



PERSPECTIVES OF THE FEDERAL LEADERS

A number of distinguished leaders of the Federal health agencies participated in the conference and their presence provided momentum and direction to the work of the conference. Summaries of their remarks follow.



JOHN P. WALTERS
DIRECTOR, NATIONAL
DRUG CONTROL POLICY

In my office, we believe in the institution of medicine — we believe in your work and achievements, which are manifested in the millions of people who are in recovery, the vast majority of people young and old who don't use and abuse substances — and in the communities that are reaching out and that are linking people together.

What we're about here is accelerating that effort. We're all frustrated at the number of people who still suffer. We're frustrated that the knowledge needed to help them is not always applied effectively in key sectors. I appreciate your willingness to work with us on trying to change that. Many of you know a lot about our work at ONDCP. Others have been less involved. As a brief sketch of how this fits into government policy, I wanted to give you the courtesy of trying to make that clear myself. The President has repeatedly said that what he wants done on this issue is a return to balance, a return to a focus on both reducing the demand for and the supply of drugs. He is aware from his time in government at the state level and his knowledge of what's happened nationally that we have had a history as a Nation of lurching from one thing to the other. As Americans, we want to have something that we can just do and get it over with and make it better. And we try to grab one thing and focus on that.

The problem is that we have to focus on the right things if we are to make a difference. In our field, we have lunched from a focus just on interdiction, to a focus only on law enforcement, and then just on prevention or treatment. What we learned in that process is that we have to do all of these things. If we take seriously the fact that this is a supply and demand problem, if we take seriously the health implications of the problem — which I think are more and more widely accepted — we have to be able to cut off the easy availability and the

marketing of dangerous addictive substances, while at the same time treating those who are dependent and need services and also addressing the needs of our young people who are exposed to these substances while they are still passing through adolescence to adulthood.

Having said that we know a lot about what we need to do is not to say that we don't believe in research. At the Federal level alone, we are spending about a billion and a half dollars a year on research. One of the issues at the center of this conference is how we can take the knowledge derived from this research and make it more salient to those who need it and can use it more effectively.

We have had some successes. For example, when we started, the President set a goal of a 10 percent reduction in drug use in two years and a 25 percent reduction in five years. We met the first goal in 2003, when the Monitoring the Future survey reported an 11 percent decline in teen drug use from the baseline year of 2001.

This experience affirms our belief in the principle that when we take an issue seriously and commit to sustained action, we can achieve success.

We also have tried to build into our National Drug Control Strategy a greater appreciation of the public health dimensions of substance abuse. Those of you who work in the field know this very well. But I do not believe — and the President does not believe — that our policies have adequately reflected that understanding. I think part of the challenge involves education as well as programs and policies.

We are trying to educate people that there is a window of opportunity during youth, and that the initiation of use of dangerous addictive substances in the pre-teen and teenage years is directly related to the nature and magnitude of the problem we have today. The promise is that if we do a better job of limiting the number of young people who are exposed to substance abuse, we will not only stop the immediate consequences, but we can change the face of the substance abuse problem in the country for generations to come.

We've also used the concept of contagion in explaining some of the public health measures that we think apply. While we recognize that substance abuse is not spread by bacteria or other biological infectious agents, it is spread by behavior. When young people begin to abuse these substances, they bring that behavior back to their friends and encourage them to begin using. Because peer relationships are an important part of adolescent development, this kind of behavior is important because it forces young people to choose between emulating the drug-using behavior or losing their friends.

If we are going to be effective at dealing comprehensively with addiction, once young people break the boundary of prevention, we have to look at intervening. At that point, they have become the "agents of infection" for this behavior with their peers and siblings and other members of the community. So we're trying to identify areas where we can intervene. That's why the President has talked about setting aside additional money to support random student drug testing in schools, where communities make that decision themselves, to use a measure that we believe has shown itself to be effective in preventing substance abuse among adults in the workplace, the military, and transportation safety positions.

What it also allows us to do is to create a consensus in the community that we're not going to look the other way, and that we are going to use some of the tools that we have used to change the face of victimization of childhood disease in this regard, in which many states require testing for tuberculosis and other infectious diseases as a condition of entering school. We know that the infected student needs to get care if he or she is to have optimal chance of recovery. And we know that, if left untreated, he or she will infect others.

What testing does in the communities where I have seen it implemented is that the community comes together and says, "We're not going to look the other way anymore. We're not going to not do what we can do. We're not going to watch another child be victimized."

We also are trying to help shape wider perceptions with a public education effort that many of you have seen in our National Youth Anti-Drug Media Campaign. In addition to the prevention messages that we have used in the past and will continue to use, this year we began to sponsor a series of ads focusing on intervention for young people and for their parents to break through the stigma and denial that is a hallmark of this disease. The terrible thing about this disease is that the people who suffer from it usually do not recognize their problem. We know that, but what are we going to do about it?

We want to fulfill the vision the President offered in his State of the Union address, when he challenged us to provide treatment to those who suffer from substance use disorders. The President believes that you can't be serious about demand

reduction if you aren't going to treat the people who have the disease of addiction. We all understand the importance of prevention. But the President understands that there are millions of people in need of treatment and in recovery. We know how to do this. We ought to demand from ourselves that we do it more aggressively and on a wider scale.

The President asked my office to estimate the "treatment gap." The Household Survey told us that, each year, there are roughly 100,000 Americans who seek treatment but do not receive it.

Next, the President asked the average cost of a treatment episode. At the time, Federal data showed a cost of \$2,000. And that's how we came up with the \$200 million request for the President's Access To Recovery program: It's \$2,000 per treatment episode, multiplied by the 100,000 persons who need treatment but cannot obtain it, for a total of \$200 million. In short, the President proposed to close the treatment gap unilaterally with a Federal appropriation. We've already received the first \$100 million, and I'm confident we'll get another \$100 million.

Our plan uses vouchers not only to pay for treatment slots, but to purchase services for individuals. Hopefully, the plan will allow more people to become providers, including mainstream health organizations in addition to those who already are providing specialized treatment services.

The voucher program allows us to help the states fill treatment gaps. Whether the issue is support for families with dependent children, or job training, or help with housing and other kinds of transitions, the voucher program is designed to fill some of those gaps to allow the existing service providers to deliver more comprehensive, effective care. In addition, the program allows states to add particular kinds of capacities to meet local needs. Because we're interested in measuring outcomes, we also want the states to provide an evaluation component.

I started out by talking about the 100,000 persons who want treatment and cannot find it. But what about everybody else? The same Household Survey that gave us the 100,000 estimate tells us that roughly 90 percent of persons with substance use disorders are in denial. They are convinced that they don't have a problem and don't need help.

With our intervention ads on television, we wanted to start a conversation through which we can change the public's understanding of our societal responsibility with regard to substance abuse. Not just the important matter of reducing stigma, but using stigma in a different direction. For example, we want to say that there is something wrong if you look the other way when you know someone is suffering from substance abuse. If you understand that this is a disease, a decent society does not let someone get sicker without offering help.

