

COMMENTS ON THE REPORTED STATISTICS ON PSYCHOTROPIC SUBSTANCES

1. The purpose of these comments is to facilitate the study of the statistical information on licitly manufactured psychotropic substances that is presented in the tables of reported statistics (see pages 105-248 below). The tables contain information submitted by Governments to the International Narcotics Control Board (INCB) pursuant to the provisions of article 16 of the Convention on Psychotropic Substances of 1971.

2. There are currently 116 substances listed in the four schedules of the 1971 Convention. Comments are provided on substances reported to have been used for medical and scientific purposes. Since only a few Governments have re-

ported manufacture of substances in Schedule I and since international trade in those substances has been very limited, a table summarizing the movement of substances listed in Schedule I in 2002 is included in the section containing tables of reported statistics. With respect to substances in Schedules II and III of the 1971 Convention, the information on the five-year period 1998-2002 is presented in the statistical tables. With respect to substances in Schedule IV, information on the three-year period 2000-2002 is included in the statistical tables. Statistics relating to a few substances, namely, mecloqualone and phencyclidine, both included in Schedule II, and lefetamine, included in Schedule IV, are not included in the statistical tables but are reflected in the comments.

Substances listed in Schedule I

3. There are currently 28 substances listed in Schedule I. Pursuant to the provisions of article 7 of the 1971 Convention, the use of those substances should be prohibited except for scientific and very limited medical purposes by duly authorized persons in medical or scientific establishments that are directly under the control of or specifically approved by their Governments. This restriction results from the fact that all substances in Schedule I are hallucinogens and/or central nervous system stimulants with very limited or no medical use. The manufacture and stocks of and trade in those substances have, therefore, been very limited. Exceptions are noted below.

4. The 1971 Convention does not envisage any use of psychotropic substances in Schedule I in industry for the manufacture of non-psychotropic substances or products. The substance 2,5-dimethoxyamphetamine (DMA), however, has been used for that purpose in the United States of America, where it is utilized in the manufacture of special photographic films. The manufacture of DMA in that country was stable, averaging 8 tons annually until 2001, when manufacture decreased by around 50 per cent. No manufacture of this substance has been reported in 2002 and needs were covered using available stocks. As at the end of 2002, stocks of DMA held in the United States had significantly decreased to less than one ton (948.138 kg).

5. Australia reported the manufacture of 12 grams of *p*-methoxyamphetamine (PMA) in 1999 and 2002. The United States reported in 1999 the manufacture of 31 kg of PMA for the manufacture of a non-psychotropic substance to be used for medical and scientific purposes; since then it has not reported any manufacture of the substance.

6. Parties to the 1971 Convention may authorize limited use of substances listed in Schedule I for the manufacture of psychotropic substances in other schedules. The isomers of tetrahydrocannabinol (THC) included in Schedule I, mainly *delta*-8-tetrahydrocannabinol, have been manufactured in the United States and used in the manufacture of *delta*-9-tetrahydrocannabinol (*delta*-9-THC), a psychotropic substance listed in Schedule II since 1991. The United States is the only manufacturer of the isomers of THC included in Schedule I.

After 1992, the manufacture of those isomers of THC increased to a level of about 38 kg annually in 1995 and 1996. While no manufacture of those isomers was reported in 1997, a marked increase was reported between 1998 and 1999 (138 per cent). The manufacture of isomers of THC in the past four years shows an increasing trend (12 per cent average). Compared with the quantity reported for 1998, the quantity manufactured in 2002 (204 kg) represents an increase of more than 230 per cent. Stocks held in the United States amounted to 257 kg in 2002.

7. Six other substances listed in Schedule I were manufactured in the United States in small quantities for scientific purposes in 2002. Those substances were (+)-lysergide, MDMA, methcathinone, *N*-ethyl-tenamphetamine (*N*-ethyl-MDA), tenamphetamine (MDA) and TMA. The manufacture of a few grams of substances in Schedule I in 2002 was reported by only five other countries, namely, Australia, Denmark, Hungary, Israel and Switzerland.

8. Quantities of substances in Schedule I, ranging from a few grams to several hundred grams, were held in stocks at the end of 2002, mainly in the United States. Stocks of most of those substances have been relatively stable in recent years. Stocks of DMA and THC are referred to in paragraphs 4-6 above.

