

TOC Skip To Content



3. Patterns in Nonmedical Use of Specific Prescription Drugs

This chapter considers nonmedical use of specific pharmaceuticals within the four therapeutic classes of prescription-type psychotherapeutic drugs as collected in the National Survey on Drug Use and Health (NSDUH): pain relievers, tranquilizers, stimulants, and sedatives. The specific drugs about which survey respondents are asked represent a mix of brand name and generic pharmaceuticals. Background information is presented first regarding how information about nonmedical use of different drugs is collected in NSDUH. For specific prescription-type pain relievers, tranquilizers, stimulants, and sedatives, the chapter discusses trends over the period from 2002 to 2004 and examines patterns of use and user characteristics based on averages across the 3 years. Consideration is given to rankings of specific drugs within therapeutic classes, demographic differences in prevalence, and differences between recent initiates and longer-term users.

3.1. Methodological Background

Although NSDUH collects extensive information on the nonmedical use of prescription-type pain relievers, tranquilizers, stimulants, and sedatives as therapeutic classes of drugs, the information collected about specific drugs within these classes generally is limited to use at any time in the individual's life. Additional information on past year and past month use is collected only for OxyContin® (a pain reliever) and methamphetamine (a stimulant).

Respondents are shown "pill cards" displaying the names and color photographs of drugs and groups of drugs in a given therapeutic class. In some instances, nonmedical use of the same generic substance may be represented in multiple entries on the pill cards. The pill cards are principally designed to (a) define the therapeutic class (e.g., pain relievers) so that respondents clearly understand the types of drugs that are included, (b) aid respondents in identifying and accurately reporting nonmedical use of any drug in the class, and (c) assist respondents in identifying whether they may have misused other drugs in that therapeutic class that are not shown on the pill card, such as drugs that have recently been approved. If respondents report nonmedical use of "some other drug" within a given class (e.g., some other pain reliever), they are asked to specify the names of the other medications they have used nonmedically; these responses are referred to as "other-specify" responses in the remainder of the chapter.

In addition to the four broad classes of prescription psychotherapeutic drugs, some estimates in this chapter present data for groups of drugs within a given psychotherapeutic class. These subclasses typically reflect generic categories. Subclasses of prescription psychotherapeutic drugs are listed below, with selected examples of drugs in these subclasses. More detailed definitions of these subclasses are given in [Section B.4.1](#) in [Appendix B](#).

- For pain relievers,
 - *propoxyphene or codeine products* (e.g., Darvocet®, Tylenol® with Codeine)
 - *oxycodone products* (e.g., Percocet®, OxyContin®)
 - *hydrocodone products* (e.g., Vicodin®)
 - *tramadol products* (e.g., Ultram®)
- For tranquilizers,
 - *benzodiazepines* (those that are typically used as anxiolytics rather than as sedatives; e.g., Valium®, Xanax®)
 - *meprobamate products* (e.g., Equanil®)
 - *muscle relaxants* (e.g., Flexeril®)

- For stimulants,
 - *amphetamine, dextroamphetamine, and phentermine products* (e.g., Biphedamine[®], Dexedrine[®], Fastin[®])
 - *mazindol products* (e.g., Mazanor[®])
- For sedatives,
 - *temazepam, flurazepam, or triazolam* (benzodiazepines that are generally used as sedatives rather than anxiolytics; e.g., Restoril[®], Dalmane[®], Halcion[®])
 - *any barbiturates* (e.g., Amytal[®], Butisol[®], Tuinal[®])

Because nonmedical use of individual prescription-type psychotherapeutic drugs (except for OxyContin[®] and methamphetamine) is reported only for the lifetime, it is difficult to make inferences about which specific drugs are being misused currently. Trend information on lifetime nonmedical use may not be as meaningful as it would be for current use, particular for the 26 or older age group. Various strategies can be devised to deal with this limitation, each with its advantages and disadvantages. These are discussed further in [Appendix B](#).

3.2. Recent Trends in Lifetime Nonmedical Use of Specific Prescription Drugs

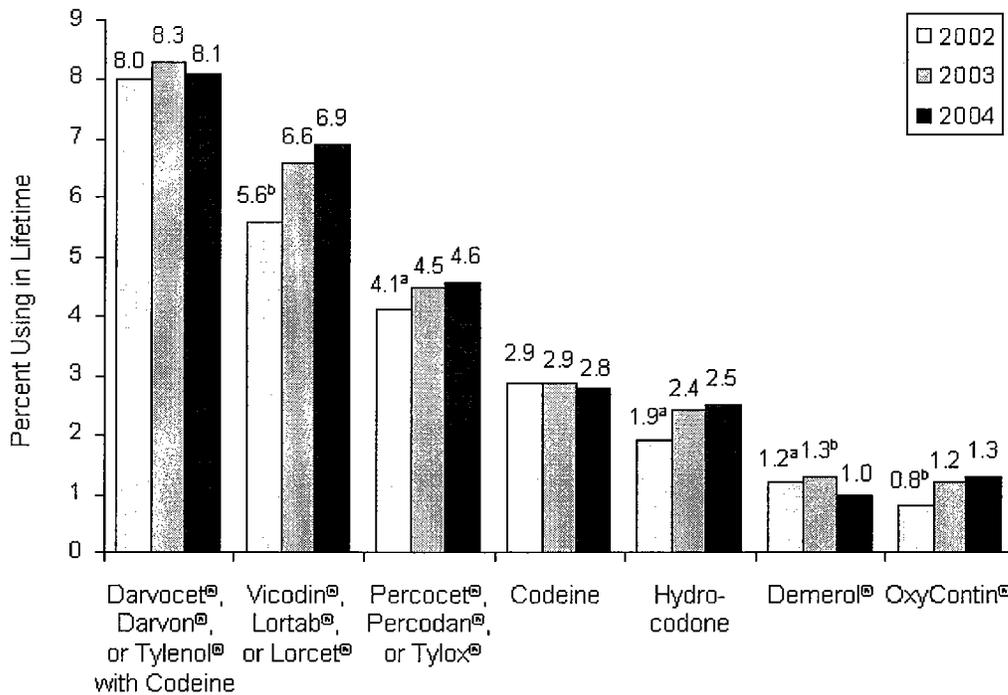
This section examines changes in the rate of lifetime misuse of particular prescription-type pain relievers, tranquilizers, stimulants, and sedatives from 2002 to 2004, the most recent years over which NSDUH methods and definitions have remained constant. Trends in nonmedical use for the broad classes of prescription psychotherapeutic drugs are discussed in [Chapter 2](#).