This is not about minding your own business. This is not about a lifestyle choice. This is not about freedom in a kind of insane way that means self-destruction. This is about recognizing the presence of a disease, and that an important dimension of that disease is denial. One way to get help for those who suffer from this disease is for others to put an arm around them and say, "We're not going to let you continue to get sicker. We're going to support you in getting well." We know that where such care is available, people do get help and do become important contributors to society. In fact, individuals who are themselves in recovery are some of the most effective at reaching out to others.

We also are concerned about the growth in the diversion of prescription pharmaceuticals as sources of drugs of abuse. We believe that these medications can be a Godsend to those who suffer from chronic pain. But the growth in abuse of these medications is something we need to come to grips with. Some of that has to be done with regard to education. ONDCP is supporting efforts to help states set up prescription monitoring systems, which will allow physicians and pharmacists to see whether legitimate prescriptions have been written, to see whether the individual involved has been obtaining excessive amounts of prescription medications from multiple sources, and to allow us to prevent prescription drug abuse and trafficking.

The same Household Survey that told us we had achieved declines in teenage drug use also warned us that one in 10 high school students reported using Vicodin without a legitimate medical purpose. That's a pretty alarming rate of abuse of a particular prescription product. As we see the introduction of more powerful and necessary substances for the treatment of various conditions, we'll also have to deal with the diversion and abuse of those drugs. I think part of that requires education and working with institutions that can be of help.

We're also going after those who divert drugs through Internet purchases of pharmaceuticals. If you have an e-mail account, I'm certain you have been offered controlled substances without the controls. We are working to shut down such sites and to bring those who operate them to justice. We are not opposed to Internet marketing of over-the-counter and prescription drugs if it's legal. But obviously if you've seen some of these e-mails, the intention is to suggest that you can do something that you shouldn't be doing if you simply click on their link.

We already know, as you know, that individuals who abuse alcohol and other drugs are more likely to be victims of accidents and violence, and to experience chronic illness. We know that these individuals require a variety of care, much of which is supported by public resources. They need support in the workplace, in the family, and in their faith communities. They need support through drug courts and diversion programs. They also need help from the health

care community and medical institutions, which have an opportunity to reach out.

We know that, of the estimated seven million people who need addiction treatment, about 23 percent are adolescents. Many of these young people regularly see pediatricians and family physicians, or they end up breaking arms and legs and coming to emergency departments. If we fail to screen them and get them the care they need, an enormous number of lives will be progressively damaged as time goes on.

What do we have in mind? And what would we like the medical community to consider, based on our conversations with many of you and the conversations we hope to have during this meeting?

First, we'd like to find better ways to use medical institutions to help us address substance abuse. Medical schools and organizations already provide enormous support for research, for prevention, for intervention, and for treatment. With our partners at the Department of Health and Human Services, we recently awarded a series of grants to support the teaching of screening, brief intervention, and referral techniques in major medical centers across the country.

It's a small trial. I recently visited one of the grant recipients — Ben Taub Hospital in Houston — where staff will screen every patient coming through the shock trauma center, which sees about 250,000 patients a year. Every one of them will be screened. Those who need substance abuse treatment will be referred to appropriate levels of care.

Over the course of the award period, Ben Taub Hospital will expand the screening beyond its shock trauma center to its satellite health clinics, resulting in the screening of roughly a million people a year. We believe that's the future, and we'd like to see that happen in more places. It requires a linkage. It requires support for care. It requires applying the research and knowledge we have that intervention is inexpensive and effective.

Second, we are asking for your help in addressing the need to improve the initial preparation of medical professionals, as well as their ongoing education. Most people that I talk to in medicine sooner or later lament that the level of training in and understanding of substance use disorders is too limited. As a result, many physicians do not have significant exposure to teaching about the identification and management of substance use disorders during their undergraduate and graduate education. For many, their continuing medical education does not include systematic exposure to professional information that would help them acquire the knowledge and skills they need to help their patients who are at risk for or suffering from these disorders.

I know that some of the obstacles to changing this situation involve more than lack of knowledge. Some are based on the idea that, if I turn over this rock and find what I expect to

find, what am I going to do? How do I refer people? How do I deal with a non-compliant patient when I understand that denial is a central feature of their disease? Well, that's a part of education. As you know better than I, substance use is not the only area where this phenomenon exists. But we have to address it.

In this meeting, we hope to build on what you've already done. We know that a lot of work has been done. For example, the American Medical Association's policy statement on the physician's responsibility for dealing with substance abuse was adopted in 1979 and disseminated through grants from the Department of Health and Human Services. The 1994 Macy Conference on Training Primary Care Physicians About Substance Abuse — chaired by Dr. David Lewis, who is with us today — took additional important steps. Project Mainstream — which represents a collaboration between the Association for Medical Education and Research in Substance Abuse, the Substance Abuse and Mental Health Services Administration, and the Health Resources and Services Administration — also was a critical step in moving this process along. In 2002, Project Mainstream published a series of detailed objectives for physician knowledge and skills in addressing substance use disorders.

Our task is to implement this important work. And we'd like your advice on how we can do that and do it as aggressively as possible.

I've talked longer than I intended to, but I wanted to give you a sense of what we see that we're trying to do, how we're trying to bring the parts of the Strategy together. We're not just doing a bunch of independent things; we want them to add up to something. We're after a kind of institutional integration, and we believe it's possible. More important, my boss, the President of the United States, believes it's possible. And he expects us to do it.



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 DIRECTOR, NATIONAL
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Untreated addiction has devastating consequences. It has been estimated that abuse of alcohol and legal and illegal drugs costs this country \$486 billion a year — \$486 billion! The costs are so large because the consequences affect individuals in a wide variety of ways, including the disruption that the process of addiction produces in behavior and in the life of the person, as well as the medical consequences across the whole body of the individual, and the social effects for the individual and society — all of which directly affect the economy.

We are here to talk about how we can engage the medical community in general to help us deal with the problem of addiction. One of the problems has been the belief for many years that drug addiction was a person's bad choice in terms of making the decision to do something by their own will to take drugs. However, it is now clear that this is not the case. While choice is involved the first few times an individual decides to take a drug, once that person becomes addicted, it's no longer a choice.

I always put in parallel the paradigm that no one **chooses** to become addicted, just as no one — **no one** — chooses to develop lung cancer. Of course, the person does initially choose to smoke and then may end up with lung cancer, but it is not a "choice." The same process applies to addiction.

With technology such as imaging, it has become evident that drug addiction — like any other medical disease — involves very specific changes in the function of an organ: in this case, the brain. The brain is much more complex in its functioning than any other organ. This is illustrated in **Figure 1**. I am showing you images of a normal person and of a person who has suffered from a myocardial infarct. No one will doubt that a myocardial infarct is a disease; you can do imaging and see exactly where the damage to the heart is.

Figure 2 shows a healthy heart. You see the consumption of sugar; that is what the red is all about. When the heart is damaged, the damaged tissue can no longer consume glucose sugar. This is how you can actually and very accurately depict what the abnormality is. The result with the heart is very easy to predict. The heart just pumps; it's a pump. When you have damage to the tissue, it no longer pumps, and the blood is not distributed throughout the body.

The brain is much more complex. But just as you can document exactly where the abnormality is with the heart, you can do that in the brain of an addicted person. And that's what you see in **Figure 3**: this is the brain of a normal individual and this is the brain of an addicted person. In the brain of the addicted person, we see a very significant decrease in function in glucose consumption.

