

**ABUSE OF PRESCRIPTION DRUGS:
PREVALENCE, CONSEQUENCES, AND IMPLICATIONS**

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ABUSE OF PRESCRIPTION DRUGS: PREVALENCE, CONSEQUENCES, AND IMPLICATIONS

EXECUTIVE SUMMARY

The non-medical use of prescription drugs, especially opiates such as oxycodone and hydrocodone, has increased throughout the nation, with disparate trends in some regions and populations. Increased use of prescription opiates, particularly OxyContin and Vicodin, is occurring among young adults, especially outside urban areas. Illicit use of benzodiazepines and other sedatives/tranquilizers has also increased in most populations, and these drugs are often abused in combination with street drugs and other prescriptions drugs, a fact that is starkly evident in their presence in a majority of drug-related overdose deaths and suicides among young people. Tranquilizer use has decreased among high school students but has increased among persons seeking Emergency Department treatment for a drug-related illness or injury.

Nationwide, the most recent research estimates that 6.3 million persons were current (in the past month) users of one or more psychotherapeutic prescription drugs taken for non-medical purposes. This represents 2.7 percent of the population age 12 or older. An estimated 4.7 million Americans used pain relievers, 1.8 million used tranquilizers, 0.3 million used sedatives, and 1.2 million used stimulants.

Non-medical use of opiate pain relievers increased significantly between 2002 and 2003 across the country among persons age 12 or older. At some point in their lifetimes, 31.2 million individuals had used pain relievers for non-medical purposes (up from 29.6 million). Pain relievers with statistically significant increases in lifetime use were Vicodin®, Lortab®, or Lorcet® (from 13.1 million to 15.7 million); Percocet®,

Percodan®, or Tylox® (from 9.7 million to 10.8 million); OxyContin® (from 1.9 million to 2.8 million); methadone (from 0.9 million to 1.2 million); and Ultram® (from 52,000 to 186,000). The abuse for non-medical purposes of prescription drugs is largely an activity of younger White people, but the location of such use seems to be spreading throughout suburban and rural America with greater penetration into non-White racial/ethnic populations. Furthermore, over all the drug categories (opiates, sedatives/tranquilizers, and stimulants), although White males are more likely than other groups to abuse prescription drugs, recent increases in past-month use of any prescription drug occurred among females and Hispanics, and among unemployed persons. Adults age 18 to 25 are more likely than persons in other age groups to begin abusing prescription drugs, but past-year dependence-level abuse of any prescription drug increased for the 12-17 group while falling for individuals 18 and older. A particularly troubling finding is the increasing prevalence in abuse of many prescription drugs by adolescents and younger adults.

In California, several regional differences in prescription drug abuse are apparent from limited data and from anecdotal reports, but comprehensive data are lacking for many of the prescription drug phenomena. Extrapolations from national estimates of prevalence can be made to recognize that the State suffers at least the equivalent of 12% of the nation's drug problems, based on the fact that California's population is more than 12% of the nation's. Prescription drugs comprise a small proportion of all treatment admissions, but play a more substantial role in drug-related emergency department episodes and mortality data. The consequences of prescription drug abuse are considerable: by the end of 2002, emergency department mentions of benzodiazepines

and opiate pain relievers were about as frequent as mentions of heroin or marijuana but ranked below cocaine and alcohol.

A primary implication of this report on prescription drugs is the recognition that preventing and treating the related problems will require a far better understanding of their extent and nature beyond what can be empirically supported by current data collection and dissemination efforts. Improvements to local and regional efforts to gather and analyze information on prescription drug abuse will be necessary first steps toward effectively addressing the growing problem of prescription drug abuse in California.

INTRODUCTION AND OVERVIEW

RATIONALE FOR THE REPORT ON PRESCRIPTION DRUG ABUSE

Abuse of prescription drugs in recent years has elicited increasing concern among policymakers, treatment providers, law enforcement personnel, school administrators, healthcare providers, parents, and researchers. “Misuse” of prescribed medications (i.e., incorrect dosing, noncompliance with dosing instructions, inadvertent mixing of incompatible drugs, accidental over/under medication, etc.) has been a long-standing problem; however, the focus of this report is the purposeful use of such drugs for non-medical reasons to achieve intoxication, which is an escalating problem across the country, especially among young people.

In California, which typically leads the nation in setting trends, prescription drug abuse occurs across all demographic and socioeconomic categories, as evident in pertinent databases. None of the existing databases offers a comprehensive, up-to-date depiction of the full extent and nature of prescription drug problems, however, that

would be sufficient to empirically support an accurate understanding of the situation in California. Thus, the California Department of Alcohol and Drug Programs (ADP) requested a report based on the available data to assess prescription drug abuse and its consequences.

The generally expanding prevalence and growing negative consequences of prescription drug abuse may be attributed to many factors, including the proliferation of medications for conditions such as chronic pain, insomnia, anxiety, attention-deficit hyperactivity disorder (ADHD), insomnia, narcolepsy, psychosis, and other acute and chronic ailments treated by potentially abusable drugs with psychoactive effects. The burgeoning population of elderly suffering health conditions treated by medications with psychoactive effects is pronounced in California and other states with large populations of elderly (e.g., Florida and Arizona). Prescription drugs have become more readily accessible to adolescents and young adults via “doctor shopping,” pharmacy/hospital thefts, prescription forgery, unscrupulous physicians, importation from border and Internet pharmacies, and criminal diversion at wholesale levels. In some cases, use of illegally obtained prescription drugs, often in combination with alcohol or “street” drugs, displaces traditional preference for the illicit street drugs.

The consequences associated with abuse of prescription drugs are as dire as those of street drugs like heroin, cocaine, and methamphetamine: dependence, overdose-related death, compromised physical and mental health, family disruption, degraded economic activity and scholastic achievement, criminal activity, incarceration, and burdens on the health care system and criminal justice system. In spite of the growing prevalence of prescription drug abuse and increasingly evident consequences

(including among high-profile public figures such as Rush Limbaugh and Michael Jackson), there have been insufficient efforts to assess and clearly delineate the associated patterns and consequences through modifications to large-scale and local data collection techniques. The resultant lack of comprehensive information on the issues has obscured awareness of the problems and has hindered development of strategies to address them.

Developing targeted strategies for prevention and treatment of prescription drug abuse requires much greater understanding of the patterns and consequences of the problem than is currently available in the extant databases. This report offers a summary view of prescription drug abuse based on the most current databases at the time of preparation (Spring 2005). Notably, the data are incomplete for many regions and metropolitan areas across the country and in California. Furthermore, the structure of survey instruments and occasionally inconsistent administration and reporting constrain confidence in any overview based on discrete sources. Thus, this report attempts to weave together findings from the available data sources to produce a useful depiction of prescription drug abuse problems and related issues. Following discussion of the prevalence and consequences of prescription drug abuse in the nation and in California, concluding remarks offer suggestions on improvements to data collection and dissemination efforts, particularly in California, that would better serve the stakeholders involved in identifying and addressing prescription drug abuse problems.