9. Other countries reporting stocks of a few grams of substances in Schedule I at the end of 2002 were Australia, Denmark, Hungary, Israel, Italy, the Netherlands, Sweden, Switzerland and the United Kingdom of Great Britain and Northern Ireland.

10. International trade in substances in Schedule I has always been restricted to occasional transactions of no more than a few grams. In the period 1998-2002, small imports or exports of some of those substances were reported by Australia, Austria, Belgium, Canada, Denmark, France, Germany, Hong Kong Special Administrative Region of China, Ireland, Israel, Italy, the Netherlands, New Zealand, Norway, the Republic of Korea, Singapore, Spain, Switzerland, the United Kingdom and the United States.

Substances listed in Schedule II

11. Seventeen substances whose liability to abuse constitutes a substantial risk to public health and which have little to moderate therapeutic usefulness are listed in Schedule II. The substances belong to the following groups: central nervous system stimulants; anti-emetics; hallucinogens; sedative-hypnotics; antitussives and antidepressants. In addition to their various applications in human and/or veterinary medicine, some of these substances are used in industry for the manufacture of other psychotropic substances or for conversion into non-psychotropic substances.

Central nervous system stimulants

Amphetamines

12. Both optical isomers of amphetamine (levamphetamine and dexamphetamine) and their racemic mixture (amphetamine), as well as both optical isomers of metamphetamine (levomethamphetamine and metamphetamine) and their racemic mixture (metamphetamine racemate), are listed in Schedule II. Statistical reports on amphetamine, dexamphetamine and metamphetamine have been received by INCB from Governments since the 1970s. Statistics for levamphetamine and levomethamphetamine have been available since 1986 and statistics for metamphetamine racemate since 1988, owing to the different dates on which those substances were brought under the control of the 1971 Convention.

13. Amphetamines in Schedule II are used not only directly for medical purposes but also in industry as intermediary products for the manufacture of other substances. Those new substances may be divided into two groups: other psychotropic substances, including those which are optical isomers of the original substance; and substances not controlled under the 1971 Convention.

Direct medical use

14. Amphetamines listed in Schedule II are used mainly for the treatment of attention-deficit disorder (ADD) and narcolepsy. The extensive use of those substances as anorectics for the treatment of obesity has been discontinued or significantly reduced in most countries. In 2002, the quantity of amphetamines listed in Schedule II that were manufactured worldwide for direct medical use totalled around 9.3 tons (approximately 620 million defined daily doses for statistical purposes (S-DDD)), almost all of which was manufactured in the United States. The level of manufacture in 2002 was about 1 ton higher than the levels in 2000 and 2001, which were nearly double the quantity of 1998 and 8 times higher than in 1991.

15. The significant increase in the manufacture of amphetamines can be attributed almost exclusively to the rapid increase in the medical use of amphetamine and dexamphetamine in the United States since 1998, when products combining both amphetamine and dexamphetamine started to be used mostly for the treatment of ADD (called attention-deficit/hyperactivity disorder (ADHD) in the United States). In 2002, about 4 tons of amphetamine out of the 7.3 tons manufactured were required for such use in the United States, while only about 20 kg of the substance were needed for direct medical use in 1996. At present such significant use of amphetamine for medical purposes has been reported only in

the United States. The amphetamine consumed in the United States is obtained almost exclusively from domestic manufacture. The other countries using the substance cover their needs mostly through imports.

16. In 2002, the main importer of amphetamine was Germany (40 kg, all for industrial purposes), followed by Chile (15 kg) and Sweden (11 kg).

17. The United States is also the main consumer of dexamphetamine, but significant medical use of that substance has also been reported in a number of other countries, including Australia and Canada. In the United States, the medical needs for dexamphetamine are covered by domestic manufacture. While the manufacture of dexamphetamine during the 1980s was stable at a level of approximately 350 kg annually, it began to rise sharply after 1991 and amounted to almost 1.7 tons in 1995. The manufacture of that substance remained at that level in 1996 and 1997 and increased in 2000 to a record level of 12.3 tons. About 6 tons were manufactured in 2002 and added to the previous stock (3 tons). Out of this total quantity, approximately 5 tons of dexamphetamine were used for medical purposes in 2002. Exports of dexamphetamine from the United States in 2002 were small (152 kg). Like amphetamine, dexamphetamine is prescribed for the treatment of ADHD in the United States. The substance is also used, to a much lesser extent, for the treatment of obesity and narcolepsy.