It so happens that this area of the brain is the area that ultimately allows us to exert inhibition of our actions. It's like the brain of our system. So when we are faced — and we all are faced on a daily basis — with things that we want to do but know we shouldn't do, our ability to control our urges is basically a function of how well this area of the brain is functioning.

Well, guess what? This area is not functioning well. It's as if you're driving a car and you see a cow in the middle of the road. You want to brake, because you don't want to hit the cow, but your brakes are not working and you are going to hit the cow. That's exactly the same process in terms of what

occurs in the brains of individuals who are addicted, because one of the targets is the area of the brain that allows us to assert inhibitory control.

This could explain, for example, why a drug addict tells you, “Doctor, I don’t want to take the drug. I want rehabilitation to work. I promised my wife I won’t do it. I promised my children I won’t do it.” The patient then leaves rehab, and within 24 hours, he’s taken the drug. And the patient says, “I didn’t even realize it.”

This phenomenon can be very difficult to understand because when we’re not addicted, we are able to control our actions. It is very difficult to comprehend that someone cannot do so, and this has caused difficulty in conceptualizing drug addiction as a disease rather than a wrong choice. We all are used to making choices, and we don’t understand what it means to have an area of the brain that allows us to make choices disrupted by the effect of exposure to a drug.

Another aspect that is extremely important in terms of the involvement of the medical community is that drug addiction is not just a disease, it is a developmental disease. That is to say, it is a disease that begins early in development of the individual — usually during adolescence and, unfortunately, sometimes during childhood. This is illustrated in **Figure 4**, which plots the age at which young people develop addiction to marijuana. As you can see, the age when the diagnosis is first made peaks around 18 to 21 years of age. Even though an individual can become addicted at almost any age, the probability of becoming addicted decreases dramatically after 25 years of age.

Why is this so? It is likely to be a function of multiple variables, including the fact that during the developmental period, the brain is not yet fully formed. And areas of the brain, such as the orbital frontal cortex and the frontal cortex, are not fully developed and will not develop fully until the early twenties. Thus, an area that allows the individual to control behavior and exert inhibition and judgment is not properly formed.

The other aspect that is very important for us to understand is that the effect of a drug on an adolescent’s brain, in terms of the plastic changes produced, are different from the effects of the same drug in an adult. Although this area has not been properly investigated, recent animal studies are showing that when nicotine is administered during adolescence, it produces long-lasting changes that are not seen when the same dose of nicotine is administered to an animal that no longer is an adolescent.

Moreover, the changes in the adolescent animal are associated with a higher propensity to administer nicotine. Of course, this could explain why adolescents become addicted to nicotine much faster than do adults. The research shows that adolescents require a much shorter period of time and

much lower doses of cigarettes to become addicted. The reason I am highlighting this fact is because it brings forth a unique opportunity for the clinical community — especially pediatricians — to do very early interventions, not only to detect early drug use but also to make an early diagnosis and to guide the patient to proper treatment.

What do we know about why we become addicted? This has become a very important aspect of our research because it provides us with targets, both for prevention and for treatment. In fact, we know a lot. **Figure 5** illustrates one of the processes that are very important in terms of triggering the changes in the brain that are produced by chronic exposure to drugs, leading to addiction.

That is to say, people take drugs because of chemistry rather than that the drugs make them feel good or help them experience new things. Drugs have the ability to produce these sensations because they increase levels of the chemical dopamine. All drugs of abuse — both legal (like nicotine or alcohol) or illegal (like marijuana or cocaine) — increase the level of dopamine in the brain.

Now, dopamine is not present in the brain to make us feel good when we take a drug. Dopamine is in the brain to signal events that are salient to our survival. So when an action is extremely important to survival, dopamine serves as a liberator. Think for a minute about the things that actually are important for survival. The first is food. When an individual sees food or eats, the level of dopamine goes up. That’s the way the brain signals that this is salient and that the action should be repeated. Sex is associated with an increase in dopamine and that, in turn, motivates the behavior to seek a partner and to ensure that the species will procreate.

As primates, social interactions are among our most important drives. They are extremely important because for our survival we need one another. That enhances dopamine. It so happens that drugs directly activate the system through which nature assures that we will repeat behaviors. But the drugs do this in a way that is qualitatively and quantitatively different than other dopamine enhancers.

Look at **Figure 6**, and what do we see? First, that these stimulant drugs will overwhelm any natural reinforcer. The natural reinforcer has no chance to compete with a stimulant that will be perceived as salient, as a drug is. But our brains and our biological systems try to maintain a balance, which in medicine we call *homeostasis*. A change like those induced by drugs leads to adaptations as the brain tries to compensate. This is what initiates the process of drug addiction: the adaptation in an effort to achieve balance.

So what do we see then in the brains of people who are addicted? When you look at the systems that are regulating the signaling of dopamine (**Figure 7**), there is a cell transmitting

dopamine to another cell. This transmission is modulated by receptors. When people become addicted, the receptors shut down as part of the body's effort to maintain balance. We see this with cocaine, methamphetamine, heroin, and alcohol. So one of the brain's adaptations that triggers the whole process of addiction is an adaptation brought about because of increases in dopamine, which leads to the very significant reduction in receptors. That reduction, in turn, affects the way the individual responds to natural stimulants. This is one of the processes that ultimately lead to the compulsive use of drugs. But drugs not only produce addiction, they also affect the body in other ways.

Director Walters asked how we can make the process of addiction relevant to physicians — to pediatricians, neurologists, oncologists — to physicians in every specialty. I believe the way to make it relevant is to educate physicians about the effects that drug abuse has on other medical diseases and conditions in the patients they are treating.

That information is very well recognized for cancer. No one doubts that smoking, whether one smokes nicotine or cannabis, increases the risk for a wide variety of cancers. Much less is known about the involvement of drug abuse in other diseases, and that is extremely frustrating. For example, we know that drugs have a negative effect on pulmonary function. But when I looked for studies of the effects of drug abuse on asthma, which is a problem that is escalating in children throughout the United States, I couldn't find a single article in PubMed that examines asthma and substance abuse.

You may say that's because it's not relevant. But of course it's relevant. Smoking is likely to affect the prognosis of these patients. Moreover, when we give medications to treat asthma, many of the medications have similar pharmacological targets as drugs of abuse such as cocaine and amphetamines. So why are there no studies?

My perspective is that we ought to link the consequences of drug abuse to other medical problems. Then it will become relevant for a pediatrician to ask a kid who has asthma whether he has ever tried drugs. Why? Because it will determine the prognosis and the way that child will respond to asthma medication.

The same thing pertains to a wide variety of medical disorders. For example, there is increasing evidence that drug abuse may trigger the expression of psychiatric disorders. We're faced right now with a remarkable increase in the number of children and adolescents who are being referred for the treatment of psychiatric problems, at the same time we're seeing an increase in the use of neurotoxic drugs. We also know that drug abuse contributes to infectious diseases and that, in young people, one of the main causes of myocardial infarction is abuse of stimulant drugs.