As noted previously, NSDUH data on the misuse of specific prescription drugs is limited to lifetime use; information on recency of use, which is needed to estimate past month and past year use, is not collected for most drugs individually. Consequently, lifetime prevalence may not provide the optimal measure for trend analysis because of its relative insensitivity to change, particularly with older age groups. Trends in lifetime prevalence also are affected by the length of time that a drug has been approved for use, with persons having less opportunity to be lifetime nonmedical users of drugs that have been approved more recently.

3.2.1 Pain Relievers

Increases in lifetime misuse of hydrocodone and oxycodone products were observed between 2002 and 2004. From 2002 to 2004, the percentage of persons aged 12 or older who had used any product containing hydrocodone nonmedically in their lifetime increased from 5.9 to 7.4 percent; among the drugs in this category are Vicodin[®], Lortab[®], or Lorcet[®], which increased from 5.6 to 6.9 percent, and generic hydrocodone, which increased from 1.9 to 2.5 percent ([Figure 3.1](#)). The rate of lifetime misuse of any oxycodone product increased from 4.3 to 5.0 percent, reflecting increases in the nonmedical use of OxyContin[®] (from 0.8 to 1.3 percent) and Percocet[®], Percodan[®], or Tylox[®] (from 4.1 to 4.6 percent). Modest but statistically significant increases also were observed for methadone (from 0.4 to 0.5 percent) and any tramadol product (from 0.4 to 0.5 percent); tramadol products include generic tramadol and Ultram[®]. Decreases in lifetime nonmedical use were observed for Demerol[®] (from 1.2 to 1.0 percent), Phenaphen[®] with Codeine (from 0.4 to 0.2 percent), and Talwin[®] (from 0.3 to 0.1 percent).

Figure 3.1 Lifetime Nonmedical Use of Selected Pain Relievers among Persons Aged 12 or Older: Percentages, 2002-2004



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^a Difference between this estimate and the 2004 estimate is statistically significant at the .05 level.

^b Difference between this estimate and the 2004 estimate is statistically significant at the .01 level.

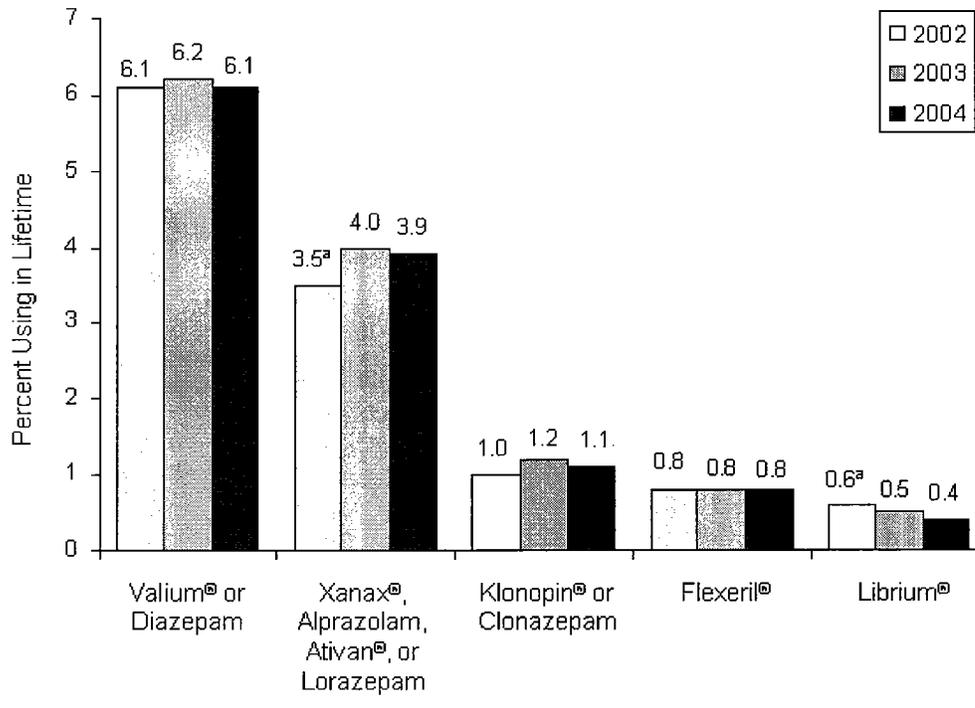
Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, and 2004.

Increases in lifetime misuse of any hydrocodone and oxycodone products were generally similar across age groups, although the highest prevalence rates and largest percentage point changes were found among persons aged 18 to 25 (**Table 3.1**). In this age group, misuse of hydrocodone products increased from 14.1 percent in 2002 to 17.4 percent in 2004, with Vicodin[®], Lortab[®], or Lorcet[®] going from 13.3 to 16.5 percent and generic hydrocodone increasing from 5.0 to 6.7 percent. Lifetime misuse of oxycodone products among persons aged 18 to 25 increased from 8.2 to 10.1 percent; component drugs, which included Percocet[®], Percodan[®], or Tylox[®], increased from 7.4 to 8.7 percent; and OxyContin[®] increased from 2.6 to 4.3 percent.

3.2.2 Tranquilizers

Among persons aged 12 or older, the rate of lifetime nonmedical use of Xanax[®], generic alprazolam, Ativan[®], or generic lorazepam increased from 3.5 percent in 2002 to 3.9 percent in 2004 (**Figure 3.2** and **Table 3.2**). This increase appeared to be driven mainly by persons aged 18 to 25, for whom the prevalence of lifetime misuse of that group of drugs increased from 6.7 to 7.7 percent. Misuse of two muscle relaxants, Flexeril[®] and Soma[®], also increased among persons aged 18 to 25; lifetime nonmedical use of Flexeril[®] increased from 0.9 to 1.4 percent, while the rate for Soma[®] increased from 2.3 to 3.0 percent in this age group. Two categories of tranquilizers showed decreases in lifetime misuse among persons aged 26 or older: the rate of Atarax[®] use declined from 0.2 to 0.1 percent, and the rate of Librium[®] misuse decreased from 0.8 to 0.5 percent. These changes among persons aged 26 or older drove statistically significant decreases among the overall population aged 12 or older.

Figure 3.2 Lifetime Nonmedical Use of Selected Tranquilizers among Persons Aged 12 or Older: Percentages, 2002-2004



^a Difference between this estimate and the 2004 estimate is statistically significant at the .05 level.