THE WIDELY ABUSED PRESCRIPTION DRUGS

The categories of prescription drugs most widely used as illicit intoxicants and broadly recorded in many of the pertinent databases are: opiates, sedatives/tranquilizers, and stimulants. This report focuses on the prominent prescription drugs in these three categories most widely abused for non-medical purposes of achieving psychoactive effects. The discussion excludes the medical “misuse” of prescribed medications (i.e., incorrect dosing, noncompliance with dosing instructions, inadvertent mixing of incompatible drugs, accidental over/under medication, etc.).

(Note: The trade names for most of the prescription drugs discussed in this report are registered by their manufacturers or manufacturers’ licensees and are acknowledged as trademarked in their initial mentions and not subsequently; information on the manufacturers responsible for the production and distribution of these drugs is available in the Glossary that follows the References section. In some cases, the generic name for the drug—e.g., methadone, hydrocodone—is used).

Opiates

This category includes opiates (other than heroin) such as codeine, hydrocodone (Vicodin®, Lortab®, Lorcet®, Tussionex®), oxycodone (OxyContin®, Percodan®, Percocet-5®, Tylox®), d-propoxyphene (Darvon®), hydromorphone (Dilaudid®), morphine, meperidine (Demerol®), methadone (Dolophine®), and fentanyl (Duragesic®, Actiq®). In recent years, data have documented increasing production, sales, and illicit diversion of these drugs and increasing numbers of adverse events, as well as patterns of abuse by young adults and by persons in non-urban areas. The use

of opiates for non-medical purposes can lead to potential consequences similar to those of the street opiates (heroin and opium), including dependence, overdose death, criminal activity, and drug-related accidents and incidents leading to morbidity and mortality.

Sedatives and Tranquilizers

This category includes barbiturate-type sedatives such as phenobarbital and secobarbital (Nembutal®, Seconal®, Tuinal®), non-barbiturate sedatives such as methaqualone (Sopor®, Quaalude®), and tranquilizers and antianxiolytics such as diazepam (Valium®), alprazolam (Xanax®), flunitrazepam (Rohypnol®), clonazepam (Klonopin®), flurazepam (Dalmane®), lorazepam (Ativan®), carisoprodol (Soma®), and chlordiazepoxide (Librium® and Librax®). These drugs are often used in combination with alcohol and drugs such as heroin, cocaine, and the “club drugs.” Prominent among the abused drugs in this category are the benzodiazepines, particularly Valium, which is prevalent in combination with other prescription drugs and alcohol in a significant number of suicides by overdose, as well as in accidental overdose incidents.

Stimulants

Though traditionally associated with fewer mortal consequences than attributable to the opiates and sedatives, the prescription stimulants are widely abused for non-medical purposes and are implicated in injury, morbidity, and death. Stimulants such as methylphenidate (Ritalin®, used to treat ADHD) have high abuse potential, and stimulant abuse rapidly escalating to dependence is common. In addition to taking

prescription stimulants for their psychoactive (intoxicating) effects, people seeking performance enhancement or weight loss also abuse prescription stimulants such as dextroamphetamine (Dexedrine®, Benzedrine®, prescribed for narcolepsy), sibutramine hydrochloride (Meridia®, for depression, asthma), phentermine (Fastin®, for obesity), and methamphetamine hydrochloride (Desoxyn®, Methedrine® for ADHD and obesity) in addition to or in place of illegally produced amphetamine/methamphetamine.

PRIMARY DATA SOURCES

Data from a number of sources has been evaluated to identify trends and patterns in the abuse of prescription drugs. The data are arranged to put together a picture of who tends to use which drugs, the trends in use, and the medical and psychological consequences of prescription drug abuse. The following data sources are discussed in detail in each drug section.

The Monitoring the Future Survey (MTF) is conducted by the University of Michigan's Institute for Social Research and is funded by the National Institute on Drug Abuse (NIDA). It tracks illicit drug use and attitudes toward drugs by eighth, tenth, and twelfth graders, as well as college students, peers their age not in college, young adult high school graduates through age 30, and high school graduates ages 35, 40, and 45. The MTF data presented in this report cover 8th, 10th, and 12th graders, college students, and young adults ages 19-28. For psychotherapeutic drugs (amphetamines, sedatives [barbiturates], tranquilizers, and narcotics other than heroin), respondents are instructed to include only use “...on you own – that is, without a doctor telling you to take them.” The MTF

reports can be accessed at <http://monitoringthefuture.org>.

The National Survey on Drug Use and Health (NSDUH), formerly called the National Household Survey on Drug Abuse (NHSDA), is conducted by the Office of Applied Studies of the Substance Abuse and Mental Health Services Administration. It collects information on the prevalence, patterns, and consequences of alcohol, tobacco, and illegal drug use and abuse in the U.S. civilian non-institutionalized population, ages 12 and older. In 2003, this survey sampled a total of 67,784 individuals who were representative of the U.S. general population. The NSDUH obtains information on nine different categories of illicit drug use: marijuana, cocaine, heroin, hallucinogens, inhalants, and non-medical use of prescription-type pain relievers, tranquilizers, stimulants, and sedatives. These four categories of prescription-type medications cover numerous drugs available through prescriptions and sometimes illegally on the street. Respondents are asked to report only uses of drugs that were not prescribed for them or drugs they took only for the experience or feeling they caused. Over-the-counter drugs and legitimate uses of prescription drugs are not included. The survey reports can be found at <http://oas.samhsa.gov/nhsda.htm>. [The references corresponding to NSDUH data are SAMHSA 2004a, SAMHSA 2004b, and SAMHSA 2004c].

The Drug Abuse Warning Network (DAWN) comprises two components: emergency department (ED) data and mortality data from medical examiners/coroners (ME/Cs). DAWN accepts reports of ED episodes involving the non-medical use of legal drugs (which can involve the deliberate abuse of prescribed or legally obtained over-

the-counter medications or pharmaceuticals diverted for abuse) and drug-related deaths in which prescription and over-the-counter pharmaceuticals were recorded.

In calendar year 2003, the DAWN system underwent a major overhaul, and essentially every aspect of DAWN changed. To date, the only estimates to be released from the “new” DAWN ED system are preliminary, and cannot be aggregated or compared across metropolitan areas. To allow for comparisons across California metropolitan areas, final estimates and rates based on “old” DAWN ED data collected in 2002 will be presented throughout the paper.

Unlike the ED component, the ME component is not a sample and it does not provide statistical estimates for the nation as a whole; it simply collects data voluntarily reported by interested medical examiners. The DAWN mortality data presented throughout the paper is drawn from the “new DAWN” data collection system and corresponds to data collected in 2003. The Office of Applied Studies of the Substance Abuse and Mental Health Services Administration conducts DAWN. The reports are at <http://dawninfo.samhsa.gov>. [The references corresponding to DAWN data are SAMHSA 2005 and SAMHSA 2003].

The Treatment Episode Data Set (TEDS) collects information on individuals admitted to substance abuse treatment facilities that are licensed or certified by the 50 state substance abuse agencies. Reporting facilities tend to be those that receive state alcohol and/or drug agency funds, including Federal Block Grant funds. In 2002, over 1.9 million treatment admissions were reported. TEDS is conducted by the Office of Applied Studies of the Substance Abuse and Mental Health Services Administration. The reports are at <http://oas.samhsa.gov/dasis.htm#teds2>. [The references

corresponding to TEDS data are OAS 2005, OAS 2004, SAMHSA 2004d, and SAMHSA 2004e].