Learning disorders and obesity are conditions that seem totally disparate, but all are on the increase, and drug abuse

is a contributing factor. Mothers who smoke during pregnancy have children who are two to three times more likely to be obese in childhood, adolescence, and as adults. This is something that we didn't even know until recently. Cerebral vascular accidents (strokes) are related to intake of drugs and alcohol, and we didn't know that until recently. We don't really know the magnitude of the impact of drugs on rates of traumatic injury. We know that it's quite large, but we really haven't looked at it carefully.

To me, one of our priorities should be to present this evidence in ways that physicians — whether or not they believe that drug addiction is a disease — cannot ignore. Addicted individuals take drugs because they enter their brains and produce increases in dopamine. But the drugs don't affect only the brain: they go all over the body and produce direct effects on multiple organs. That is why we, as physicians, must ask questions. We can no longer keep our eyes closed when it is so obvious. **Figure 8** illustrates exactly how obvious it is.

Figure 8 depicts a whole body image of a normal person, showing an enzyme that is important in protecting the body from toxins. There are very high concentrations of the enzyme in the brain, the kidneys, the liver, and to a certain extent, the heart. You also see it in the lungs, though the signal is not as strong.

Figure 9 is a whole body image of a smoker. You can see the dramatic reduction in the enzyme. Basically, there's none in the brain, and almost none in the heart. Look at the kidneys. We could not detect any in the lungs. And this, of course, provides an example of why cigarette smoking increases the damaging effects of toxins and affects overall health.

Smoking also has another aspect, and that is related to the effects of drug use during pregnancy. This has been very well recognized for alcohol, but much less so for other drugs. We're concerned about mothers who use cocaine or marijuana or other drugs during pregnancy. We also should be concerned, of course, about mothers who smoke. Why? Because at least 11 percent of pregnant women smoke. Eleven percent! The epidemiologic data tell us that women who smoke have children who have lower birthweights, have higher rates of prematurity, are much more likely to die of respiratory syndrome, and have a much higher risk of conduct disorders and early experimentation with tobacco. Smoking is the main risk other than genes for development of childhood ADHD. Children of mothers who smoke during pregnancy have, on average, lower IQs and are at higher risk for obesity.

This is another area where the medical community could play an extremely important role, by conveying this information to, and doing a complete evaluation of, the woman who's pregnant. That would be doing prevention, not just for drug abuse but for a wide variety of medical problems in both mother and offspring.

Infections: here's another connection that's well known. Over time, injection drug use has contributed to 30 percent of the cases of HIV/AIDS, and continues to do so. But we're seeing another contribution of drugs, and that is sexual transmission among individuals who are under the influence of both legal and illegal drugs. Here, we see not only the drug's effect in altering mental state so that individuals make decisions they wouldn't otherwise make, but also the effects of drugs combined with infectious agents.

This effect is illustrated in **Figure 10**, which depicts a normal brain. This image measures a marker that shows whether the dopamine-producing cells are functioning. The other image is of a person with HIV, and there is an obvious reduction in the markers for dopamine-producing cells. The change is not radical, but it is clearly present. Look at the person with HIV who is also taking drugs, in this case cocaine, and you can clearly see that the damaging effects of HIV are intensified by the drug.

This combination of drug and infectious agent is beginning to be recognized as producing not only an additive effect, but perhaps even a synergistic action. And that's another reason that physicians can no longer ignore the importance of drug abuse.

There are many other examples I could put forward, but I'm not going to belabor the point. I just wanted to illustrate how obvious this is, but that we have not been able to transmit this information to the medical community.

Now, I want to concentrate on another big challenge confronting us. Director Walters alluded to it. We have developed medications and behavioral interventions that are useful in treating addiction, yet many people are not seeking treatment. Of the 21.6 million Americans who are addicted to or abuse any illicit drug or alcohol, only 10 to 15 percent are seeking treatment. So 85 percent of the population that is addicted to drugs or alcohol are not seeking treatment, and that is a challenge in terms of what we can do to bring them into treatment. As Director Walters pointed out, the medical community has a unique opportunity to intervene to help these individuals overcome their denial and admit that they have a disease and need treatment for it. The involvement of physicians could have a major impact on this serious problem.

Finally, **Figure 11** shows another area where we need medical community involvement. One of the areas where we're seeing increasing drug use involves prescription drugs, particularly opiate analgesics. And that requires engaging the medical community in yet another aspect of drug abuse prevention and treatment.

So the challenge is: How do we engage the medical community so that medical students and residents are trained in the recognition and evaluation of drug abuse and addiction? If

we take advantage of the extraordinary infrastructure of medical education, not only the drug addiction community will be served, but also the medical profession in general. And with that, I want to thank you for your attention.

QUESTION (From Dr. Jeffrey Samet):

You mentioned medical schools as a key ingredient.

I think it's terrific that a mechanism would be developed for improving the training of medical students and residents about alcohol, or about drug abuse, but one must remember that alcohol and drugs frequently go together, so perhaps there should be some kind of blending mechanism to support that. Because truth be told, real patients use both at the same time.

ANSWER (Dr. Volkow):

What you're saying is something that has been obsessing me very much as a clinician: the notion of training clinicians who are able to deal with both drug addiction and alcoholism. Because to have it separated is the most inefficient way that we can spend our dollars.

I think that one of our targets is to help develop a curriculum to train clinicians (as well as nonclinicians, who account for a very large percentage of those who provide treatment) to be able to deal with both drugs and alcohol, so that we don't have to send patients to different places for care. I think that would be an extremely important initiative to put forward.

QUESTION (From Dr. Winston Price):

Within certain populations, substance abuse is a disease of society. As a pediatrician, I have adolescent patients who are substance abusers. When I say, "You realize what this will do to your body, what this will do to your family," their response is, "This is better than the situation I'm going back to in my community." That's more damaging to them than the substance abuse.

ANSWER (Dr. Volkow):

You are touching on an extremely important aspect of addiction, and that is the involvement of the environment both in terms of obvious factors such as drug availability and more subtle factors such as stressors, whether they are acute or chronic.

Through research, we're starting to understand that environmental factors, such as lack of physical contact with parents, can leave children more vulnerable to stressors, which then facilitate the acquisition of drugs.

It's clearly a complex interaction. Now, how do we deal with it in terms of both prevention and treatment, in terms of recognizing what are those variables so that you can do interventions that counteract the deleterious effects? What we're doing in research is trying to understand how these environmental factors produce changes that facilitate the acquisition of drugs.

Unfortunately, if a child is born into a family structure where the parents are not there, we're not going to be able to erase that. But we can provide an infrastructure that helps to compensate. We're dealing here with a chronic disease, and the extent to which a person is going to be able to stay clear of drugs is going to be partially mediated by the environment in which he or she is situated. Hence the importance of community involvement.

QUESTION (From Dr. Mark Kraus):

The emphasis seems to be on medical school and residency training and education. Yet the population is being taken care of by attending physicians, and they're the ones who haven't had a lot of training. What can NIDA and NIAAA do to support clinical knowledge transfer to the attending population?

ANSWER (Dr. Volkow):

At NIH, our mission is to support research. Our mission also is to provide knowledge. Now, how can we help with what you're asking, because we do have an obligation to help? We can start by providing the knowledge. For example, I brought up the issue of prescription drug abuse. In this country, we really do not know how to treat chronic pain. As unbelievable as it may be, the long-term use of opiates for the treatment of chronic pain has not been properly investigated. Thus, you see an extremely important opportunity for us to develop the research and, from that, the guidelines for how to treat pain patients properly to minimize the risk of addiction. That's an example of where we can help by providing knowledge.

