

**Hearing before the
Health, Education, Labor, and Pensions Committee
United States Senate**

“OxyContin: Balancing Risks and Benefits”

Statement for the Record

February 12, 2002

**Glen R. Hanson, Ph.D., D.D.S.
Acting Director
National Institute on Drug Abuse
National Institutes of Health
U.S. Department of Health and Human Services**

**Department of Health and Human Services
National Institutes of Health**

**Statement for the Record
Glen R. Hanson, Ph.D., D.D.S.
Acting Director, National Institute on Drug Abuse**

Mr. Chairman and Members of the Committee, I am pleased to submit the following statement for the record discussing what we have come to learn about psychoactive prescription drugs, their potential for abuse, and how we can both prevent and treat individuals who may abuse or become addicted to them. Because the specific topic of today's hearing is OxyContin, I will provide some information about this opiate and then broaden the discussion to give you an idea of how research on a specific drug like this fits into the National Institute on Drug Abuse's (NIDA's) overall research portfolio.

OxyContin as a prescribed medication is a very effective and efficient analgesic. When used for legitimate medical purposes, this controlled substance can improve the quality of life for millions of Americans with debilitating diseases and conditions. It is often prescribed for cancer patients or those with chronic, long-lasting pain. It is when a medication such as this is intentionally misused that it begins to pose a serious public health threat. This is what appears to be happening with this particular drug.

OxyContin is the brand name for an opioid analgesic that is prescribed by doctors for chronic moderate to severe pain. It was approved by the Food and Drug Administration in late 1995. Because it has the ability to slowly release its active

ingredient oxycodone over about a twelve-hour period, it is an effective and efficient medication for the millions of people who suffer from chronic pain each year. OxyContin tablets are produced and manufactured by Purdue Pharma in various strengths ranging from 10mg to 160mg and are specifically developed to be taken orally. It is classified as a Schedule II drug, meaning it has a high potential for abuse and is only available by prescription by a licensed physician.

This Committee has recognized what we also perceive as an important emerging public health problem and why we launched last year a major initiative on prescription drug abuse and misuse. NIDA is encouraging more research in this area, particularly to understand the factors contributing to prescription drug abuse, and to develop more effective prevention and service delivery approaches as well as more behavioral and pharmacological treatments.

A variety of sources, including NIDA's own Community Epidemiology Work Group, a network of epidemiologists and researchers from 21 major U.S. metropolitan areas who monitor and report on community-level trends in drug abuse, are finding that people are "short circuiting" the time-release form of this medication by chewing, crushing, or dissolving the pills. Chewing or crushing the prescription drug corrupts or foils its time-release protection, enabling the users to experience a rapid and intense euphoria that does not occur when taken as designed and prescribed. Once having crushed the pills, the individuals are injecting, inhaling, or taking them orally, often with other pills, marijuana, or alcohol.

It is the active ingredient oxycodone, a synthetic opiate similar to morphine, that appears to be particularly attractive to the user and what is being used increasingly in urban, suburban, and rural areas. For example, according to the Substance Abuse and Mental Health Services Administration's (SAMHSA) Drug Abuse Warning Network, emergency room mentions of prescription drugs containing oxycodone (which may include drugs such as Percodan, Percocet, and OxyContin) increased 89 percent from 1993 to 1999 (from 3,395 to 6,429). Recently we have seen it increase by 68%, with 10,825 emergency room mentions in 2000.

It is this euphoric effect and the fact that many people perceive prescription pain killers as "safe" that are likely the reasons why this drug is being abused in such alarming numbers. The users want to receive the pleasurable effects, in the same way that people abuse and become addicted to drugs such as heroin or cocaine. In fact, there are some indicators suggesting that this drug may be used by some as a substitute for heroin.

Alternatively, some people may begin to use them appropriately as prescribed but over time may deviate from the prescribed regimen and may become addicted without intentionally setting out to abuse the drug in the first place. Reports of people becoming addicted to OxyContin, if used as prescribed, are rare.