NATIONAL TRENDS IN PREVALENCE, DEMOGRAPHICS, AND CONSEQUENCES

OF PRESCRIPTION DRUG ABUSE

PREVALENCE

The most recent data on the prevalence of prescription drug abuse come from the 2003 administration of the National Survey on Drug Use and Health (NSDUH), which covers Americans 12 years and older. Information on adolescents is also available from the “Monitoring the Future” study and other sources (discussed in the *Specific Populations* section below). The numbers of new users of psychotherapeutics in 2002 were 2.5 million for pain relievers, 1.2 million for tranquilizers, 761,000 for stimulants (including methamphetamine), and 225,000 for sedatives. According to the NSDUH results, the prevalence of past-year, non-medical use of any psychotherapeutic (i.e., prescription drug) increased from 14.7 million in 2002 to almost 15 million in 2003, and past-month use rose from 6.2 million in 2002 to more than 6.3 million in 2003. Based primarily on the NSDUH data, salient details on prevalence of the different prescription drug categories are presented below.

Opiates. The 2003 NSDUH findings showed that an estimated 4.7 million persons, corresponding to about 2% of the population age 12 or older, were current (i.e., past-month) users of opiate pain relievers taken non-medically. There was a significant increase in non-medical use of pain relievers between 2002 and 2003 across

the country: at some time in their lives, 31.2 million Americans had used pain relievers for non-medical purposes (up from 29.6 million). Past-year use increased from 11 million to 11.7 million. Opiate pain medications with statistically significant increases in abuse at some point in the users' lifetime were Vicodin®, Lortab®, or Lorcet® (from 13.1 million to 15.7 million); Percocet®, Percodan®, or Tylox® (from 9.7 million to 10.8 million); hydrocodone (distinct from Vicodin and other tradenamed versions (from 4.5 to 5.7 million), OxyContin® (from 1.9 million to 2.8 million); methadone (from 0.9 million to 1.2 million); and Ultram® (from 52,000 to 186,000). Among past-year users of prescription opiates, 12.2% used at dependence or abuse level per DSM IV criteria.

Sedatives and Tranquilizers. Non-medical use of sedatives (Seconal, etc.) declined from 980,000 to 831,000 in 2003, and past-month use fell from 436,000 in 2002 to 294,000 in 2003. Past-year non-medical use of tranquilizers (e.g., Valium, etc.) increased from 4.8 million in 2002 to more than 5 million in 2003, and past-month use rose from 1.8 to 1.83 million. The greatest increases in tranquilizer use occurred for Xanax, Ativan, and Klonopin, though Valium remained the primary abused drug in this category. Among past-year users of sedatives, 19% used at dependence or abuse level, and 8.2% of past-year users of tranquilizers were dependent or abusers.

Stimulants. Past-year non-medical use of stimulants other than methamphetamine declined from almost 3.2 million in 2002 to fewer than 2.8 million in 2003, with stable past-month use. Past-year use of methamphetamine-type prescription drugs also declined, from 1.5 to 1.3 million, although past-month use rose

from 597,000 to 607,000. Among past-year users of stimulants (which included methamphetamine), 13.7% used at dependence or abuse level. Notably, estimates for use of illicit methamphetamine indicate increases in many parts of the country, particularly the West and Midwest.

DEMOGRAPHICS

Most recent information on demographic characteristics of prescription drug abusers nationwide is primarily based on the data contained in the NSDUH and the Drug Abuse Warning Network (DAWN), as well as other indirect measures. Age ranges of users are included below, but additional material on adolescents is included in the *Specific Populations* section. Over all the categories, Whites and those 18-25 are more likely than other racial/ethnic and age groups to abuse prescription drugs, though increases in past-month abuse of a prescription drug occurred among females, Hispanics (from 844,000 to 887,000), and unemployed persons. Adults age 18 to 25 are more likely than persons in other age groups to begin abusing prescription drugs, but past-year use of any prescription drug at dependence-level increased, from 189,000 to 222,000, for the 12-17 age group, and from 695,000 to 743,000, for the 26 and older age group.

Opiates. Young adults age 18-25 reported the highest rates of use for prescription opiates, increasing from 4.1 million in 2002 to 4.7 million in 2003, and they significantly increased past-month use (1.3 to 1.5 million). Average age has decreased from 24.9 in 1987 to 22.2 in 2002. Increases occurred in all ages, both genders, and

almost all race/ethnicity groups but African Americans. As evident in treatment admission data, patients who used prescription opiates (in contrast to heroin-dependent patients), had problems with other drugs: alcohol (18%), marijuana (11%), crack cocaine (10%), and benzodiazepines (8%). A recent study of 119 colleges nationwide indicated that one in four colleges had a past-year prevalence rate of 10%, primarily among White students with lower grade-point averages (McCabe et al., 2005).

Sedatives and Tranquilizers. The vast majority of sedative abusers were age 26 and older, with stable or slightly declining rates of use for the primary sedatives: methaqualone (Sopor, Quaalude) and barbiturates (Nembutal, Seconal, Secobarbital, Tuinal, phenobarbital). Young adults aged 18-25 reported the highest lifetime rates of use of tranquilizer-type drugs such as Valium, Xanax, and Klonopin, but in sheer numbers, the over-26 population exceeded the younger users. The number of initiates of non-medical use of tranquilizers increased from 431,000 in 1992 to 1.2 million in 2002, during which time the average age dropped from 27.5 to 23.5. Patients age 26 to 44 had the highest rates of emergency department (ED) visits involving benzodiazepines, but the greatest increase was for patients age 18 and 19. In 1995, the rate was higher for female patients than for male patients (37 v. 23 visits per 100,000); however, by 2002, there was no statistical difference between female and male patients mentioned in ED cases of prescription drug problems.

Stimulants. Whites are more likely than other racial or ethnic groups to abuse prescription stimulants, and many people who abuse these drugs also have psychiatric

disorders. Between the ages of 12 and 17, girls are more likely than boys to begin prescription drug abuse and are more likely to abuse stimulants and sedatives. Use was stable among the 12-25 age group but had declined in the 26 and older group from 2002 to 2003. Besides Whites (10.7%), Native Americans/ Alaska Natives (10.2%) and Native Hawaiians/ Pacific islanders (8.3%) had the highest rates of any stimulant use in their lifetime and Hispanics (5%), Asians (2.8%), and Blacks (2.7%) had the lowest rates. Notably, use of Ritalin had increased from 1.7 to 1.8 million in the 18-25 age group but had decreased significantly from 2.3 to 1.8 million among those older than 26, who also accounted for the vast majority of Desoxyn/Methedrine and methamphetamine users. Use of diet pills (e.g., Benzedrine, Biphedamine, Fastin, or Phentermine) was estimated to be declining across age groups.

CONSEQUENCES

Information on admissions to treatment programs and on emergency department (ED) mentions and deaths involving prescription drugs comes from two nationwide data sources: the Treatment Episode Data Set (TEDS) and the Drug Abuse Warning Network (DAWN).