We also are partnered with SAMHSA, which has the authority to develop training for clinicians. We've partnered with them to ask what is the best strategy to bring research information to attending physicians so that it is incorporated into practice? We can translate that into a services research question.

Another way we can help is by developing strategies to incorporate new knowledge into the repertoire of attending physicians in such a way that the knowledge is utilized, because the information is there, but clinicians are not using it. And that is a research question: Why are they not using it? What active ingredients do we need to identify to optimize the chances that it will be used? That's the way I think NIH can and should participate.

QUESTION (From Dr. Norman Wetterau):

I'm involved with the American Academy of Family Physicians. I want to thank Dr. Volkow for your letter of support for a resolution that was before our Congress of Delegates, calling for more physician education about alcohol and drugs. I want to thank you and to let you know that the resolution did pass, and we have representation at this meeting and are looking forward to doing things.



TING-KAI LI, M.D.
DIRECTOR, NATIONAL
INSTITUTE ON ALCOHOL
ABUSE AND ALCOHOLISM

As everyone in this room knows, alcohol abuse and dependence and drug addiction go together in the general population, as well as in the clinical population. What I'd like to

do today is to give you a view from NIAAA and discuss how our work relates to what you hope to accomplish by the end of the day.

Let me start with a brief synopsis: the National Institute on Alcohol Abuse and Alcoholism was established in 1973. Its mission was primarily to provide treatment or prevention services, training, outreach, and education. Research was really a relatively minor component. In 1992, the research institutes — NIMH, NIDA, and NIAAA — were transferred to the National Institutes of Health, while the service delivery functions were assigned to the newly created Substance Abuse and Mental Health Services Administration (SAMHSA).

Our current mission at NIAAA is to support and promote the best science on alcohol and health for the benefit of all, by doing the following:

1. Increasing our understanding of normal and abnormal biological functions and behavior related to alcohol use;
2. Improving the diagnosis, prevention, and treatment of alcohol use disorders; and
3. Enhancing the quality of health care.

To understand alcohol drinking and its effects requires cross-disciplinary approaches in research. These range from studies on molecules and cells through animal models, from human laboratory studies, to population-based studies. At the same time, in order to develop efficacious and effective treatment and prevention strategies, we need multidisciplinary approaches. Which also requires multidisciplinary collaboration among investigators.

Quality care requires translation and dissemination of new knowledge to health care professionals and the public at large. NIAAA has had active partnerships to sponsor career development and faculty development programs for 20 years. NIAAA has continued to support education of health professionals and the career development of educators and clinical investigators in a number of health professional schools.

Here are some examples of recent activities in the health professions education that NIAAA conducts. First, we've collaborated with the Research Society on Alcoholism to develop a multidisciplinary curriculum for young biomedical scientists,

which is a cross-disciplinary training exercise. Second, we've developed curricula for social workers, emergency department and primary care physicians, as well as pastoral counselors. (Some of the people involved in these programs are here at this conference.) Finally, we've developed and are further improving a health practitioner's guide for screening and brief intervention with patients who have alcohol problems.

We also continue to support dissemination of new evidence-based knowledge. And we are continuing to make presentations at universities and professional societies and to support publications, such as *Alcohol Alert*. Then there are publications about research, reviews, and other commentaries in professional journals. And we do have a small but active outreach program that offers brochures and pamphlets targeted to health care practitioners and the public.

We support grants for research and training. The "R" series are for research, and the "K" series are for career development. There's one in particular that is underutilized, but it's on the books. It's a KO7 award for scientists and educators, which is meant for development and training of young faculty. We also have a contract arm that does research translation, research dissemination, and the printing of materials.

Now, with all of that, where are we in terms of the quality of care for alcohol use disorders? This is really the topic of today's discussions. The answer is seen in a recent paper by McLellan and coworkers (**Figure 1**), who took 10 different acute and chronic conditions and developed what they considered to be perfect quality of care, which was given a score of 100. Then they reviewed cases and assigned scores to the care actually delivered. Figure 1 shows the scores for various disorders. Breast cancer, low back pain, and depression score fairly well, but even the best is only 80 percent. Where is alcoholism treatment? It's dead last. On the quality scale, alcohol treatment scores a 10.

So something isn't working, but what is it? The accepted barriers to high-quality alcohol prevention and treatment include attitudes, values, beliefs, and perceptions on the part of health care professionals and the public at large; stigma; and the belief that alcohol and drug addiction are moral failings and not diseases. On the whole, we don't understand the burden of alcohol and drug use disorders. There is bias on the part of physicians because their training relies on inpatient clinical populations.

Another factor is the lack of knowledge that treatment and recovery are successful. And then, of course, there is the lack of skills in prevention and intervention: if you don't have the skills, you can't use the skills. There also is a lack of knowledge about what resources are available in the community. And finally, as Tom McClellan has pointed out, there is a weak and insufficient treatment infrastructure. So there are multiple factors contributing to the problem.

From NIAAA's perspective, what kind of new knowledge might influence physicians' attitudes and beliefs about the quality of care of alcohol problems? First, physicians need to understand and be very aware of the impact of alcohol use disorders on personal health, public health, and the economy. Second, they need to recognize the prevalence of alcohol use disorders in adolescence and how it plays out across the lifespan. Third, physicians need to understand that there is a relationship between the quantity and frequency of drinking and the risk of harm. Fourth, they need to know about treatment success rates from the recent literature. Finally, they need to understand something about recovery in the general population and not just clinical populations.

It's also important for us to recognize how the public in general consumes alcohol. Alcohol is illegal for underage populations, but it is legal for adults. One-third of the population does not drink at all, while two-thirds do. Three times more males drink than females; there's an interesting scientific question as to why this is so. It may not be entirely cultural; there may be some biological explanations as well.

We also know that 60 percent of alcohol is consumed by 10 percent of the population. You might say that the 10 percent is the target population we should look at. However, a much larger part of the drinking population is at risk for alcohol-related problems. **Figure 2** contains data from a recent epidemiologic survey, and shows something about drinking patterns and how they relate to problems. The major problem is exceeding the daily limit, which is four drinks per day for men and three drinks per day for women. Those who exceed these limits, even on an infrequent basis, are at increased risk for alcohol abuse and addiction. Drinking a lot of alcohol in a short period of time impairs mental capacities and motor function. When it happens infrequently, there is a very modest increase in dependence. When it happens more often (once a week or more), the risks go up, so that one in four persons in this category have problems. These data provide a pretty good guide in terms of screening and brief intervention and where a physician should be looking.

Dr. Volkow spoke of the importance of concentrating on the developmental trajectory of substance abuse, including alcohol. The data in **Figure 3** are from the same database. When we look at the age of first use of alcohol, we see two peaks. The larger peak corresponds with the age when young people attain the legal age or go to college. But there is another good-sized peak of people who start to use alcohol very early in life.