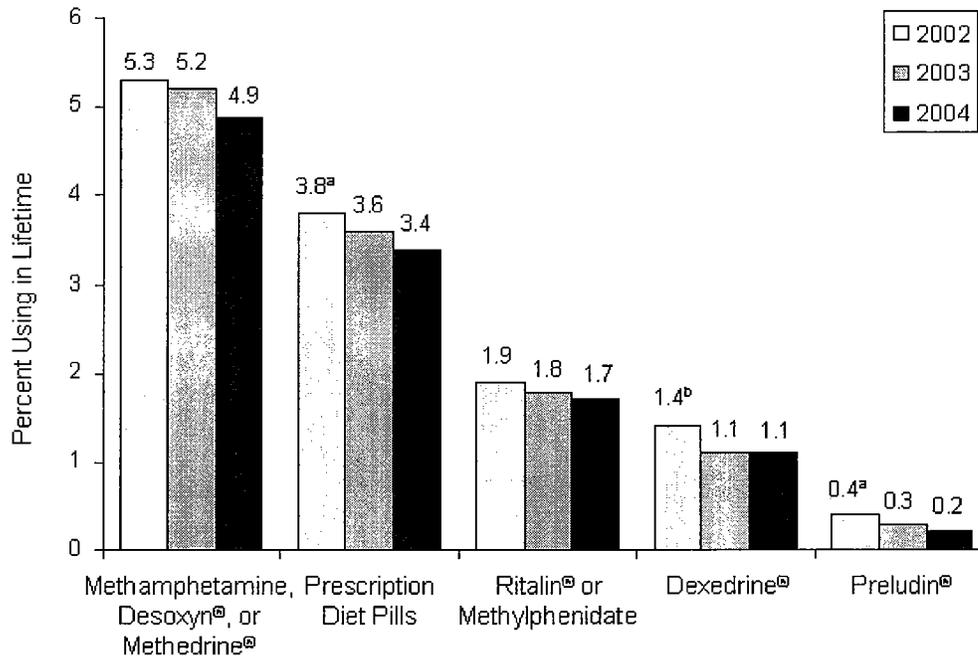
^b Difference between this estimate and the 2004 estimate is statistically significant at the .01 level.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, and 2004.

3.2.3 Stimulants

Between 2002 and 2004, lifetime nonmedical use of stimulants overall declined from 9.0 to 8.3 percent, as seen in **Chapter 2**. Among particular stimulants, significant decreases were observed for prescription diet pills (from 3.8 to 3.4 percent), Dexedrine® (from 1.4 to 1.1 percent), and Preludin® (from 0.4 to 0.2 percent) (**Figure 3.3** and **Table 3.3**). These decreases were driven primarily by declines among persons aged 26 or older. In addition, Preludin® is no longer approved for marketing in the United States. Among youths aged 12 to 17, decreases were seen in lifetime nonmedical use of methamphetamine, Desoxyn®, or Methedrine® (from 1.5 to 1.2 percent), and Ritalin® or methylphenidate (from 2.4 to 1.8 percent).

Figure 3.3 Lifetime Nonmedical Use of Selected Stimulants among Persons Aged 12 or Older: Percentages, 2002-2004



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^a Difference between this estimate and the 2004 estimate is statistically significant at the .05 level.

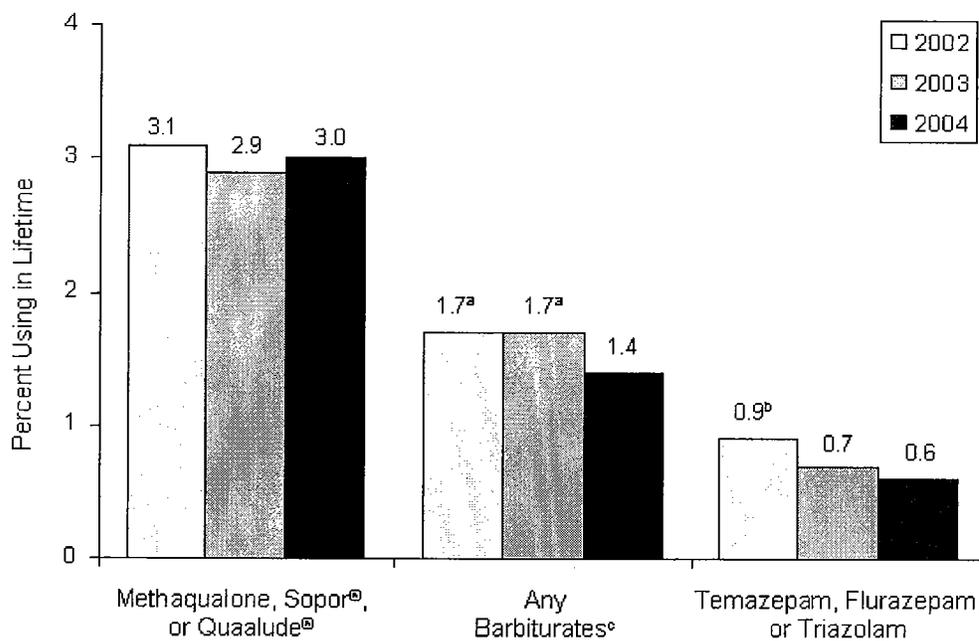
^b Difference between this estimate and the 2004 estimate is statistically significant at the .01 level.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, and 2004.

3.2.4 Sedatives

The rate of lifetime nonmedical use of any barbiturate decreased from 1.7 percent in 2002 to 1.4 percent in 2004 among persons aged 12 or older, based largely on a decline from 2.1 to 1.7 percent among persons aged 26 or older (**Figure 3.4** and **Table 3.4**). Corresponding decreases were seen for the separate categories of generic barbiturates, phenobarbital, and Tuinal®. Tuinal® is not currently approved for marketing in the United States. Among adults aged 26 or older, there were small but statistically significant decreases in lifetime misuse of the sedative benzodiazepines Restoril® or temazepam (from 0.5 to 0.3 percent) and Halcion® (from 0.5 to 0.3 percent); these decreases appeared to drive decreases in the overall category of temazepam, flurazepam, or triazolam and in the corresponding drug categories among all persons aged 12 or older.

Figure 3.4 Lifetime Nonmedical Use of Selected Sedatives and Groups of Sedatives among Persons Aged 12 or Older: Percentages, 2002-2004



^a Difference between this estimate and the 2004 estimate is statistically significant at the .05 level.

^b Difference between this estimate and the 2004 estimate is statistically significant at the .01 level.

^c Respondents were asked directly about their nonmedical use of barbiturates and were given the following as examples: Nembutal[®], pentobarbital, Seconal[®], secobarbital, or butalbital. However, respondents were not given an exhaustive list of examples of barbiturates. Therefore, this measure of any nonmedical barbiturate use includes reports from the direct question about barbiturates noted above and also includes Amytal[®], Butisol[®], phenobarbital, and Tuinal[®]. In addition, this measure includes other-specify drug responses that are not asked about explicitly in the sedatives module but fall into this category.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, and 2004.