Opioid drugs, such as oxycodone, work primarily through their interaction with the mu opioid receptors, especially in the brain and spinal cord. When activated, these

receptors mediate the drugs' analgesic effects. However, they also mediate the ability to produce the euphoric state. Moreover, opioids like oxycodone have similarities to virtually every other drug of abuse, including nicotine, alcohol, marijuana, cocaine, heroin, and methamphetamine, in that they elevate levels of the neurotransmitter dopamine in the brain pathways that control the experience of pleasure.

Prolonged use of these drugs eventually changes the brain in fundamental and long-lasting ways, explaining why people cannot just quit on their own, and why treatment is essential. In effect, drugs of abuse take over the brain's normal pleasure and motivational systems, moving drug use to the highest priority in the individual's motivational hierarchy, thereby overriding all other motivations and drives. These brain changes, then, are responsible for the compulsion to seek and use drugs that we have come to define as addiction. This is likely the state people are in when they are reportedly "doctor shopping," feigning illnesses, and stealing from pharmacies to obtain the drug.

Fortunately, we have a number of effective options to treat addiction to prescription opioids and to help manage the sometime severe withdrawal syndrome that accompanies sudden cessation of drug use. These options are drawn from experience and clinical research regarding the treatment of heroin addiction. They include medications, such as methadone and LAAM (levo-alpha-acetyl-methadol), and behavioral counseling approaches.

Typically, the patient is medically detoxified before any treatment approach is begun. Although detoxification in itself is not a treatment for opioid addiction, it can help relieve withdrawal symptoms while the patient adjusts to being drug free. Once the patient completes detoxification, the treatment provider must then work with the patient to determine which course of treatment would best suit the needs of the patient.

Medications that were developed through NIDA-supported research, such as methadone and LAAM, can be used as effective treatments for addiction to opiates, if available to the patient. Methadone is a synthetic opioid that alters the effects of heroin and other opioids, eliminates withdrawal symptoms, and relieves drug craving. Treatment with methadone requires daily dosing. It has been used successfully for more than 30 years and has allowed many addicts to lead productive lives.

LAAM can alter the effects of opiates for up to three days. Research has demonstrated that, when methadone or LAAM are given appropriately, they have the ability to counter the euphoria caused by the opiate, if the individual does in fact try to take the drug. Researchers have also developed naltrexone, an opioid blocker that is often employed for highly motivated individuals in treatment programs that promote complete abstinence. Another medication, Naloxone counteracts the effects of opioids and is used mostly to treat overdoses.

As good as these treatments may be, there is no silver bullet for treating addiction to opiates. Research has shown, however that combining pharmacological approaches

with behavioral therapies is the most successful approach to treating drug addiction. Behavioral therapies such as contingency management and cognitive-behavioral interventions, for example, have both been found to complement anti-addiction medications, such as methadone, successfully.

Unfortunately, many of the OxyContin abusers we are talking about today may be in locations where methadone clinics that can dispense medications are not easily accessible. This is one of the reasons we are trying to bring new, safe, and effective medications to the offices of physicians. NIDA is working with the Food and Drug Administration and the pharmaceutical industry on a new medication called buprenorphine. This medication has the potential for administration in less traditional drug-treatment environments, thus expanding treatment to populations who either do not have access to methadone programs or are unsuited to them, such as adolescents.

The point I would like to conclude with is that although the relatively sudden increase in drugs such as OxyContin and 3,4-methylenedioxymethamphetamine (MDMA) may be among our greatest concerns at this moment, they are just two of the many drugs out there that can harm the citizens of our Nation. The overall picture of drug abuse in the United States is constantly changing. As soon as we get a clear understanding of drug use patterns and gain some control over existing drug problems, new dangerous substances seem to emerge. Similar to the way a virus mutates, both regional and national drug abuse patterns are constantly reshaping and rarely remain static. By having our finger on the pulse of these constantly changing drug trends and by

having a comprehensive research portfolio that covers all substances of abuse, NIDA is poised to use the power of scientific research and its application to avert emerging drug problems before they become national epidemics.