I very much appreciated the concept of "co- regulation". I think that's a useful framing of the kind of problem we have with the two divergent intellectual streams from tobacco companies and pharmaceutical companies. It keeps both of them in the same range of vision without requiring that they be in lock-step with each other, because I think lock-step is not going to come in the foreseeable future for all the reasons we know. The issues of incentives that were talked about and the interagency cooperation that we didn't get quite to speak about are other key themes. (p.137)*

With all of these thoughts noted, this paper will seek to present a process for rationally allowing ongoing discussions and engagement of important issues related to noncombustible smokefree products. Rather than dwelling on the same issues of "unintended consequences" and trying to justify why we should not move forward, this paper will take the position that we should be focusing more on the issues of what needs to be addressed and, most importantly, how we address and implement them.

Shifting the Paradigm

I find myself continuously asking the question: Are we at war with an industry for the sake of having a war, or are we looking for solutions designed to reduce the disease and death caused by the use of tobacco products that cause significant harm? Dogmatic, one–size-fits-all approaches for dealing with the dangers of tobacco and the tobacco environment can no longer be the only tactics that are used.

While we cannot afford to be complacent with the tobacco industry, we should also not be afraid to engage them and to challenge them for meaningful and transparent change. I do not think that Dr. John Slade was ever complacent with the tobacco industry as he pursued avenues of engagement and dialogue; nor were the many public health people who were a part of the Southern Tobacco Communities Project which brought growers and public health interests into a dialogue with each other. Today, even more than ever, there is a need for transparent and open dialogue. Issues are no longer black and white. For example, who and what is the "tobacco industry"? Does the tobacco industry consist of anyone and/or any entity that deals with or produces a product containing tobacco or a derivative of tobacco? In addition, who is the public health community? It seems to be a community that is more divided today than ever before.

Some of the signs of this shifting paradigm include:

- The need for regulatory oversight of the industry and its products has become almost universally accepted by public health interests, many tobacco companies, growers, policy makers, consumers and the public.

- Science and technology are becoming more dominant in decision making about what types of products can be developed, manufactured and marketed. This approach can play a role in reducing the incidence of disease caused by tobacco.

- The tobacco companies can no longer assume that their traditional allies will be there to advocate their policy positions.

- The need exists to redefine what we mean by "tobacco industry". Increasingly, we use this term to talk about not just the tobacco industry but the pharmceutical nicotine industry as well – thus, we are increasingly referring to the tobacco and nicotine issue. This "reshaping" has actually been going on for several years and can be expected to accelerate.

- Tobacco companies themselves are becoming more pharmaceutical- and food-like in their business practices (accepting greater regulatory controls), and the pharmaceutical companies are looking to market their NRT products more as consumer products than pharmaceutical products. There is a competitive convergence taking place, especially in the smokefree area. Tobacco companies are increasingly recruiting scientists, researchers and executives who have pharmaceutical and biotech backgrounds and who have never been associated with or a part of Big Tobacco's past.

- There is recognition by many in the public health community and amongst policy makers that all tobacco products can no longer be considered equally harmful and that, in fact, there are significant differences between the relative risk of combustible products (such as cigarettes) and noncombustible products (such as smokeless tobacco products and nicotine replacement therapies).

- Health groups, scientists and researchers increasingly have differing views of approaches and tactics that should be applied to the tobacco problem and in particular to tobacco and nicotine product regulation.

- There is a greater recognition that the "players" can no longer be defined in simple black and white terms. This includes not just tobacco manufacturers but the public health community.

- The tobacco producing environment is changing for a variety of reasons and growers will have to consider changing production methods to meet the challenges and opportunities of the future, within both the U.S. and abroad.

Comments on the Recent IOM Report: "Ending the Tobacco Problem"

The most recent Institute of Medicine (IOM) report, **Ending the Tobacco Problem (June 2007)**, which will be used by many in tobacco control for many years, is a bold initiative to:

"…substantially reduce, if not eliminate, the use of this unusual damaging product without replicating the problems associated with the prohibition of alcohol in the 1920's and with the contemporary prohibitions of illegal drugs (e.g., widespread noncompliance, violent black markets, corruption and high rates of arrest)." (Page 6-1, Changing the Regulatory Landscape).

It would, perhaps, be better to slightly rephrase its objective as:

Substantially reducing if not eliminating the unusual damaging effects associated with the product and its use.