3.3. Basic Prevalence Information

Average estimates for 2002, 2003, and 2004 were used to ascertain the overall prevalence of lifetime nonmedical use of specific drugs within therapeutic classes. The prevalence statistics reported here include the estimated number of lifetime nonmedical users, estimated percentage of the population using nonmedically in their lifetime, and estimated lifetime rate of use of the particular drug among lifetime nonmedical users of any drug in the therapeutic class. Lifetime prevalence estimates are given for specific psychotherapeutic drugs relative to prevalences of other drugs in that same therapeutic class. However, statements about the relative rankings of drug prevalences were not evaluated for statistical significance because the lifetime drug estimates within a given therapeutic class were not independent. Therefore, statistical significance of differences between estimates is not implied in this section.

3.3.1 Pain Relievers

Lifetime misuse of any pain reliever was reported by an estimated 30.9 million persons aged 12 or older based on data averaged over the 3-year period from 2002 to 2004 (Table 3-A). An estimated 19.4 million persons had misused Darvocet[®], Darvon[®], or Tylenol[®] with Codeine at least once in their lifetime; this constitutes 8.1 percent of the population aged 12 or older and 62.7 percent of lifetime nonmedical users of any prescription pain reliever. Vicodin[®], Lortab[®], or Lorcet[®] ranked second, with an estimated 15.2 million lifetime users (6.4 percent of the population and 49.2 percent of lifetime users of any pain reliever). Approximately 10.5 million persons (4.4 percent of the population) had used Percocet[®], Percodan[®], or Tylox[®] nonmedically in their lifetime. OxyContin[®] misuse in the lifetime involved around 2.6 million persons (1.1 percent of the population and 8.5 percent of lifetime nonmedical users of any prescription pain reliever).

Table 3-A Lifetime Nonmedical Use of Specific Pain Relievers among Persons Aged 12 or Older: Annual Averages Based on 2002-2004

Specific Pain Reliever ¹	Estimated Number (in 1,000s)	Percentage of Population	Percentage of Lifetime Nonmedical Users of Any Pain Reliever

Any Pain Reliever	30,862	13.0	100.0
Darvocet [®] , Darvon [®] , or Tylenol [®] with Codeine	19,366	8.1	62.7
Vicodin [®] , Lortab [®] , or Lorcet [®]	15,172	6.4	49.2
Percocet [®] , Percodan [®] , or Tylox [®]	10,473	4.4	33.9
Codeine	6,859	2.9	22.2
Hydrocodone	5,398	2.3	17.5
Demerol [®]	2,788	1.2	9.0
OxyContin [®]	2,609	1.1	8.5
Morphine	2,067	0.9	6.7
Methadone	1,131	0.5	3.7
Ultram [®]	1,060	0.4	3.4
Dilaudid [®]	963	0.4	3.1
Phenaphen [®] with Codeine	772	0.3	2.5
Fiorinal [®]	492	0.2	1.6
Talwin [®]	457	0.2	1.5
Fioricet [®]	455	0.2	1.5
Propoxyphene	321	0.1	1.0
Tramadol	188	0.1	0.6
Stadol [®]	148	0.1	0.5
Talwin NX [®]	86	0.0	0.3
Talacen [®]	71	0.0	0.2
SK-65 [®]	42	0.0	0.1

¹ In descending order of prevalence.
Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, and 2004.

When pain relievers were classified into the roughly generic groups discussed earlier, an estimated 21.0 million persons (8.9 percent of the population) were lifetime nonmedical users of propoxyphene or codeine products (**Table 3.5**). An estimated 16.2 million (6.8 percent) had misused hydrocodone products, and 11.2 million (4.7 percent) were lifetime nonmedical users of oxycodone products.

3.3.2 Tranquilizers

The most frequently reported tranquilizer that was used nonmedically was Valium[®] or generic diazepam, which had been misused by an estimated 14.6 million persons aged 12 or older (6.1 percent of the population and 73.6 percent of lifetime nonmedical users of any tranquilizer) (**Table 3-B**). Based on averages for 2002, 2003, and 2004, an estimated 9.0 million (3.8 percent of the population) had misused Xanax[®], generic alprazolam, Ativan[®], or generic lorazepam at least once in their lifetime. Lifetime misuse of the major tranquilizers Klonopin[®] or clonazepam ranked a distant third with 2.7 million persons (1.1 percent).

Table 3-B Lifetime Nonmedical Use of Specific Tranquilizers among Persons Aged 12 or Older: Annual Averages Based on 2002-2004

Specific Tranquilizer ¹	Estimated Number (in 1,000s)	Percentage of Population	Percentage of Lifetime Nonmedical Users of Any Tranquilizer
Any Tranquilizer	19,780	8.3	100.0
Valium [®] or Diazepam	14,555	6.1	73.6
Xanax [®] , Alprazolam, Ativan [®] , or Lorazepam	9,025	3.8	45.6
Klonopin [®] or Clonazepam	2,657	1.1	13.4
Soma [®]	2,488	1.0	12.6
Flexeril [®]	1,914	0.8	9.7
Librium [®]	1,185	0.5	6.0

BuSpar®	661	0.3	3.3
Rohypnol®	376	0.2	1.9
Vistaril®	296	0.1	1.5
Atarax®	283	0.1	1.4
Tranxene®	182	0.1	0.9
Serax®	167	0.1	0.8
Meprobamate	153	0.1	0.8
Miltown®	113	0.0	0.6
Equanil®	94	0.0	0.5
Limbitrol®	84	0.0	0.4

¹ In descending order of prevalence.
Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, and 2004.

Analysis by drug group indicates that an estimated 18.6 million persons aged 12 or older misused anxiolytic benzodiazepines in their lifetime (**Table 3.6**); this is 93.9 percent of lifetime nonmedical tranquilizer users and 7.8 percent of the population. This group includes Klonopin® or clonazepam, Xanax® or alprazolam, Ativan® or lorazepam, Valium® or diazepam, Librium®, Limbitrol®, Rohypnol®, Serax®, and Tranxene®, plus responses to the "other-specify" tranquilizer item that fell into the benzodiazepine category; benzodiazepines that are prescribed for use as sedatives are not included in this group.