18. Australia and Canada import dexamphetamine to meet their medical needs. Dexamphetamine imports by Australia rose from only 6 kg in 1991 to 61 kg in 1995 and then continued to increase to 145 kg in 2002. Dexamphetamine imports reported by Canada rose from 7 kg in 1991 to 173 kg in 2002. Dexamphetamine is also imported into the United Kingdom. Those imports averaged about 51 kg annually in the period 1998-2002.

19. Most of the metamphetamine manufactured is used for industrial purposes (see para. 30 below). Metamphetamine consumed in the United States is obtained almost exclusively from domestic manufacture. All other countries using metamphetamine for medical purposes cover their needs mostly through imports. The main importer of metamphetamine until 2001 was Chile with an average import of 10.32 kg for the period 1998-2002. The United Kingdom imported, for the first time, about 100 kg of metamphetamine in 2002.

20. In recent years, about 400 kg of levomethamphetamine have been used annually in the United States for the manufacture of pharmaceutical preparations (nasal inhalants) for domestic use, which are exempted in that country from certain control measures in accordance with article 3 of the 1971 Convention. In 2002, 628 kg were used for that purpose.

21. The countries with the highest levels of medical use of amphetamines, calculated on the basis of statistics provided for the years 1998, 2000 and 2002¹ and expressed in S-DDD per 1,000 inhabitants per day,² are listed in table 1 according to their level of consumption for the year 2002.

¹ The method of calculating levels of consumption of psychotropic substances is explained in the explanatory note to table IV of the present publication.

² The list of defined daily doses for statistical purposes (S-DDD) used in these calculations is presented in table III of the present publication.

Table 1. Calculated medical consumption of amphetamines, 1998, 2000 and 2002

Country ^a	<i>S-DDD per 1,000 inhabitants per day</i>		
	1998	2000	2002
United States of America	2.83	5.43	6.25
Australia	1.15	1.37	1.40
Canada	0.16	0.83	1.04
United Kingdom of Great Britain and Northern Ireland	0.07	0.14	0.73
Sweden	0.11	0.18	0.22
Belgium	0.13	0.19	0.19
Chile	0.50	0.31	0.16
Norway	0.02	0.15	0.08
New Zealand	0.11	0.14	0.07
Iceland	0.36	0.25	—

^a Countries are listed according to their level of consumption of amphetamines in 2002.

Use as intermediary substances

22. Most of the amphetamines manufactured worldwide are used in industry as intermediary substances, for the manufacture of other substances. In recent years, amphetamines have mainly been converted to substances used as anorectics (benzphetamine, clobenzorex, fenproporex and levopropylhexedrine) and antiparkinsonian drugs (selegiline). Occasionally, small quantities of amphetamines are also converted into other substances, such as famprofazone (an analgesic) and amfetaminil (a psychostimulant). Benzphetamine and fenproporex are included in Schedule IV of the 1971 Convention, whereas amfetaminil, clobenzorex, famprofazone, levopropylhexedrine and selegiline are not under international control.

23. In the 1990s, bulk manufacture of amphetamines mainly occurred in five countries: France, Germany, Hungary, Switzerland and United States. The conversion of amphetamines into other substances has taken place in all five of those countries, as well as in Ireland and Israel, which have imported significant quantities of amphetamines for that purpose.

24. In France, the manufacture of amphetamine averaged approximately 12 tons annually in the period 1991-1995. In 2002, 7.7 tons were manufactured. Amphetamine has been used in France for conversion into either dexamfetamine or fenproporex. Dexamfetamine has been converted further into clobenzorex or has been exported. Levamphetamine obtained during the process of separating dexamfetamine from amphetamine has been used again for the manufacture of amphetamine by racemization.

25. The quantity of amphetamine used in France for the manufacture of fenproporex declined from around 3 tons annually in the period 1991-1994 to about 1.3 tons annually in the period 1995-1999. In 2001, however, as the use of anorectics diminished in France, no amphetamine was used for that purpose. In 2002, only about 494 kg were used for the manufacture of fenproporex.