Emergency Department Mentions

In 2002, non-medical use of prescription medications (i.e., psychotherapeutics, CNS agents, respiratory agents, cardiovascular agents, and other substances) anti-anxiety medications) and analgesics (pain relievers) collectively accounted for nearly

44% of all ED drug abuse mentions. Of those, a significant proportion of mentions could be attributed specifically to opiates and benzodiazepines.

Opiates. Narcotic analgesic/combinations were the most frequently mentioned type of analgesic, comprising 62% of all mentioned analgesics. In 2002, there were nearly 120,000 non-fatal cases of narcotic analgesic/combinations in ED mentions. Of those, hydrocodone/combinations (25,197 mentions) and oxycodone/combinations (22,397) mentions together accounted for 20%. Mentions of oxycodone, by itself or in combination with other substances, increased substantially (560%), from 3,393 mentions in 1995 to 22,397 in 2002. This increase in oxycodone mentions is primarily due to the introduction of OxyContin, a slow-release oxycodone. Hydrocodone (e.g., Vicodin) in combination or alone was mentioned by DAWN EDs in 25,197 non-fatal cases in 2002, an increase of 160% from 1995. Polydrug use was prevalent among users of other opiates. In 2002, 71% of oxycodone-related ED visits and 78% of hydrocodone visits involved multiple drugs.

Sedatives/Tranquilizers. DAWN ED mentions of barbiturate-type sedatives (e.g., Seconal, Nembutal) increased from 6,793 in 1995 to 9,783 non-fatal cases in 2002, a 44% increase. Mentions of benzodiazepines increased from 71,548 in 1995 to 105,752 in 2002, a 38% increase. Among the 55,038 benzodiazepines mentioned in 2002, alprazolam (13,741 mentions), clonazepam (8,872 mentions), and diazepam (5,691 mentions) and lorazepam (5,271 mentions) led the category. Alprazolam (Xanax) was the benzodiazepine most often mentioned (27,659 over all of 2002); notably, there had

been a 62% increase in mentions of this drug since 1995. The benzodiazepine clonazepam (Klonopin) was used by 17,042 patients, and the number of mentions increased 33% between 1995 and 2002. Diazepam (e.g., Valium) was mentioned 11,193 times, and there has been no significant change in the number of mentions over the years (SAMHSA, 2003a). Approximately 78% of ED visits involved two or more drugs. Half of the ED visits involving benzodiazepines were the result of suicide attempts, but visits attributed to drug dependence and drug-taking for psychic effects have been increasing.

Stimulants. High doses of a stimulant can result in an irregular heartbeat, hyperthermia, and/or cardiovascular failure or seizures. Long-term abuse of stimulants can elicit paranoia in some individuals or promote psychoses. In 2002, CNS stimulants were estimated to be less than 1% (3,275) of all drug mentions. Caffeine (1,999 mentions) and methylphenidate (1,245 mentions) were the two most frequently mentioned stimulants. Methylphenidate mentions trended downward, from 1,860 mentions in 1995 to 1,245 mentions in 2002, a 33% decrease. To put things into perspective, illicit drugs, such as cocaine, methamphetamine, and ecstasy were associated with much higher numbers of mentions in 2002 (199,198 mentions, 17,696 mentions, and 4,026 mentions, respectively).

Deaths

In 2003, a total of 122 jurisdictions in 35 metropolitan areas and 6 States submitted mortality data to DAWN. DAWN mortality data includes deaths directly

caused by drug use, misuse, or abuse, as well as deaths where the drug use, misuse, or abuse contributed to the death but did not cause it. In the 2003 results, two categories of DAWN cases were profiled – drug misuse deaths (defined broadly to include deaths related to drug misuse or abuse); and suicide deaths with drug involvement. A wide variety of prescription and over-the-counter drugs are reported to the DAWN system as playing a role in drug deaths; the most frequently mentioned include benzodiazepines and opiate analgesics.

Opiates/Opioids. In addition to including heroin and morphine, the “opiates/opioids” category in the DAWN mortality data include prescription pain relievers, methadone, and buprenorphine. In 2003, methadone was reported in more than 25% of deaths involving opiates/opioids in 12 of the 32 metropolitan areas and 3 of the 6 states. Methadone was typically not the only drug involved in these deaths. Hydrocodone was reported in more than 25% of deaths involving opiates/opioids in Birmingham, AL, Houston, TX, New Orleans, LA, and San Francisco, CA. And oxycodone was reported in more than 25% of opiate/opioid deaths in 4 of the 32 metropolitan areas, and in 2 of the 6 states.

Sedatives/Tranquilizers. According to 2003 DAWN mortality data, benzodiazepines (e.g., diazepam, alprazolam, or an unnamed benzodiazepine) were listed as one of 5 most common drugs in drug misuse deaths in 29 participating metropolitan areas and 5 of the 6 states. In addition, miscellaneous anxiolytics,

sedatives, and hypnotics were listed in the top 5 drugs in 7 metropolitan areas and 2 of the 6 states.

Treatment for Prescription Drug Abuse

Opiates. The number of people in treatment for prescription opiates in 2003 was estimated to be 415,000 across the nation. The proportion of treatment admissions with a primary prescription opiate problem increased from 0.9% in 1992 to 2.4% in 2002. Unlike users of many other drugs, clients with problems with prescription opiates were more likely to be male: 46% were female. In addition, 88% were white and their average age was 35 years. Fifteen percent were referred by the criminal justice system. Among those who entered treatment within three years of beginning use, the proportion of new users increased from 26% in 1997 to 39% in 2002, and the largest increase was in the number of admissions among persons aged 20 to 30. In addition, the increase was greatest (269%) in the most rural areas and the smallest in large central metropolitan areas (58%).

Sedatives/Tranquilizers. TEDS admission data show that the percent of admissions for tranquilizers has remained at 0.3% to 0.4% since 1992, and admissions for sedatives have remained at 0.2%. Admissions for tranquilizers tended to be female (50%), white (82%), and with an average age of 36. Admissions for sedatives also tended to be female (51%), white (81%), and age 35. For both groups, secondary drugs of abuse included alcohol and marijuana. The number of people in treatment for sedatives in 2003 was 105,000 and for tranquilizers exceeded 252,000.

Stimulants. Besides a recent surge in admissions for the street stimulants such as methamphetamine, admissions related to prescription stimulants have remained stable. The number of people in treatment for stimulants (including methamphetamine, which in most databases is not distinguished from prescription stimulants) exceeded 344,000. Age at admission for prescription stimulants was generally younger than for other prescription drugs (SAMHSA, 2005).

ASPECTS OF PRESCRIPTION DRUG ABUSE BASED ON OTHER INDICATORS

Indirect information on prevalence and consequences can be derived from other databases, including the DEA's National Forensic Laboratory Information System, DEA's System to Retrieve Information from Drug Evidence II (STRIDE), and the National Drug Intelligence Center's Pharmaceuticals Drug Threat Assessment.