Those who do this become alcohol-dependent faster. If you first start drinking at age 13 rather than age 20, you have an almost fourfold greater risk for developing alcohol dependence. The risk is further increased if you have a family history of alcoholism. One reason is that underage individuals drink

differently than adults: they drink less frequently, but they drink more per occasion. As a result, the data show that the onset of alcohol dependence is concentrated in the 18- to 25-year-old age group. There are important public health as well as medical implications in this kind of developmental trajectory.

In the hospitals and clinics, we're used to looking at alcoholism as a chronic relapsing disorder, which it is in adults. But that is not addressing the underlying problem, which occurs at a much younger age. We don't see that in the hospitals, but we do see it out in the community, and this is a problem we'll need to address.

There are some other facts that are not widely known that suggest health professionals have a powerful role in motivating high-risk drinkers to enter and successfully complete treatment. Studies show that heavy drinkers are more than twice as likely to reduce or moderate their drinking after a screening and brief intervention. This finding applies to both men and women.

It's also important for physicians to understand that although alcoholism is a complex disease, the relapse rate in treated individuals is not very different from that seen with other common diseases such as hypertension, diabetes, and asthma. Treatment success rates for alcohol dependence are in the range of 30 to 60 percent, depending on whether the outcome measure used is continuous abstinence, or reduction in the number of drinks per day, or improved social functioning (the 30 percent figure is for continuous abstinence).

Finally, **Figure 4** shows data yet to be published (it's in press). It is based on people who have been dependent and looks at how they're doing 5 and 10 and 20 years later. This is a cross-sectional study, of course; what we need are longitudinal studies. But this is an interesting profile: over the years, the number of people who are dependent goes from about 55 percent all the way down to less than 10 percent. Some are in partial remission, and some have become abstainers. Some even are asymptomatic drinkers.

To understand the factors that contribute to these data is vitally important for us in terms of treatment and prevention strategies. The data also represent important information for physicians and other health professionals.

Now, how do we overcome the barriers to high-quality care to prevent and treat alcohol problems? I would submit that current research and education initiatives are necessary but not sufficient. So from the NIAAA perspective, we have a proposal: NIAAA would be supportive of a collaborative program for the development of core faculty in schools of health professions education. The programs would have a career and a scholar-investigator component. We see this as a way to develop faculty who are knowledgeable about this

area, and who are able to invest in both teaching and research. A career clinical scholar and investigator would be a key member of the core faculty who is responsible for education, for conducting research on education and health services research, and for mentoring the next generation of clinical scholars and investigators.

We believe that the KO7 mechanism, which already is on the books, is ideally suited for both career development of young clinical investigators and the mentoring component of such a program. We are willing to invest in this over the next nine years in a collaborative manner, but it will require buy-in from the schools of medicine and other health professions.

In summary then, I want to say that, throughout its history, NIAAA has supported health professions education through a variety of mechanisms. This proposal to further invest in the goal of high-quality alcohol prevention treatment and care can be done best in collaboration with the professional schools and with other Federal agencies and private sector organizations. We look forward to your discussion of the proposal and to your collective response. Thank you.



JEFFREY RUNGE, M.D.
ADMINISTRATOR, NATIONAL
HIGHWAY TRAFFIC SAFETY
ADMINISTRATION

Here is what brings us together: If you go to the CDC's Web site, you will find a file that shows the 10 leading causes of death in the United States. Under the World Health

Organization's conventions, CDC lumps all unintentional injuries into one group. This always bothered me, and I wanted to separate out motor vehicle crashes. I could never do that until I actually had a staff to do it; I now have that staff and they have done it.

Figure 1 shows what happens when you separate out motor vehicle crashes from other causes of injury: Of the 10 leading causes of death in the United States by age, motor vehicle crashes rank number 1 from the toddler age group (just over age 2) through 34 years of age. They are overtaken by cancer and heart disease as a cause of death only in the 35 to 44 age group.

When I talk about traffic injuries as a public health problem, people agree emphatically, as they do when we describe AIDS as a public health problem. But these data show the situation graphically. We are consuming our young with motor vehicle crashes, and the cause boils down to three things: impaired driving, failure to wear a safety belt, and speeding.

What I'm going to focus on today is impaired driving and the

strategy we have chosen to address it. The reason that we are here, obviously, is because we are concerned about a segment of the impaired driving population that will not respond to prevention messages. They will not respond to social norming. They do not respond to anything except their physicians and, we hope, addiction treatment. But to treat them, we have to find them.

This is the fifth meeting that I've been involved with, and that NHTSA has been involved with, on screening and brief intervention in primary medical practice. In 2000, NHTSA sponsored a meeting on developing best practices for emergency care of the alcohol-impaired patient. The meeting occurred before I arrived at NHTSA, but I was very much involved in the community. In 2001, the CDC and NHTSA sponsored a meeting on alcohol problems and emergency department patients; the proceedings are available on CDC's Web site. In May 2003, we sponsored a meeting on crossing barriers in emergency care of alcohol-impaired patients. In February 2004, we gathered medical leaders together to talk about screening and intervention. Sooner or later, we'll have to quit having meetings and start doing something.

Figure 2 is not a very sophisticated pie chart. It attempts to show predicted savable lives. In other words, if we take out motor vehicle crashes that occur at greater than 50 miles per hour at impact, and if we take out nonsurvivable crashes and just look at preventable deaths and survivable crashes, what are the factors that could result in their prevention?

There is obviously some double-counting here. But when you make it ridiculously simple, about a third of lives lost are attributable to impaired driving; about a third of lives lost are from failure to use safety belts; and about a third of lives lost are from all other causes, such as pedestrian safety, child safety, intersection crashes, off-road crashes, isolated without belts, and alcohol use. When you're trying to set priorities for a government agency, a picture this clear is very useful. For us, it's on the behavioral side, not the vehicle safety side. We also regulate the motor vehicle industry, but on the behavioral side, use of safety belts and prevention of impaired driving are the focus of our work.

There has been some relatively good news over the last year. Don't be misled by this histogram. It starts at 40,000; it does not start at zero. If it started at zero, you wouldn't be able to see much of a difference here. But the good news is that we had the first decline in overall fatalities that we've had in quite a long time. The exposure that people have to death from motor vehicle crashes in the United States has increased about two percent per year since we started keeping records in the 1960s. So the rate has been going down fairly consistently, even as the absolute number of drivers killed has increased. In 2003, however, we saw the first actual decline in a long time.

It's easy to see [on the histogram] that 939 fewer people died in crashes in passenger vehicles in 2003 than in 2002. At the same time, safety belt use rose to 80 percent. There's an obvious conclusion here. Let's look at alcohol-related crashes. You can see that the rate has come down since 1982, and sort of flattened out in the mid-1990s. Last year, we actually had the largest decline since 1992.

Something happened in the 1980s that was a sea change. You don't hear "one for the road" at a party much anymore, or at least at the parties I attend. If you think about it, it became socially normal to drive sober and socially abnormal to brag about how drunk you were when you drove home. A norming process took place.

Unfortunately, the people who are represented by this part of the histogram aren't affected by these social trends. We know who they are, and they really are the reason that you're here.

For those of you who don't like pictures, **Figure 3** shows the numbers of alcohol-related crashes. Again, I have to point out that we use the best methodology in the world for estimating alcohol-related fatal crashes. We take all the knowns that are reported by the police, the toxicology reports from the police, and then we impute the real number, because we have blood alcohol and drug screens for such a small number of the fatal crashes.