26. The quantity of amphetamine used in France for the manufacture of dexamfetamine averaged about 9 tons annually in the period 1991-1995. The quantity of dexamfetamine

obtained through that process averaged about 2.5 tons annually. In 2002, 3.9 tons of dexamfetamine were manufactured and about 1.6 tons were used for the manufacture of non-psychotropic substances. Until 1995, approximately 2 tons of dexamfetamine had been used annually in France for conversion into clobenzorex. In the period 1999-2002, the quantity of dexamfetamine used for that purpose averaged around 1.3 tons annually. Exports of dexamfetamine from France declined from an annual average of 875 kg in the period 1991-1993 to an annual average of about 197 kg in the period 1998-2002.

27. A total of 12 tons of metamfetamine racemate was manufactured in France in the period 1998-2001. The manufacture of that substance has been very irregular, reaching a record level of more than 6 tons in 1996, dropping to zero in 1997, then rising again to 3.3 tons in 2001 and 1.4 tons in 2002. The substance has mainly been exported (a total of more than 9.7 tons since 1998) or converted into levomethamphetamine and metamfetamine. In 2002, about 1.38 tons of metamfetamine racemate were converted into 781 kg of metamfetamine and 538 kg of levomethamphetamine. The latter has mainly been used for export (a total of 1 ton in the period 1998-2002). Metamfetamine obtained during the process of separating levomethamphetamine has been added to stocks, which averaged 3 tons annually in the period 1996-1999 and reached 3.8 tons in 2000 and 4.5 tons in 2002.

28. Germany was the main importer of amphetamine in 2002 (40 kg, all of which was utilized for the manufacture of fenproporex). In 2002, a total of 1.6 tons of amphetamine was manufactured, of which 1.5 tons were utilized for the manufacture of 1.8 tons of fenproporex. The manufacture of levomethamphetamine started in 1993 (377 kg). The substance has been used in that country almost entirely for conversion into selegiline. The total quantity manufactured in the period 1997-1998 was 7.7 tons, of which 4.3 tons were converted into selegiline and the rest was added to stocks. No manufacture of levomethamphetamine or selegiline was reported in the period 1999-2001. In 2002, a total of 2.8 tons of the substance was manufactured. In 1995 and 1996, Germany reported the manufacture of substantial amounts of metamfetamine (a total of 6.6 tons). All of the metamfetamine manufactured was converted into levopropylhexedrine. No manufacture of metamfetamine took place in 1997, whereas a total of almost 6 tons of the substance was manufactured in the period 1998-2000. While no manufacture of metamfetamine was reported for 2001, 5.1 tons were manufactured in 2002. All of the metamfetamine manufactured was converted into levopropylhexedrine.

29. Between 1991 and 1998, the annual manufacture of amphetamine in Switzerland fluctuated between 1.4 tons (in 1993) and nearly 2.5 tons (in 1996). No manufacture of that substance took place in 1997. Manufacture of that substance then increased sharply from 1.6 tons in 1998 to 8.3 tons in 1999. Amphetamine was used almost entirely for conversion into fenproporex. Since 2000, no manufacture of amphetamine in Switzerland has been reported. Until 1994, fenproporex was also manufactured from dexamfetamine imported from France (400 kg in 1994). Occasionally, metamfetamine was used for conversion into fenproporex. In 1995, 1.2 tons of metamfetamine were manufactured and converted into fenproporex. Also in 1995, 200 kg of metamfetamine racemate were imported and used for the manufacture of famprofazone.

30. In the 1990s, the trend in the manufacture of amphetamine in the United States mainly reflected changes in the demand for dexamphetamine, into which it was converted. The manufacture of amphetamine, which during the 1980s was stable at a level below 50 kg annually, began to rise sharply after 1994, amounting to around 6.8 tons annually during the period 1995-1997. After reaching a record level of nearly 19 tons in 2000, the manufacture of amphetamine dropped to 7.4 tons in 2002, some of which was used for conversion into dexamphetamine. Since 1992, metamfetamine racemate has been imported by the United States from France in large quantities (an annual average of 1.4 tons in the period 1995-1999 and 2.5 tons in 2002). The substance has been divided into levomethamphetamine and metamfetamine. Before 1998, about 700 kg of metamfetamine had been converted into benzfetamine each year. In 2002, of the 1.3 tons manufactured, 475 kg of metamfetamine were utilized for the manufacture of benzfetamine (389 kg) and 628 kg of levomethamphetamine were used for the manufacture of non-psychoactive substances (see para. 20).