The NFLIS is a DEA Office of Diversion Control-sponsored program that systematically collects drug analysis results and associated information from drug cases analyzed by federal, state, and local forensic laboratories. It is a comprehensive information system that includes data from forensic laboratories that handle over 70% of the nation's estimated 1.2 million analyzed drug cases. In 2004, an estimated 1.7 million drug items were analyzed. The top 25 drugs accounted for 93% of all drugs analyzed in 2004. As in previous years, the vast majority of all drugs reported in NFLIS were identified as cannabis/THC, cocaine, methamphetamine, and heroin (representing 84% of all drug items analyzed). Among other drugs, 16 of the top 25 were available in pharmaceutical products, 13 of which were controlled drugs. Included in this group of

controlled pharmaceuticals were six narcotic analgesics: oxycodone, hydrocodone, methadone, codeine, morphine, and propoxyphene and four benzodiazepines: alprazolam, diazepam, clonazepam, and lorazepam. In addition, three non-controlled pharmaceuticals were included in the top 25 drugs: pseudoephedrine, acetaminophen, and carisoprodol (Weimer et al., 2004).

DEA's STRIDE collects results of drug evidence analyzed at eight DEA laboratories across the U.S. The system reflects evidence submitted by the DEA, other federal law enforcement agencies, and local police agencies. In 2004, a total of 51,830 drug items were reported in STRIDE. More than 80% of the drugs identified in STRIDE were cocaine, cannabis/THC, methamphetamine, or heroin. Among other drugs, 3% were reported as pseudoephedrine, and 1% was reported as hydrocodone, alprazolam, and oxycodone.

According to the 2004 *Pharmaceuticals Drug Threat Assessment*, the diversion and abuse of pharmaceutical narcotics, depressants, and stimulants are a significant threat to the United States (NDIC, 2004). Three percent of state and local law enforcement agencies nationwide identified pharmaceuticals as their greatest drug threat, which is up from 2.4 percent in 2003. Regionally, more state and local law enforcement agencies in the Northeast (4.9%), Southeast (4.0%), and Midwest (3.2%) identify pharmaceuticals as their greatest drug threat than agencies in the Southwest (0.3%), Pacific (0.2%) and West (0.0%) regions.

REGIONAL TRENDS (CALIFORNIA AND CALIFORNIA LOCALES) IN PREVALENCE, DEMOGRAPHICS, AND CONSEQUENCES OF PRESCRIPTION DRUG ABUSE

In addition to the databases that can be used to directly and indirectly assess nationwide prescription drug abuse (e.g., SAMHSA, DAWN, etc.), information on the states and regions of states can be gleaned from other sources, particularly NIDA's Community Epidemiological Workgroup (CEWG), which meets twice yearly to present information on drug abuse for 21 major U.S. metropolitan areas (including Los Angeles, San Diego, and San Francisco). CEWG supplements data with qualitative information from ethnographic research, focus groups, and other community-based sources to achieve broad assessments of drug abuse conditions in defined regions.

PREVALENCE

The NSDUH estimated that past-month use of any illicit substance *excluding* marijuana was 1,122,000 individuals over 18 in California. Data show that any use of prescription drugs escalated in SAMHSA's "Pacific" Division reporting area (Alaska, California, Hawaii, Oregon, Washington): lifetime use increased from just under 8.9 million in 2002 to almost 9 million, and past-year use increased from almost 2.7 million to more than 2.8 million, with more significant escalation in past-month use from almost 1.1 million to more than 1.3 million. At the June and December 2003 CEWG meetings, Xanax was reported as a major drug of abuse, and it was a key "mixer" with other drugs. A limited indicator of the extent of use also is available from crime data: in 2002, the arrest rate for drug crimes in California was 1,021.8 per 100,000 at-risk population,

rising to a rate of 1,086.3 in 2003 (Office of the Attorney General, 2005). Although limited by the available data, information on patterns of use and consequences for California statewide and various California regions appear below.

Opiates. Although OxyContin was long considered an East Coast phenomenon made infamous in stories of “hillbilly heroin” in the Appalachian region, the West has considerably greater numbers of prescription opiate users than any SAMHSA region, with two-thirds of that occurring in the Pacific Division, where past-year users of non-heroin opiates (i.e., prescription medications) increased from almost 2 million to almost 2.3 million, and past-month use escalated from 696,000 to 922,000 in 2003. Given that California’s population accounts for 74% of the total Pacific Division, an extrapolation for Californians 18 years and older would produce a conservative estimate of 1.3 million past-year users of prescription opiates and 517,000 past-month users. The DEA’s ARCOS reporting program reflects each state’s consumption in terms of grams per 100,000 population of major prescription drugs of concern (most recently being for first six months of 2004). Notably, California is ranked very high among the states in terms of grams per 100,000 population for two heavily abused opiates: California ranked 4th of the states for hydrocodone (e.g., Vicodin) at 4,734 g/100k and 18th for codeine at 5,886 g/100k population (in various preparations as tablets or syrup). Diversion of prescription drugs is of such concern in San Diego that the San Diego Police Department assigned officers to deal specifically with the problem. The main source of diverted pharmaceuticals continues to be unscrupulous doctors and pharmacies. There is also an increase in the use of the Internet to order controlled substances from

pharmacies in Mexico and other foreign countries. Pharmaceuticals are also being smuggled across the border from Mexico by individuals and pedestrian couriers.

Sedatives and Tranquilizers. No direct survey of this category of drug was available, but indirect indicators provide additional information on prevalence beyond the tentative breakouts of the NSDUH estimates. In Los Angeles, tranquilizers were the most widely used of this category; use of Valium and other benzodiazepines had increased, according to the CEWG member from Los Angeles County. The San Diego Police Department reported an increase in the abuse of clonazepam (Klonopin), which is being seized at junior and senior high schools.

Stimulants. Given the nationwide figures, California's prescription stimulant abusers are estimated to be in similar slight decline from previous years. Thus, past-year non-medical use of stimulants other than methamphetamine probably exceeded 300,000 in 2003, with stable past-month use. ARCOS distribution figures showed California was at the lower 20% for the typical amphetamine-based pharmaceuticals, but the state ranked strikingly high for consumption of the d-methamphetamine products (Dextromethamphetamine).

DEMOGRAPHICS

Admissions to treatment for prescription opiates were typically male (60%), White non-Hispanic (74%), and 36 to 50 years old (52%). Only 1% of the primary other opiate admissions were younger than 18. According to 2003 NSDUH findings, lifetime, past

year, and current (past-month) non-medical use of any prescription-type psychotherapeutic and any pain reliever was highest among 18-25 year olds living in the Pacific region. The next highest rates of use were among those aged 26 and older. Adolescents aged 12-17 had the lowest rates of use. Information on demographics of users of other prescription drugs is sorely lacking, except for younger populations accessed through school-based surveys and the Monitoring the Future study; see the section on adolescents below in *Special Populations*.

CONSEQUENCES

The DAWN emergency department coverage in California included 80 hospitals in the State's three largest metropolitan areas: Los Angeles, San Diego, and San Francisco. With regard to local drug-related death information, Los Angeles has not participated in the DAWN mortality system since 2000. Therefore, no Los Angeles drug-related death data will be included in the discussion. Information on treatment admissions for California is from the California Alcohol and Drug Data System (CADDs).