We actually do an imputation of what we believe the number to be, and it is based on surrogates; for example, the proportion of crashes that are known to be alcohol positive occur at night, single vehicle, rural roadway. When we look at a percentage of single vehicle, nighttime, rural roadway crashes, we know that, with reliability over many years, they are going to be alcohol related. This is how the number is arrived at, although this is not a census like our Fatality Analysis Reporting System, FARS, is: 42,825. You can believe that. But this is the best estimate, and it's pretty tight, we believe.

As I said, we saw the first decline in 2003 (**Figure 4**). What's most impressive about this figure is that in the BACs between .02 and .079, it only represents about 2,300 of the 17,000. Everybody else — 14,630 — is over .08.

Let's look at age for a minute. Part of the problem with being a government official is that we have to make some choices, because we don't have enough resources to do everything we would like to do. We have to focus resources on the places where we can do the most good. It doesn't take a rocket scientist or even a simple emergency physician from North Carolina to figure out where the risks are, using this histogram.

Clearly, we are killing our young people in alcohol-related fatal crashes. The peak level occurs among new drinkers, who also are relatively inexperienced drivers, followed closely by 21- and 22- and 23-year-olds and, sadly enough, 19- and 20-

year-olds. What the 21-year-old drinking law did was to save thousands and thousands of teenagers.

This is the crux of the issue for screening and intervention. **Figure 5** shows a histogram of alcohol levels of alcohol-positive drivers who were involved in alcohol-related crashes. In 2003, the median and the mean BAC levels were .16, so fully half of the drivers who were involved in fatal alcohol-related crashes had blood alcohol levels higher than .16.

Here is my point: When we're trying to look at who to target, we have to employ different strategies for different parts of the population. These are sick people, and they need a doctor. Interestingly, most of them have a doctor, and most of them interface with the medical profession in the emergency department, if nowhere else. But what do we do about it?

As I mentioned before, there is double counting. People who drive impaired don't buckle their safety belts. People who don't buckle their safety belts drive impaired. And so fully 70 percent of the fatal crashes that were alcohol-related involved unbelted drivers, as compared with a little under half of crashes that were not alcohol-related. What we're seeing is a population of risk-takers, and that bit of information may stimulate some ideas about how to approach them and what questions to ask.

Whenever I talk about what we are going to do about impaired driving, I am asked if it is an insurmountable problem. The answer is no; it is not an insurmountable problem. But we have to break up the problem into its constituent parts. We did have a problem in the 1980s with people who were socially responsible, who were socially normal, and who would drink three, four, five drinks; have one for the road; hop in the car; and go home. And if they had a crash, it was considered an "accident." Those days are gone.

But we also have new drivers every year. And we have new drinkers every year. So we have a need for high-visibility enforcement, coupled with advertising messages targeted at males ages 18 to 34, to give them the sense that it is not okay to drink and drive, that they will be arrested and put in jail, and it's going to ruin their lives. That is the purpose of a high-visibility enforcement campaign.

Those who fail to be deterred by this message will fall into the court system if they are apprehended. However, we also have a huge problem in the court system. We have judges who don't know the law. We have wet-behind-the-ears prosecutors in many jurisdictions. The more experienced prosecutors are assigned the robbery and rape cases, leaving the less experienced attorneys to try these complicated DWI cases. To address this, my agency is collaborating with our partners in the Department of Justice, the state Attorneys General, and other officials, to develop a cadre of resource prosecutors in every state, who can assist the district court prosecutors with this very complex law.

Another approach uses DWI courts that are based on the drug court model, which we know works. We funded a study in the late 1990s that looked at the drug court model, meaning a judge orders the offenders to appear monthly and assigns social workers to go to their job sites, obtain urine specimens, and interview their families. Usually, sobriety is a condition of staying out of jail, and if individuals in the program flunk out, it is not good for them. So the success rate in DWI courts is very high. We hope to replicate this approach across the country.

Before we ever get to that point, however, we need physicians to ask the simple questions as part of the routine medical history, particularly with patients in the high-risk populations, such as males ages 18 to 34.

How many of us actually ask these questions: How many drinks does it take before you first feel the effects of alcohol? Has your family been worried about your drinking? There are many, many, many screening tools that all of us are familiar with, such as CAGE and TWEAK. Dr. T.K. Li, who directs the National Institute on Alcohol Abuse and Alcoholism, is working on defining a single question that may be the only question a doctor has to ask. He thinks the question might be, "How many drinks do you drink at a sitting when you drink?" Above four is a pretty good predictor for alcohol use.

So we're after something that won't require extra time in the emergency department and other high-volume locations. Emergency physicians often see 15 patients an hour. They don't have time to go through the AUDIT with every patient. But part of this whole discussion is that if we can communicate, if we can all agree that this is a big enough public health problem and that we have to start this process for alcohol and drugs, then maybe you can tell us what to do, how to do it, and how to normalize this among physicians in the community. We really need something that will make doctors feel good and comfortable about asking the questions.

And the second piece of this is, then what? You have screened your patients and found that they are at high risk for alcohol abuse. Then what? What do you do? We have to make it comfortable for doctors to screen their patients, but we also have to make doctors believe that they're going to have success both if they send their patients somewhere or if there's nowhere to send them, to deal with the issue themselves. You don't need to be sold on that.

Some key issues are shown in **Figure 6**. Pretty good data coming out indicate that 40 percent of the people don't drink at all, so when you ask a screening question, you go to the next thing. Some at-risk drinkers here, believe it or not, will respond to the advice of their doctor. I know that you doctors in the audience don't believe that, but people actually do respond to our advice. And I'm sure you'll have experts who will give you

the literature citations. Even if you're great at a brief intervention, doing a screening and giving advice and following up may, in fact, work for a good portion of this population.

How do we get to this issue of alcohol screening? In medical schools. When I was in medical school, a professor told me that the curriculum content at my medical school was twice what he had to learn at his medical school. And that was in 1977 when I started. In 2004 I can't imagine the curriculum content that has to be packed into the same amount of time. So the chances of getting alcohol screening into a four-year medical school curriculum I'm not very sanguine about, frankly.

I am not sure when this training has to happen. I think I heard about it one time in my freshman behavioral science class, sort of between the lecture on the angry patient and the medical marriage and the human sexual response or something like that. It was not a big feature of my medical school, and I doubt that it is now. But, clearly, training is important.

The insurance laws build in a disincentive for physicians to gather alcohol data on their patients because they're afraid of not being able to bill for services are a reality. We've been working on that. A couple of states, North Carolina being among them, have a law prohibiting that. One of the reasons is because I sent Commissioner Jim Long a bill for \$156,000 for a patient who fell off a ladder, spent a month in the ICU, and had multiple surgeries. Workers Comp refused to pay the patient's bill. Representatives interviewed the patient's co-workers, who said the patient had been drinking beer at lunchtime. I'm happy to say that denying a claim for this reason is against the law in North Carolina now. Maryland, North Carolina, and Vermont, I believe, have adopted laws that say it doesn't matter if a person is using alcohol, insurance is still responsible.