3.3.3 Stimulants

The stimulant that had the highest lifetime prevalence of misuse was methamphetamine, with an estimated 12.1 million lifetime users (5.1 percent of the population and 58.9 percent of all lifetime stimulant users) (**Table 3-C**). This category includes both prescription-type methamphetamine (e.g., Desoxyn®) and street methamphetamine (referred to as crank, crystal, ice, or speed in the survey instrument). Prescription diet pills ranked second, with 8.6 million lifetime nonmedical users (3.6 percent of the population), and Ritalin® or generic methylphenidate ranked third with 4.3 million users (1.8 percent of the population).

Table 3-C Lifetime Nonmedical Use of Specific Stimulants among Persons Aged 12 or Older: Annual Averages Based on 2002-2004

Specific Stimulant ¹	Estimated Number (in 1,000s)	Percentage of Population	Percentage of Lifetime Nonmedical Users of Any Stimulant
Any Stimulant	20,617	8.7	100.0
Methamphetamine, Desoxyn®, or Methedrine®	12,138	5.1	58.9
Prescription Diet Pills	8,585	3.6	41.6
Ritalin® or Methylphenidate	4,293	1.8	20.8
Dexedrine®	2,803	1.2	13.6
Preludin®	697	0.3	3.4
Dextroamphetamine	575	0.2	2.8
Ionamin®	511	0.2	2.5
Eskatrol®	227	0.1	1.1
Tenuate®	214	0.1	1.0
Cylert®	209	0.1	1.0
Didrex®	186	0.1	0.9
Sanorex®	116	0.0	0.6
Mazanor®	54	0.0	0.3
Plegine®	46	0.0	0.2
Obedrin-LA®	33	0.0	0.2

¹ In descending order of prevalence.
Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, and 2004.

3.3.4 Sedatives

Methaqualone, Sopor[®], or Quaalude[®], which is now a Schedule I drug and can no longer be manufactured, distributed, or used legally in the United States, was the most commonly reported sedative that was misused by persons aged 12 or older in their lifetime. An estimated 7.1 million (3.0 percent of the population) had used these methaqualone products nonmedically in their lifetime. Similarly, an estimated 3.1 million persons aged 12 or older (1.3 percent) had misused barbiturates, based on a NSDUH question about nonmedical barbiturate use that provided selected examples of barbiturates but not an exhaustive list (**Table 3-D**). In addition, an estimated 1.8 million persons (0.7 percent) had misused sedative benzodiazepines in their lifetime; these include drugs in the generic categories of temazepam, flurazepam, and triazolam and their corresponding brand names (**Table 3.8**).

Table 3-D Lifetime Nonmedical Use of Specific Sedatives among Persons Aged 12 or Older: Annual Averages Based on 2002-2004

Specific Sedative ¹	Estimated Number (in 1,000s)	Percentage of Population	Percentage of Lifetime Nonmedical Users of Any Sedative
Any Sedative	9,787	4.1	100.0
Methaqualone, Sopor [®] , or Quaalude [®]	7,144	3.0	73.0
Barbiturates ²	3,093	1.3	31.6
Phenobarbital	1,333	0.6	13.6
Tuinal [®]	1,164	0.5	11.9
Placidyl [®]	905	0.4	9.2
Restoril [®] or Temazepam	901	0.4	9.2
Halcion [®]	760	0.3	7.8
Dalmane [®]	504	0.2	5.2
Amytal [®]	244	0.1	2.5
Chloral Hydrate	194	0.1	2.0
Butisol [®]	94	0.0	1.0

¹ In descending order of prevalence.
² Respondents were asked about their use of barbiturates and were given the following as examples: Nembutal[®], pentobarbital, Seconal[®], secobarbital, or butalbital. However, respondents were not given an exhaustive list of examples of barbiturates.
Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, and 2004.

3.4. Demographic Differences

Using the average for 2002 through 2004, the prevalence of lifetime nonmedical use of specific pain relievers, tranquilizers, stimulants, and sedatives was examined among males and females and among adolescents aged 12 to 17, young adults aged 18 to 25, and adults aged 26 or older.

3.4.1 Pain Relievers

Lifetime nonmedical use of most specific pain relievers was significantly more prevalent among males than among females (**Table 3.5**), and there were no statistically significant reversals to this pattern. The most frequently reported pain reliever class was Darvocet[®], Darvon[®], or Tylenol[®] with Codeine, which was used by 9.3 percent of males compared with 7.1 percent of females. The relative rankings of the major pain relievers were similar regardless of gender. The higher prevalence among males than females also was observed for three of the four tabulated groups of specific pain relievers; misuse of propoxyphene or codeine products, for example, was reported by 10.2 percent of males compared with 7.6 percent of females.

Young adults aged 18 to 25 were more likely than youths aged 12 to 17 or older adults aged 26 or older to have misused prescription pain relievers in their lifetime. This pattern of differences was consistent in direction and statistically significant for most of the specific drugs. The exceptions involved higher prevalences for older adults than for younger adults; this pattern was observed, for example, for Dilaudid[®] (0.5 percent among adults aged 26 or older vs. 0.3 percent among adults aged 18 to 25), Fiorinal[®] (0.2 vs. 0.1 percent), and Talwin[®] (0.2 vs. 0.1 percent). Lifetime misuse of any pain reliever did not differ significantly between youths aged 12 to 17 and adults aged 26 or older, but differences were found for specific drugs. Lifetime prevalence was higher among older adults than adolescents for such drugs as Darvocet[®], Darvon[®], or

Tylenol® with Codeine (7.7 percent for adults aged 26 or older vs. 6.0 percent for youths aged 12 to 17); Percocet®, Percodan®, or Tylox® (4.1 vs. 1.9 percent); and Demerol® (1.1 vs. 0.5 percent). However, youths were more likely than older adults to have misused OxyContin® (1.0 percent among youths aged 12 to 17 vs. 0.7 percent among adults aged 26 or older) and morphine (0.9 vs. 0.6 percent). In evaluating these observations, it should be remembered that among lifetime users, the proportion who are current users or recent initiates is higher for younger people than for older people; as age increases, the percentage of lifetime users having discontinued use increases. Thus, one might expect the ratio of current to lifetime users to be relatively high for pharmaceuticals recently introduced to the market, such as OxyContin®, compared with those that have been on the market for a longer time, such as Demerol®.

3.4.2 Tranquilizers

Lifetime misuse of any tranquilizer was more prevalent for males (8.9 percent) than females (7.8 percent). Specific drugs for which this difference reached statistical significance between males and females included Valium® or diazepam (7.0 percent among males vs. 5.3 percent among females), Klonopin® or clonazepam (1.2 vs. 1.0 percent), Rohypnol® (0.2 vs. 0.1 percent), and Soma® (1.2 vs. 0.9 percent) (**Table 3.6**). There were no specific tranquilizers for which a statistically significant reversal of this pattern was found.