Emergency Department Mentions

When looking at 2002 DAWN data pertaining to population-based rates of prescription drug mentions, San Diego and San Francisco had rates that were similar to U.S. rates, whereas rates in Los Angeles were lower than the national average. The national averages for narcotic analgesics/combinations, benzodiazepines, and CNS stimulants were 41 per 100,000 population, 46 per 100,000, and 1 per 100,000,

respectively. For narcotic analgesics/combinations, San Diego led the state with 45 mentions per 100,000 population, followed by San Francisco (42 per 100,000), and Los Angeles (28 per 100,000). For benzodiazepines, San Francisco led with 52 mentions per 100,000, followed closely by San Diego (46 per 100,000), and more distantly by Los Angeles (28 per 100,000). And among CNS stimulants, all three metropolitan areas had rates ranging from 0-1 per 100,000.

Deaths

San Diego-Carlsbad-San Marcos and San Francisco-Oakland-Fremont were the two California metropolitan areas that provided drug-related death data to the DAWN system in 2003.

In the San Diego metropolitan area (covering more than 3 million people), stimulants were responsible for more deaths in single-drug mortality cases reported in 2003 than were prescription opiates/opioids (41 vs. 8), although opiates/opioids were involved in 194 drug misuse deaths compared to 108 for stimulants. In addition, miscellaneous analgesics/combinations were implicated in 24 drug misuse deaths and 11 of the 86 suicide deaths. Benzodiazepines were involved in 92 drug misuse deaths and 29 suicide deaths. And miscellaneous anxiolytics, sedatives, and hypnotics accounted for an additional 32 drug misuse deaths and 16 suicide deaths.

In the San Francisco Bay metropolitan area, San Mateo and Marin Counties were the only counties reporting to DAWN in 2003 (covering a combined population of almost 1 million). The majority of the prescription drug-related deaths were multi-drug in nature. Prescription opiates/opioids were involved in 39 of the 91 drug misuse deaths

and 7 of the 17 suicide deaths. In addition, miscellaneous analgesics/combinations were implicated in 15 drug misuse deaths and 4 suicide deaths. Benzodiazepines were mentioned in 17 drug misuse deaths, and miscellaneous anxiolytics, sedatives, and hypnotics were mentioned in 6 drug misuse deaths and 5 suicide deaths.

Treatment Admissions

The CADDIS database provides information on treatment admissions across the State. In 2003, there were 3,486 admissions for opiates other than heroin (48% female, 76% White, 11% Latino, and 54% occurring among those age 31 to 50). There were 372 admissions for sedatives (50% female, 81% White, and 12% Hispanic), 296 for tranquilizers (60% female, 62% White, 22% Hispanic), and 130 for prescription stimulants (notably, 20% for ages 12-17 and another 45% occurring among those age 18-35, 31% Hispanic and 49% White).

In Los Angeles County, admissions for all drug abuse treatment declined from 2003 to 2004 from 55,503 to 51,430, of which 2% (1,026) were for non-heroin (prescription) opiates, including 70 for methadone. In 2004, treatment and recovery program admissions associated with primary barbiturate, benzodiazepine, or other sedative/hypnotic abuse continued to account for less than 1% of all admissions in L.A. County.

SPECIFIC POPULATIONS AND SPECIAL TOPICS

PRESCRIPTION DRUG ABUSE AMONG ADOLESCENTS

The 2003 Monitoring the Future (MTF) survey showed that lifetime and past-year use of “narcotic drugs other than heroin” (i.e., opiate medications) peaked among 12th graders nationwide in 2002, while past-month use continued to rise into 2003. The annual prevalence rates for OxyContin in 2003 were 1.7% among 8th graders, 3.6% among 10th graders, 4.5% among 12th graders, 2.2% for college, and 2.6% for young adults. Students were more likely to report annual use of Vicodin than OxyContin: the 2003 annual prevalence rates for Vicodin were 2.8% among 8th graders, 7.2% among 10th graders, 10.5% among 12th graders, 7.5% for college students, and 8.6% for young adults. In 2003, prevalence of prescription opiate abuse among youth age 12 or 13 increased significantly, from 4.8% in 2002 to 5.7% in 2003. For age 18 to 25, the rate of those who had used at some time in their lives increased from 22.1% in 2002 to 23.7% in 2003 (Johnston et al., 2004a, 2004b). The 2003 MTF survey showed a significant decline in the use of tranquilizers among 10th and 12th graders. Most of the tranquilizer use involved Valium and Xanax. Sedative (including barbiturates) use among 12th graders and college students stabilized as of 2003. Use continued to increase for young adults, however (Johnston et al., 2004a, 2004b).

In 2004, past-year use of OxyContin was reported by 5% of 12th graders, 3.5% of 10th graders, and 1.7% of 8th graders. And past-year use of Vicodin was 9.3% in 12th graders, 6.2% in 10th graders, and 2.5% in 8th graders.

Past-month use of stimulants among youths age 12 to 17 occurred at 0.9% of all adolescents. Past-month use of prescription stimulants and specifically illicit methamphetamine was highest in the West by almost 50% over the Midwest and more than 100% greater than the South and Northeast

Results from the 2003-2004 biennial California Student Survey (CSS, which covers items that are also contained in the California Healthy Kids Survey [CHKS]) indicate that among a representative sample of children in private and public schools in California, there were decreases in tobacco, drug, and alcohol use by students in grades 7, 9 and 11 during 2003 and 2004 (WestEd, 2004). Excluding illegal drugs, marijuana, inhalants, and alcohol (thus presumably referring primarily to prescription drugs), the percentage of students responding positive for any use of “other” intoxicants four or more times in their lifetime was 3% for 9th graders and 5% for 11th graders. To put things into perspective, lifetime use (of four or more times) of methamphetamine among 9th and 11th graders was 1% and 4%, respectively; use of ecstasy was 1% and 2%, respectively; and use of inhalants was 3% and 4%, respectively.

In terms of past six month use of specific categories of prescription drugs among secondary school students in California (WestEd, 2005), 1.5% of the state’s 9th graders and 2.4% of 11th graders reported use in the past six months of barbiturates/sedatives. Past-six-month use of tranquilizers was slightly more common: 2.7% of 9th graders and 5.4% of 11th graders reported tranquilizer use in the past six months.

PRESCRIPTION DRUG ABUSE AMONG THE ELDERLY

Most problems involving prescription drugs and the elderly are from “misuse” rather than non-medical abuse of medications for purposes of achieving psychoactive effects (i.e., intoxication); as noted earlier, such misuse is not the focus of this report. Drugs typically used and abused by elderly include sedatives, tranquilizers, and analgesics. In some cases, however, non-medical abuse occurs among the elderly. Reports of abuse of prescription medications by elderly persons are rare in most data collection efforts. Diagnostic criteria based on tolerance and ability to discharge responsibilities (per DSM IV, for example) are not applicable to older users as the issues are not pertinent in many cases (Blow, 1999).

Still, NSDUH data indicate the presence of some abuse of medications by elderly: 3.9% of those 55 years and older report past-month use of prescription drugs for non-medical purposes. Of the 40,044 recorded suicide attempts among DAWN ED episodes, 2,518 persons were over age 55, and were mostly White females; more than 3% of the people seeking detox from drugs in EDs were older than 55.