So it is possible to be reimbursed. The National Association of Insurance Commissioners has a model bill, and I would encourage you to look at it. How do you bill for these services? I'm not sure. There's a CPT code for it, but in emergency medicine we can't use it. If we do screening intervention, it might bump us up a level of service. We can't use the CPT code, because nobody will pay.

There also are issues with accreditation. The American College of Surgeons Committee on Trauma is talking about having screening intervention protocols as part of trauma center designation, which I think would be absolutely fabulous. Maybe JCAHO wants to look at this as best practice.

We don't have all the answers, but we do know that screening is an important problem. Having looked at your name tags, I think people in this room can help us navigate our way to making brief intervention standard practice in the United States among physicians and other health care providers.



VICE ADMIRAL
RICHARD H. CARMONA,
M.D., M.P.H.
SURGEON GENERAL OF THE
UNITED STATES

You know, the President has made it very clear to me that substance abuse prevention and treatment are a very high priority for us. I know I'm preaching to the choir when I say that to you. But I think that coming from a President of the United States who is willing to raise this to an issue of national health policy, it is very, very important. And of course, the sole purpose of Director Walters' job is to do something about this dilemma. So the commitment of our government is there.

As you know, my personal involvement is that both my parents were alcoholics and had problems with substance abuse. I got to witness those things as I grew up, and I saw how it disintegrates families. Personally, I saw the difficult decisions that people who are addicted have to make when they have only a few dollars and have to decide whether to buy food or the drug or alcohol. Of course, the children suffer, and it creates a great deal of instability in families.

It's interesting: When I think of myself growing up, I remember how wonderful and kind and caring my parents were, but they were very consumed by their problems, their addictions. And yet, they always tried to care for us. They always tried to do the right things for us. In fact, my mother used to give me lectures about not using drugs and not drinking in the streets with my friends. And yet, they were burdened by it themselves and couldn't get out from under it.

So for me, this is not just an academic discussion. It's something that I really experienced and I feel very passionate about, something that we really need to do something about.

When we hear the term "substance abuse," most Americans immediately think of marijuana, cocaine, heroin, and other illegal drugs. But prescription drug abuse and alcohol abuse also are harming and killing Americans of every race and socioeconomic group. Today, an estimated 6.2 million Americans abuse prescription drugs, compared to 1.6 million in 2000. That's nearly a 400 percent increase in four years. And for the 14 million Americans battling alcoholism, the holiday season, with its parties and champagne toasts, presents a steep challenge. These are people who are ruining their bodies, their minds and, in some cases, dying because of a disease that can be prevented and treated. Substance abuse impacts millions of American mothers and fathers, America's workers, America's future leaders, our children.

Every parent thinks: Am I doing enough to make sure my child stays away from drugs? That's exactly what we should be asking ourselves. What can we do? What can we do to make it better? What we are doing is a Surgeon General's Communication about

teen driving, including the contribution of substance abuse. As you know, not all motor vehicle crashes are related to driving under the influence of drugs and alcohol, but many are. In 2001, 23 percent of young drivers involved in fatal crashes had been drinking. And we're seeing a rising trend in the number of crashes caused by teen drivers who lack experience and focus, or suffer from simple fatigue. Across our Nation, car crashes kill more children and young adults than any other single cause. Each year, more than 41,000 Americans die in motor vehicle crashes, and crash injuries result in more than half a million hospitalizations and four million emergency department visits. The economic burden of motor vehicle-related deaths and injuries also is enormous, costing the United States more than \$150 billion a year, at a time when health care presents a huge economic burden, which is mostly preventable.

The same factors that contribute to younger drivers being involved in motor vehicle crashes account for their higher death rates. (We all remember the teenage years. You feel you're invincible — nothing bad is going to happen to you — it will always be somebody else.)

The time of day also is strongly associated with motor vehicle crashes involving young drivers. For example, more than half occur on weekends, and more than 40 percent occur between 9:00 p.m. and 6:00 a.m.

Before I went into public health, I was a trauma surgeon in an emergency department. I was on the receiving end of all of those victims. I remember, day after day and night after night, those gurneys rolling in. Interestingly enough, no matter why the emergency patients were admitted — domestic violence, gunshot wound, drug abuse — a large percentage were involved with some type of substance abuse, buying, selling, using. And just about two or three out of every four of those cases before me were preventable — they didn't have to be there. People made bad decisions that affected their whole lives.

I'm bringing the idea of a Surgeon General's Communication on teen driving to you because I think that you have a thorough understanding of the role that substance abuse plays in killing our young people on the highways of America. This is actually the first time I've mentioned this to a peer group in any meeting. I would appreciate your professional input and your help in moving forward such an idea and how it might be structured and how we might all partner on something like this.

To put it plainly, drug and alcohol abuse and addiction are societal issues that demand societal solutions. These problems undermine the public health. They create an enormous disease burden and an economic burden that is entirely preventable. The good news is that we can all be part of the solution. And that includes all of us and our colleagues in the health professions. By engaging health professionals, families, and support groups, we can provide assistance to people of all ages and from all walks of life who may be at risk, and help those who have already fallen victim to an addiction, help them to recover and go on to lead productive, drug-free, healthy lives.

To prevent substance abuse and save millions of lives, we must focus on closing the gap between what health professionals know about substance abuse and what the rest of America understands. I think most of you will agree that in our country, we have a largely "health illiterate" society. Health literacy is the ability of an individual to access, understand, and use health-related information and services to make appropriate health decisions. So how does the average person deal with all of the great scientific information that we're trying to give them to change their behavior to keep them healthy, to make their lives better? They simply don't understand. The literature's pretty strongly supportive of the fact that half of patients don't understand the appointment slip and when they're supposed to come back, and a quarter of the people don't understand their prescriptions and what's on them. This health literacy block is very, very significant in everything we do.

How many times have we been annoyed with a patient because he or she is noncompliant? But when you ask why were they noncompliant, you realize: Maybe they didn't understand. Maybe I didn't deliver the message correctly. Maybe it just didn't catch.

How much time are we actually giving to patients today to engage them in conversation to make sure they understand? How are we ensuring that our messages are not only linguistically but culturally competent? So we waste a lot of time and a lot of money because we're trying to explain something to someone who doesn't hear us.

What we're looking for is ways to change behavior. That's what health literacy is all about. There is a gap between those of us who have the knowledge and those who need the knowledge. But how do we get it to them so that they'll incorporate it in their lives, change their behavior, reduce their morbidity and mortality, and improve their health and wellness? No matter what our discipline or specialty may be, that's really the end product of just about everything we do: to keep people healthier. So we have to find ways to do a better job of delivering these very important messages.

Improving health literacy involves giving people information about the safe use of prescription drugs, about staying away from illegal drugs, and about drinking only in moderation, if at all. We also must train ourselves and the next generation of medical professionals to watch for signs of abuse or addiction in our patients.

I want to thank Director Walters and all of you, my colleagues, for what you are doing to prevent, treat, and eliminate substance abuse and increase America's health literacy as we do so. These efforts will lead to a healthier, stronger America. Together we are facing this problem before it becomes impossible to turn around. Together we are asking the tough questions and applying the best science and solutions to helping Americans. I realize that it's a very, very difficult problem that we're dealing with, but we really have to do something about it. It's the right thing to do, because there are people who desperately need our help.