The lifetime prevalence of nonmedical use of any prescription-type tranquilizer was higher for young adults aged 25 (11.9 percent) than for older adults aged 26 or older (8.4 percent), who in turn had a higher rate than youths aged 12 to 17 (3.4 percent). Statistically significant differences following this pattern were observed for Klonopin® or clonazepam; Xanax®, alprazolam, Ativan®, or lorazepam; Valium® or diazepam; Flexeril®, and Soma®. Exceptions to this pattern were found for lifetime misuse of Librium®, which was more common among older adults (0.6 percent) than younger adults (0.2 percent), and Miltown® (0.1 vs. 0.0 percent, respectively). However, these latter drugs have been on the market longer than drugs such as alprazolam (Xanax®).

3.4.3 Stimulants

Misuse of any stimulant in the lifetime was higher among males than females (9.9 vs. 7.5 percent), and this pattern was apparent for most of the specific drugs in this category although the difference did not reach statistical significance in all cases (**Table 3.7**). Lifetime misuse of methamphetamine, Desoxyn®, or Methedrine®, for example, was reported by 6.3 percent of males compared with 4.0 percent of females. There were no statistically significant reversals of this pattern.

Age group differences in lifetime misuse of any stimulant showed the same pattern as tranquilizers; the rate was higher for adults aged 18 to 25 (10.7 percent) than for adults aged 26 or older (9.0 percent), who in turn had a higher rate than youths aged 12 to 17 (3.9 percent). Compared with youths, young adults had higher lifetime rates of misuse of methamphetamine, Desoxyn®, or Methedrine®; prescription diet pills; Ritalin® or methylphenidate; Dexedrine®; dextroamphetamine; and Preludin®. Compared with young adults aged 18 to 25, older adults aged 26 or older had higher lifetime rates of nonmedical use of prescription diet pills, Dexedrine®, Eskatrol®, Ionamin®, Preludin®, and Tenuate®. Misuse of Ritalin® or methylphenidate, however, was more prevalent among young adults than older adults (5.5 vs. 1.1 percent). An estimated 2.1 percent of youths aged 12 to 17 reported lifetime nonmedical use of Ritalin® or methylphenidate.

3.4.4 Sedatives

Lifetime misuse of any sedative was higher among males (4.9 percent) than females (3.4 percent). This pattern predominated across the specific sedatives, as shown in **Table 3.8**, although the differences were not always statistically significant. Methaqualone, Sopor®, or Quaalude®, the most frequently reported specific sedative, was misused by 3.8 percent of males compared with 2.3 percent of females. In the selected groups of specific sedatives, lifetime barbiturate misuse also was higher for males than females (2.1 vs. 1.2 percent).

The rate of lifetime sedative misuse increased with age and was clearly higher for adults aged 26 or older than for younger adults aged 18 to 25 or youths aged 12 to 17. For example, lifetime misuse of methaqualone, Sopor®, or Quaalude® was reported by 0.2 percent of youths, 0.9 percent of young adults, and 3.8 percent of older adults. Because methaqualone and its brand-name equivalents were withdrawn from the U.S. market several years ago and assigned to Schedule I in the U.S. Drug Enforcement Administration's (DEA's) list of controlled substances, use by younger people would be expected to be rare. However, the same pattern of differences in prevalence is found for the barbiturates as a group, for which lifetime misuse was highest for adults aged 26 or older (2.0 percent), followed by young adults aged 18 to 25 (0.6 percent) and youths aged 12 to 17 (0.3 percent). This difference across age groups also could be due to changes in drug availability or prescribing practices, as formulations of oral barbiturates are discontinued or replaced by sedatives that have been approved for medical use more recently.

3.5. Use of Specific Drugs among Past Year Initiates of Any Drug in Class

Because NSDUH collects information on most specific prescription drugs only for the lifetime period, individuals counted in that category include a large number of persons who misused the drug at some time in the past but are no longer doing so. Thus, the number of current nonmedical users of specific drugs within the therapeutic classes generally cannot be ascertained.¹

Nevertheless, this section attempts to address a related issue—the specific drugs being misused by new initiates. With pharmaceuticals being introduced at different times and the profile of drugs in conventional medical use constantly changing, the specific drugs currently being misused by persons starting nonmedical use may provide an indicator of which substances might emerge as most prevalent in the future. Because NSDUH data do not address this issue directly, the analysis for this section selected persons who reported that they had begun nonmedical use of any drug(s) in the respective therapeutic classes in the 12 months prior to the survey. For these new past year initiates for any drug(s) in a given therapeutic class, the specific drugs reported within the class can be inferred to have been used in the past year. This analysis examines the rate of past year use (based on reports of lifetime use) of specific drugs among these past year initiates, often comparing it with the rate among all lifetime users, including new initiates and current and previous users.

However, these findings should be viewed with caution because they may not necessarily reflect new emerging patterns among drug users overall. First, there may be natural progressions from one specific drug to another over time as nonmedical users become more experienced, such that the findings may simply reflect the profile of drugs used by new initiates who will progress to other drugs. Similarly, the drugs identified as more prevalent among new initiates may reflect differences in availability or access that might diminish as users become more experienced, develop a wider network of contacts, and identify sources of other drugs. In addition, prior initiates, as opposed to new initiates, have had more time to try different drugs and hence would be expected to have generally higher rates of use of all drugs in the category. Of course, pharmaceuticals newly introduced to the market are more likely to show up in this analysis and those removed from the market are less likely.

3.5.1 Pain Relievers

As shown in **Tables 3.9** and **3.10**, an estimated 2.4 million persons first misused pain relievers in the 12 months prior to the survey; this constitutes 7.8 percent of the estimated 30.9 million lifetime nonmedical users of any pain reliever. Approximately half (50.3 percent) of the past year initiates reported use of Vicodin[®], Lortab[®], or Lorcet[®], making it the most frequently mentioned specific pain reliever among new initiates (**Table 3-E**). The rate of lifetime nonmedical use of Darvocet[®], Darvon[®], or Tylenol[®] with Codeine was higher among all lifetime nonmedical users of any pain reliever (62.7 percent, top rank) than among new initiates into pain reliever misuse (34.3 percent, second rank). Among past year initiates, the use of Percocet[®], Percodan[®], or Tylox[®] was reported by 17.8 percent; the use of generic hydrocodone by 15.4 percent; and the use of generic codeine by 13.7 percent. Misuse of OxyContin[®], a relative newcomer to the prescription pain reliever market, was reported by 7.1 percent of new initiates and 8.5 percent of all lifetime nonmedical users of any pain reliever.