A primary problem among the elderly is alcohol abuse concomitant with drug abuse, often over-the-counter analgesics or prescription drugs. Men are more likely than women to have such problems. Primary drug admissions among older adults increased 106% for men and 119% for women: from 6,200 men and 1,600 women in 1995 to 12,800 men and 3,500 women in 2002; California had 7,087 admissions for drug abuse among those age 55 or older. Between 1995 and 2002 the number of substance abuse treatment admissions among persons aged 55 or older increased by 32%, from 50,200 to 66,500 admissions. This increase outpaced the total treatment

population increase of 12% during the same time period. Adults aged 55 to 59 made up the largest part of the older adult treatment population in 2002.

ABUSE OF STEROIDS

A problem with growing consequences among young people is that of steroids. Anabolic steroids are available only by prescription to treat conditions such as delayed puberty, and some types of impotence, and emaciation in patients with AIDS and other diseases. Abuse of anabolic steroids, however, can lead to serious health problems, some irreversible. Anabolic steroids are taken orally or injected to enhance performance and also to improve physical appearance.

Negative consequences of steroid abuse can include liver tumors and cancer, fluid retention, high blood pressure, increases in cholesterol, kidney tumors, severe acne, and increased risk of contracting or transmitting HIV/AIDS or hepatitis through needle-sharing. For adolescents, growth can be halted prematurely through premature skeletal maturation and accelerated puberty changes. Aggression and other psychiatric side effects may result from abuse of anabolic steroids, with mood swings including manic-like symptoms leading to violence. Depression often results upon cessation, which may contribute to dependence on anabolic steroids (Pope & Katz, 1988).

Steroid abusers often become involved in abuse of other drugs. For example, a study of 227 men admitted in 1999 to a private treatment center for dependence on heroin or other opiates found that 9.3% had abused anabolic steroids before trying any other illicit drug. Of these 9.3%, 86% first used opiates to counteract insomnia and irritability resulting from the anabolic steroids. According to the MTF survey, peak rates

of past-year steroid use occurred in 2002 for 12th graders (2.5%) and for 10th graders (2.2%). In 2004, a significant decrease in lifetime use was measured among 8th graders (from 2.5% to 1.9%) and among 10th graders (from 3.0% to 2.4%); 12th graders used at 3.4%.

According to NFLIS data, a total of 1,417 items were identified as anabolic steroids in 2004. Of the 14 different anabolic steroids reported in the system, the most commonly identified was testosterone (36%), followed by methandrostenolone (18%), nandrolone (12%), and stenzolol (12%). Across regions, the highest relative percentages of testosterone use were reported in the Midwest and the South.

OVER-THE-COUNTER DRUGS

Over-the-counter (OTC) drugs include aspirin, cough syrup, and any other medication available without prescription (e.g., sleep aids, diphenhydramine, and other antihistamines). Prevalence of abuse is not readily distinguishable from the SAMHSA data because there is inadequate distinction between OTC drugs and prescription medications in the survey. Treatment admissions for OTC are clearer (SAMHSA, 2005): 2% of all admissions were for OTCs, OTC admissions peaked at age 16 (median age at first use was 18 among admissions), 67% were among males, and 31% were referrals from the criminal justice system. Decongestant remedies with precursors of methamphetamine (pseudoephedrine) and cough medicines with psychoactive ingredients such as Dextromethorphan and Coricidin HBP are commonly abused. Use of these drugs is not tracked by any statewide database.

Pseudoephedrine as a Precursor to Methamphetamine. Dosage-form pseudoephedrine and ephedrine drug products are two of the most common methamphetamine precursor chemicals diverted to large clandestine laboratories throughout the United States. Due to strong state precursor control laws in California, drug traffickers have resorted by buying pseudoephedrine from nationwide suppliers at relatively lower prices and bringing the product back to California, where it can sell on the black market for as much as \$5,000 per pound of product. Pseudoephedrine and ephedrine are also purchased from unscrupulous US distributors who sell case quantities of the tablets.

In April 2005, US Senator Dianne Feinstein applauded Longs Drugs, Albertson's, Wal-Mart, and Target for announcing their plans to move medications containing pseudoephedrine behind pharmacy counters. In addition, Safeway has a policy limiting the sale of cold medicines containing pseudoephedrine to three packets per sale. Senator Feinstein, along with Senator Jim Talent, recently introduced the *Combat Meth Act*, a bill to limit access to products used to make methamphetamine (Feinstein, 2005).

According to the American Wholesale Marketers Association, considerable activity has also taken place in other states on the issue. Some states are considering—or have already enacted—legislation to restrict the accessibility of ephedrine and pseudoephedrine products. Other states require that these products be kept behind checkout counters, stocked within six feet of the checkout, or tagged with anti-theft devices.

The Abuse Potential of OTC Cough Syrup. In April 2004, an article written by Robert Salladay entitled “*A Bad Trip That Kills*” was published in the *Los Angeles Times*. The article focused specifically on the abuse of cough syrup. According to the article, “an underground network of abusers— hooked on the potent ingredients in cough suppressants and cold remedies—is thriving in California and across the nation, while police and poison control officials report more and more young people getting high from what they call “robo-tripping” and skittling.” California Poison Control System experts report a four-fold increase in abuse cases since the year 2000, mostly among teenagers and young adults.

According to Los Angeles County-level Poison Control Center exposure calls made between January 2003 and June 2004, males were more likely than females to call because of Coricidin HBP exposure (52% vs. 48%) and Dextromethorphan exposure (59% vs. 41%). Furthermore, 84% of the Coricidin HBP and 65% of the Dextromethorphan exposures occurred among Los Angeles County residents age 17 and younger.

SOURCES AND TRAFFICKING

An indicator of the extent of distribution of prescription drugs (thus potential diversion for non-medical abuse) is contained in data collected by the Drug Enforcement Agency (DEA) Automation of Reports and Consolidated Orders System (ARCOS). About 1,100 nationwide drug manufacturers and distributors report to ARCOS. For the first six months of 2004, total drug amounts (in grams) distributed to retail registrants in California were:

- methylphenidate (Ritalin)=490,596.71 grams
- codeine (various combinations)=1,909,224.64 grams
- oxycodone (OxyContin, etc.)=1,009,585.62 grams
- hydrocodone (Vicodin, etc.)=1,536,389.31 grams
- methadone=207,185.55 grams
- morphine=853,196.85 grams
- fentanyl (Duragesic, Actiq)=16,619.76 grams

For purposes of comparison, the total drug amounts (in grams) distributed to retail registrants in nation are presented below for the first six months of 2004:

- methylphenidate=7,006,708.38 grams
- codeine=10,335,047.69 grams
- oxycodone=14,158,307.36 grams
- hydrocodone=11,869,731 grams
- methadone=2,215,532.95 grams
- morphine=6,819,327.48 grams
- fentanyl=181,896.82 grams

OxyContin was developed and patented in 1996 by Purdue Pharma L.P. and is available in 10-, 20-, 40-, 80-, and 160-mg tablets. In May 2001, Purdue Pharma temporarily suspended shipments of the 160-mg tablets until the company assessed the diversion potential and abuse of the tablet. The company also stopped distributing and shipping 40-mg OxyContin tablets to Mexico after reports that the drug was being

illegally diverted and smuggled back into the United States (Drug Enforcement Administration, 2002)

According to the DEA Office of Diversion Control, as of March 2005, 25 states had enacted legislation that required Prescription Monitoring Programs (PMPs); 21 of those programs are currently operating and four are in the start-up phase. Several western states, including California, Hawaii, Nevada, Utah, and Washington have PMPs and/or enacted legislation (Drug Enforcement Administration, 2005). Data from PMPs can be used by states to verify that a problem exists and to determine the extent of diversion or abuse. Unfortunately, state statutes or regulations limit the public's accessibility to the PMP data.