We need to move away from drawing the unsubstantiated conclusion that all tobacco and all tobacco products are equally dangerous and damaging. Is it also the view of the IOM report that all nicotine replacement therapies also should be included as part of this elimination, because the addictive drug nicotine used in nicotine replacement therapies is derived from tobacco? It is what's in the tobacco, and how it is used that represents the level of risk and damaging affects.

When it comes to discussing the issue of "harm reduction", the IOM report seems to want to avoid discussion of the issue, and is seemingly "confused" about what harm reduction is. As I read the section on **Changing the Regulatory Environment**, I was struck by the fact that the report indicates that, "Although harm reduction might be a useful adjunct to comprehensive tobacco control strategy, it is not at the center of the committee's charge, which is to propose a blueprint for reducing tobacco use in the United States" (p. 6-13). I take issue with that conclusion and would suggest that a significant portion of the chapter on changing the regulatory landscape is all about harm reduction. A few excerpts from the chapter will underscore my point.

In the third paragraph of the first page of Chapter 6 (page 1), the Report asks:

"Can anything be done to substantially curtail the availability of tobacco?
Can anything be done to change the tobacco products to make them less hazardous? Is it possible to bring the industry's incentives into closer alignment with the public health goals of tobacco control? *No existing regulatory statute provides a model for tobacco products because there is no other lawful product for which the declared public goal is to suppress it altogether.* ***A new legal regime, models and new policy paradigms are needed."*** *(Emphasis added.)*

Comment: I would suggest that the IOM is correct in that we need new models, but not just with respect to regulatory statutes. We need them with respect to how we adapt to and take advantage of a changing environment that has as its foundation a "health" component and objective.

The report goes on to state (Chapter 6, page 9):

"The regulation of tobacco product characteristics can be seen as having two primary goals. ***One is to reduce the harm from the continued use of tobacco products. This might be achieved by reducing the toxic emissions from cigarettes or the toxic constituents of smokeless tobacco. Reducing toxic exposures would potentially lower the risk and severity of disease in people who continue to smoke.*** *It is essential however, that the federal government assures that consumers are informed about what is and what is not known about the risks of using products that result in toxic exposures (reduced exposure products). Moreover regulators must take steps to reduce the likelihood that the availability of reduced-exposure products will increase initiation or reduce the number of users who quit. The danger that the marketing of reduced exposure products could lead to an increase in smoking prevalence by altering risk perceptions about smoking is one of the greatest challenges that FDA will need to address." (Emphasis added.)*

Comment: The issues raised in this paragraph are ones that reinforce why we need to expand the dialogue and not merely rely on governmental agencies to resolve the issues. Dealing with some of these problems will require the involvement of a wide range of interests and experts, because there may be solutions lying just below the surface in dealing with many of these issues. And there are other issues to consider, such as determining the unintended consequences of not finding ways to develop and responsibly market products that will assist users of highly toxic cigarettes into using cleaner nicotine delivery products.

The report continues (pages 6-9):

> *"The second goal of regulating tobacco product characteristics is to reduce consumption. The most promising way of reducing consumption through product regulation would be to make cigarettes less addictive, thereby making quitting easier and preventing initiating smokers from becoming addictive. Another promising strategy is the development of new medications for the treatment of nicotine addiction.* **To the extent that harm reduction policies are pursued, it would be desirable to bring modified tobacco products and medications for smoking cessation within a common regulatory framework.**" *(Emphasis added.)*

Comment: This is clearly a "harm reduction" strategy. One has to ask, however, additional questions about this approach, just as one should question and consider other harm reduction strategies. First, we need to ask: consumption of what? IOM says cigarettes. But are they also talking about smokeless tobacco products? Are they or should they be talking about all products that are tobacco-based or derived from tobacco? If we wish to discuss tobacco, then we need to also be talking about NRT products from which the nicotine is derived from tobacco. If we are talking about reducing and eliminating the use of nicotine (Chapter 6, pages 9-10) how does such a strategy fit into the recommendations of the report that promote the use of medicinal nicotine products? Does not the use of medicinal nicotine perpetuate the addiction in conflict with the stated goals to reduce addiction through elimination of nicotine? In addition, one has to ask what the effects of such a

strategy might be on the very issues raised in the beginning of the chapter related to black markets, crime, etc.

My point in raising these questions (and there are many others I have not yet mentioned) is that we do need some new thinking, players to discuss the issues, strategies, and directions that need to be taken. We do need new "policy paradigms", and we need to establish better processes by which to proceed. This paper is about finding that process so that we can have a more engaging, enlightening and civil discussion about the potential role that smokefree products can play as part of a public health strategy.