Table 3-E Specific Pain Relievers Used among Past Year Initiates and All Lifetime Nonmedical Users of Any Pain Reliever Aged 12 or Older: Annual Averages Based on 2002-2004

Specific Pain Reliever ¹	Percentage Using Specific Pain Reliever in Past Year among Past Year Initiates into Nonmedical Use of Any Pain Reliever	Percentage Using Specific Pain Reliever in Lifetime among All Lifetime Nonmedical Users of Any Pain Reliever
Vicodin [®] , Lortab [®] , or Lorcet [®]	50.3	49.2
Darvocet [®] , Darvon [®] , or Tylenol [®] with Codeine	34.3	62.7
Percocet [®] , Percodan [®] , or Tylox [®]	17.8	33.9
Hydrocodone	15.4	17.5
Codeine	13.7	22.2
OxyContin [®]	7.1	8.5
Morphine	4.5	6.7
Demerol [®]	2.9	9.0
Ultram [®]	2.3	3.4
Methadone	2.2	3.7
Phenaphen [®] with Codeine	1.0	2.5

Tramadol	0.5	0.6
Fiorinal®	0.4	1.6
Propoxyphene	0.4	1.0
Dilaudid®	0.3	3.1
Fioricet®	0.3	1.5
SK-65®	0.2	0.1
Talacen®	0.2	0.2
Talwin®	0.1	1.5
Talwin® NX	0.1	0.3
Stadol®	0.0	0.5

¹ In descending order by prevalence among past year initiates.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, and 2004.

3.5.2 Tranquilizers

An estimated 1.1 million persons initiated nonmedical use of any tranquilizer in the year prior to the survey interview (**Table 3.12**); this constitutes 5.8 percent of the estimated 19.8 million lifetime nonmedical users of any tranquilizer (**Table 3.11**). Among the new initiates, the specific tranquilizers used most frequently were Xanax®, alprazolam, Ativan®, or lorazepam (used by 50.9 percent of new users), and the second-ranking tranquilizer was Valium® or diazepam (42.0 percent) (**Table 3-F**). Among all lifetime nonmedical users of tranquilizers, however, the relative rankings of these two drug groups was reversed, possibly reflecting the fact that Valium® (diazepam) has been on the market since 1962 whereas Xanax® (alprazolam) and Ativan® (lorazepam) were first approved for marketing in 1977. Lifetime misuse of Librium® was reported by 1.3 percent of new initiates compared with 6.0 percent of all lifetime nonmedical users of tranquilizers.

Table 3-F Specific Tranquilizers Used among Past Year Initiates and All Lifetime Nonmedical Users of Any Tranquilizer Aged 12 or Older: Annual Averages Based on 2002-2004

Specific Tranquilizer ¹	Percentage Using Specific Tranquilizer in Past Year among Past Year Initiates into Nonmedical Use of Any Tranquilizer	Percentage Using Specific Tranquilizer in Lifetime among All Lifetime Nonmedical Users of Any Tranquilizer
Xanax®, Alprazolam, Ativan®, or Lorazepam	50.9	45.6
Valium® or Diazepam	42.0	73.6
Klonopin® or Clonazepam	14.5	13.4
Soma®	12.8	12.6
Flexeril®	7.0	9.7
BuSpar®	3.2	3.3
Librium®	1.3	6.0
Rohypnol®	1.2	1.9
Atarax®	1.1	1.4
Vistaril®	1.1	1.5
Equanil®	0.6	0.5
Tranxene®	0.6	0.9
Meprobamate	0.5	0.8
Miltown®	0.4	0.6
Serax®	0.3	0.8
Limbitrol®	0.1	0.4

¹ In descending order by prevalence among past year initiates.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, and 2004.

3.5.3 Stimulants

Persons who initiated nonmedical use of stimulants in the year prior to the survey were estimated to number 764,000 (**Table 3.14**); this is 3.7 percent of the estimated 20.6 million lifetime nonmedical users of any stimulant (**Table 3.13**). Ritalin® or methylphenidate was the most frequently used specific stimulant among new initiates (42.3 percent) (**Table 3-G**).

Methamphetamine, Desoxyn[®], or Methedrine[®] ranked second (31.5 percent) in this therapeutic class. Among all lifetime nonmedical users of stimulants, methamphetamine, Desoxyn[®], or Methedrine[®] ranked first, and Ritalin[®] or methylphenidate ranked third. The higher profile of Ritalin[®] or methylphenidate among new initiates may be associated with differential rates of use among young people because Ritalin[®] is typically prescribed to ameliorate the symptoms of attention deficit/hyperactivity disorder (ADHD). Consequently, misuse of this stimulant may differentially involve young people. Comparison of the age-specific rates among all lifetime nonmedical users (including new initiates, continuing users, and former users) (**Table 3.13**) indicates that Ritalin[®] or methylphenidate was the most frequently reported specific drug among those aged 12 to 17 (53.6 percent); it was roughly equal to methamphetamine among those aged 18 to 25 (51.0 percent for Ritalin[®] or methylphenidate vs. 50.0 percent for methamphetamine) and ranked fourth among adults aged 26 or older (12.5 percent). Nonmedical use of Preludin[®] (phenmetrazine) was reported by 0.3 percent of past year stimulant initiates compared with 3.4 percent of lifetime users. As noted previously, Preludin[®] and its generic equivalent are no longer approved for marketing in the United States.

Table 3-G Specific Stimulants Used among Past Year Initiates and All Lifetime Nonmedical Users of Any Stimulant Aged 12 or Older: Annual Averages Based on 2002-2004

Specific Stimulant ¹	Percentage Using Specific Stimulant in Past Year among Past Year Initiates into Nonmedical Use of Any Stimulant	Percentage Using Specific Stimulant in Lifetime among All Lifetime Nonmedical Users of Any Stimulant
Ritalin [®] or Methylphenidate	42.3	20.8
Methamphetamine, ² Desoxyn [®] , or Methedrine [®]	31.5	58.9
Prescription Diet Pills ³	20.6	41.6
Dexedrine [®]	4.9	13.6
Dextroamphetamine	1.3	2.8
Didrex [®]	1.3	0.9
Ionamin [®]	0.8	2.5
Cylert [®]	0.7	1.0
Eskatrol [®]	0.7	1.1
Sanorex [®]	0.6	0.6
Plegine [®]	0.4	0.2
Mazanor [®]	0.3	0.3
Preludin [®]	0.3	3.4
Tenuate [®]	0.3	1.0
Obedrin-LA [®]	0.1	0.2

¹ In descending order by prevalence among past year initiates.