Diversion of prescription drugs is of such concern in the San Diego area that the San Diego Police Department assigned officers to deal specifically with the problem. The main source of diverted pharmaceuticals continues to be unscrupulous doctors and pharmacies, including those on the Internet as well as in border towns of Mexico. Mexican manufactured Valium is also being diverted for illegal use; it sells for approximately \$3 per pill; street Valium is virtually all manufactured in Mexico (Drug Enforcement Administration, 2003).

Other indicators of prescription drug diversion to the illicit market exist from such sources as the California Bureau of Narcotic Enforcement (BNE); for example, in a 10-month period, one pharmacy conducted \$2.4 million in sales of the prescriptions from a Los Angeles doctor who had been over-prescribing OxyContin and other opiate-based pharmaceuticals. There have been deaths attributed to the drugs obtained via the over-prescribing doctor. The American Medical Association estimates that fewer than 1.5% of

physicians illegally prescribe drugs, and possibly 5% are negligent in prescribing drugs with abuse potential, but that is clearly a significant source of illicit diversion of prescription drugs, in addition to wholesale diversion and theft, “doctor shopping,” and prescription forgery.

According to the Los Angeles County Regional Criminal Information Clearinghouse (LA CLEAR), Vicodin (hydrocodone) continues to retail for \$5 per 5-milligram tablet in Los Angeles County. LA CLEAR reports reveal that OxyContin is “readily available” in the LA area. Percocet sells for \$5–\$10 per 5-milligram tablet; MS Contin sells for \$20 per 60-milligram tablet; codeine sells for \$5 per tablet; Dilaudid (hydromorphone) sells for \$100 per 4-milligram tablet; fentanyl patches sell for \$25–\$100 each; and methadone sells for \$10 per tablet (LA CLEAR, 2004).

Theft of Pharmaceuticals. Millions of pharmaceutical drug dosage units are diverted each year. This occurs mostly through theft from pharmacies, manufacturers, distributors, importers/exporters, and from individuals with legitimate prescriptions. According to DEA, the number of pharmaceutical dosage units diverted has increased from approximately 2.3 million units in 2000 to 2.7 million units in 2003 (NDIC, 2004).

Counterfeit Drug Cases. The U.S. Food and Drug Administration track the occurrence of counterfeit drug investigations. The level of counterfeit drug distribution within the U.S. is low, when compared with other countries. Occurrences of counterfeit drug cases, however, has increased, from 6 cases in 1997 to 22 cases in 2003 (NDIC, 2004).

IMPLICATIONS AND CONCLUDING REMARKS

IDENTIFYING PRESCRIPTION DRUG ABUSE PROBLEMS

It is clear from the gaps in available information that a more comprehensive picture regarding the phenomenon of prescription drug use and abuse is needed. Prescription drug abuse is difficult to characterize for several reasons. First, there is often a lack of detailed or specific information among the standard substance abuse indicator data. Many data sources do not address prescription drug use at all; for those that do address the non-medical use of prescription medications, information is often available for broad classes of medications (e.g., stimulants, tranquilizers, opiates/opioids, etc.) but not for specific medications within each class (e.g., oxycodone, hydrocodone, diazepam, methylphenidate, etc.).

Because a local, comprehensive data collection system is not currently in place to determine the prevalence of prescription drugs among California residents, it is impossible to make definitive, high-confidence estimations of the underlying levels of use. Even treatment admissions data are lacking specificity on prescription drug abuse, limiting an estimation of the extent of prescription drug abuse as a precursor to individuals seeking help for drug problems or being remanded to treatment by the criminal justice system.

FUTURE RESEARCH AND RECOMMENDATIONS

Although increases in prescription drug use have been documented among most ethnic and age categories, there were across-the-board declines from 2002 to

2003 in the percentages of those who “needed and received treatment” for an illicit drug (which included non-medical use of prescription drugs) or alcohol problem in the past year among persons age 12 or older. Only Asians and Native Americans showed increased involvement in treatment, and together they accounted for fewer than 2% of the total admitted to treatment.

An in-depth assessment of interdiction/diversion, prevention, and treatment initiatives that have been created to address the issue of prescription drug abuse is one strategy that could be undertaken at the State level.

To help understand the problem and help inform policy, the State could create a statewide prescription drug workgroup. The purpose of such a group would be to better characterize prescription drug use and the adverse consequences associated with the abuse of such drugs, and identify specific user groups. The workgroup could be comprised of local epidemiologists and academic-based researchers, law enforcement personnel, school administrators, pharmacists/physicians, crime lab specialists/toxicologists, substance abuse and mental health practitioners, and county agency administrators. Physicians and pharmacists, who legitimately prescribe and dispense prescriptions, are integral to such a group because they can help to explain changes in patterns of use reflecting changes in practice. Medical examiners/coroners and toxicologists can help to detect emerging issues and help to interpret the data relating to positive toxicology screens and underlying causes of death.

Another recommendation is to conduct another iteration of the California Household Substance Use Survey, which was last conducted in 1999 by the Western Consortium for Public Health (and was prepared for ADP with SAMHSA funding). The

survey addressed use of tobacco, alcohol, and other drugs. Questions relating to prescription drug abuse could be added to provide California policymakers with more in-depth information than is available through the state estimates of the NSDUH.

As is evidenced by this white paper, prescription drug abuse does occur among significant numbers of individuals in California and beyond. There are currently fewer prescription drug abusers than alcohol abusers and illicit drug abusers, but rapid escalation of prescription drug problems could occur, especially among some populations (e.g., adolescents) and the situation must be monitored in a more consistent, comprehensive manner to enable State-level and local-level responses in terms of prevention and treatment.

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GLOSSARY

Darvon® (d-propoxyphene: manufactured by Eli Lilly. Manufactured For: aaiPharma®; Darvon, and Darvocet-N are registered trademarks of aaiPharma LLC; Darvocet A500 is a trademark of aaiPharma Inc.

Demerol® (meperidine): An opioid agonist of the morphine type indicated for pain. Manufactured for Sanofi-Synthelabo Inc. New York, NY 10016 by Bayer Corporation Myerstown, PA 17067.

Dilaudid® (hydromorphone): An opioid agonist of the morphine type indicated for pain manufactured by Abbott Laboratories, North Chicago, IL 60064, U.S.A

Dolophine® (methadone)

OxyContin®, Percocet®, Percodan®, or Tylox® (oxycodone); for pain, manufactured by Purdue Pharma L.P.

Ritalin® (methylphenidate); stimulant for ADHD; manufactured by Ciba-Geigy Corporation.

Ultram® (Tramadol)

Valium (diazepam): A prominent member of the benzodiazepine group used to relieve anxiety, nervousness, and tension associated with anxiety disorders; manufactured by Roche Products Country, USA, as well as illicitly in Mexico.

Vicodin®, Lortab®, or Lorcet® (hydrocodone); manufactured by Abbott Laboratories North Chicago, IL 60064, U.S.A.