² Also known as crank, crystal, ice, or speed.

³ Respondents were asked about their use of prescription diet pills and were given the following as examples: amphetamines, Benzedrine[®], Biphetamine[®], Fastin[®], or phentermine. However, respondents were not given an exhaustive list of examples of prescription diet pills.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, and 2004.

3.5.4 Sedatives

An estimated 214,000 persons initiated nonmedical use of prescription-type sedatives in the 12 months prior to the survey (**Table 3.16**); this is 2.2 percent of the estimated total of 9.8 million nonmedical users of any prescription-type sedative (**Table 3.15**). The most frequently reported specific sedative among new initiates was Restoril[®] or temazepam, which was reported by 17.4 percent of new initiates (**Table 3-H**). Methaqualone, Sopor[®], or Quaalude[®], then barbiturates, occupied the next two ranks, with 11.0 and 10.8 percent, respectively. Among all lifetime nonmedical users of sedatives, methaqualone, Sopor[®], or Quaalude[®] ranked first (73.0 percent). The lower rate among new initiates may reflect the withdrawal of these products from the U.S. market several years ago; the fact that there were an estimated 23,000 persons who initiated misuse of methaqualone or its brand-name equivalents in the year prior to the survey suggests that there is an illicit market in this product, even though it is assigned to the DEA's Schedule I category (not approved for medical use). Large discrepancies between rates among all lifetime users and new initiates also were found for Tuinal[®] (11.9 percent among all lifetime users, 0.1 percent among new initiates) and Placidyl[®] (9.2 percent among lifetime users vs. 0.3 percent among new initiates). These two drugs also are no longer approved for marketing in the United States.

Table 3-H Specific Sedatives Used among Past Year Initiates and All Lifetime Nonmedical Users of Any Sedative Aged 12 or Older: Annual Averages Based on 2002-2004

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Specific Sedative ¹	Percentage Using Specific Sedative in Past Year among Past Year Initiates into Nonmedical Use of Any Sedative	Percentage Using Specific Sedative in Lifetime among All Lifetime Nonmedical Users of Any Sedative
Restoril® or Temazepam	17.4	9.2
Methaqualone, Sopor®, or Quaalude®	11.0	73.0
Barbiturates ²	10.8	31.6
Phenobarbital	8.1	13.6
Halcion®	7.6	7.8
Dalmane®	4.1	5.2
Butisol®	2.6	1.0
Chloral Hydrate	1.6	2.0
Amytal®	1.2	2.5
Placidyl®	0.3	9.2
Tuinal®	0.1	11.9

¹ In descending order by prevalence among past year initiates.
² Respondents were asked about their use of barbiturates and were given the following as examples: Nembutal®, pentobarbital, Seconal®, secobarbital, or butalbital. However, respondents were not given an exhaustive list of examples of barbiturates.
Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, and 2004.

3.6. Summary

This chapter presented findings for trends in the prevalence of misuse of specific prescription psychotherapeutic drugs from 2002 through 2004. The chapter also combined data on the prevalence of misuse of specific drugs, based on combined data from the 2002 through 2004 surveys. Because most measures of misuse of specific prescription psychotherapeutic drugs in NSDUH were limited to the lifetime period, this chapter emphasized the prevalence of lifetime misuse. Findings also were presented for new (i.e., past year) initiates of misuse of prescription psychotherapeutic drugs based on these combined data.

- Despite overall patterns of stable rates for any prescription psychotherapeutic drug and for classes of psychotherapeutics (**Chapter 2**), significant increases in the prevalence of lifetime misuse from 2002 through 2004 were observed among persons aged 12 or older for hydrocodone and oxycodone products (which are pain relievers) and for Xanax®, generic alprazolam, Ativan®, or generic lorazepam (which are tranquilizers). Significant declines in prevalence over this period among persons aged 12 or older were observed for prescription diet pills as a category of stimulants, for the stimulants Dexedrine® and Preludin®, for barbiturates as a class of sedatives, and for selected sedative benzodiazepines.
- **Combined data** from the 2002 through 2004 surveys indicated that Darvocet®, Darvon®, or Tylenol® with codeine as a group had the highest lifetime prevalence of **pain reliever** misuse for persons aged 12 or older. The **tranquilizer** with the highest lifetime prevalence of misuse was Valium® or diazepam. Methamphetamine (including prescription-type methamphetamine, such as Desoxyn® and street methamphetamine) was the **stimulant** with the highest prevalence of lifetime misuse. The **sedative** with the highest lifetime prevalence of misuse was methaqualone, Sopor®, or Quaalude®, which is no longer legally available in the United States.
- Patterns of higher prevalences of misuse among young adults aged 18 to 25 and among males compared with their counterparts that were observed for prescription psychotherapeutic drugs as a whole and for classes of psychotherapeutics (**Chapter 2**) also tended to hold for lifetime misuse of specific drugs. Exceptions to the general pattern of higher rates among young adults aged 18 to 25 than older adults often reflected changes in the market over time. For example, Librium® and Miltown®, tranquilizers that have been on the market far longer than drugs such as alprazolam (Xanax®), had higher prevalences of lifetime misuse among adults aged 26 or older than among young adults.
- Specific drugs that were most prevalent **among new initiates** aged 12 or older differed from those that were most prevalent among lifetime misusers overall. Vicodin®, Lortab®, or Lorcet® was the **pain reliever** with the highest prevalence among new initiates of pain reliever misuse. The **tranquilizer** with the highest prevalence of misuse among new initiates of tranquilizer misuse was Xanax®, generic alprazolam, Ativan®, or generic lorazepam. The **stimulant** with the highest prevalence of misuse among new initiates was Ritalin® or methylphenidate. The **sedative** with the highest prevalence of misuse among new initiates was Restoril® or temazepam.

- Differences between the drugs that were most prevalent among new initiates and those that were most prevalent among lifetime misusers overall can be due to a variety of factors, such as (a) the availability of a drug for misuse based on the length of time that a drug has been on the market for legitimate medical use, changes in prescribing practices, or withdrawal of a drug from the market (e.g., methaqualone, Sopor[®], or Quaalude[®]); (b) new emerging patterns of misuse; or (c) progressions in misuse from one specific drug to others over time.

¹ An exception to this is cases where only one specific drug is reported for lifetime use within the therapeutic class. It would be possible in those cases to generate estimates of current use. However, such estimates could not be argued to be representative of all users of drugs in the therapeutic class or of users of the specific drug.

↑ Top TOC

This page was last updated on June 03, 2008.

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