31. Hungary reported for the first time the manufacture of metamfetamine (2.3 tons) in 1997 and used the substance for conversion into selegiline. In 1999, almost 6 tons of metamfetamine were manufactured in Hungary. Since that year no manufacture of the substance has been reported. The quantity of the substance converted into selegiline totalled 3.5 tons in 1998 and 5.2 tons in 1999. Metamfetamine racemate was manufactured in Hungary in 1998 (4 tons) and in 2002 (2.2 tons). Ireland imported a total of 1.4 tons of levomethamphetamine in the period 1995-1997 and 400 kg in 2002, which were used for conversion into selegiline. Israel last reported a significant import of levomethamphetamine in 1996 (200 kg). Ireland last reported imports of 100 kg of amphetamine in 1997, which was used for conversion into amfetaminil.

Fenetylline

32. Fenetylline was brought under international control in 1986. The manufacture of the substance was last reported in 1987. Worldwide stocks of fenetylline, which amounted to nearly 4 tons in 1987, were significantly reduced as a result of the voluntary destruction of all stocks of the substance in Switzerland in 1991 and 50 per cent of the stocks in Germany in 1992. Those stocks were destroyed in order to put an end to attempts by drug traffickers to divert fenetylline into illicit channels by using falsified import authorizations.³ By 2000, the remaining half of Germany's stocks had gradually been exported to the Netherlands. The Netherlands remains the only country holding important stocks of fenetylline (406 kg at the end of 2002) and is practically the only exporter of the substance, accounting for more than 99 per cent of global exports. Belgium, Germany, Israel and the Netherlands have been the only countries using fenetylline for medical purposes, in quantities of several kilograms annually. The substance is prescribed for the treatment of ADD and narcolepsy and as a psychostimulant. Attempts to divert fenetylline have occurred sporadically in the past but are almost always prevented due to strict national control measures and a well-functioning international control system. In the very rare cases of successful diversion, traffickers have been rapidly detected due to the stringent international control measures established for substances in Schedule II of the 1971 Convention.

³ See *Report of the International Narcotics Control Board for 1999* (United Nations publication, Sales No. E.00.XI.1), para. 85.

33. The use of methylphenidate for medical purposes increased significantly in the 1990s. That large increase was, until 2002, mainly a result of developments in the United States, where the substance is heavily advertised, including direct advertisement to potential consumers. It is frequently prescribed for the treatment of ADD, primarily in children. However, since the late 1990s the use of methylphenidate for the treatment of ADD has also risen sharply in many other countries, although the prescription level in most of those countries is still low compared with the level in the United States. Methylphenidate is primarily used for the treatment of ADD, but the substance is also prescribed for the treatment of narcolepsy.

34. The global manufacture of methylphenidate rose very rapidly in the first half of the 1990s, from 2.8 tons in 1990 to 19.1 tons in 1999. Due to the increasing use of amphetamines for the treatment of ADD, methylphenidate manufacture dropped to 16 tons in 2000 (see figure 1), a short-lived trend, as manufacturing levels then increased by more than 70 per cent to 27.5 tons in 2002. Consumption levels have doubled in the last five years. The United States has been the leading manufacturer of methylphenidate, increasing its output from 1.8 tons in 1990 to a record level of 21 tons in 2002. Almost all of the methylphenidate manufactured in the United States has been for domestic use; only 501 kg were exported in 2002. The United Kingdom, the second biggest manufacturer, manufactured 5.7 tons, which represented a fifth of global manufacture. Stocks of methylphenidate in the United States increased significantly, from 500 kg in 1992 to 14.7 tons in 2002. Stocks in the United Kingdom have doubled to 2.7 tons in the last two years. Serious concerns have been raised in the United States about the possible over-diagnosing of ADD and over-prescribing of methylphenidate. Cases involving diversion of the substance for illicit use have been identified.⁴

35. The medical requirements for methylphenidate outside the United States are mainly covered by imports from the United Kingdom, Switzerland, Canada and, to a lesser extent, Spain, which are the main countries supplying that substance on the world market. In the 1980s, methylphenidate exports from Switzerland stagnated at a level of less than 400 kg annually. After 1991, Swiss exports of methylphenidate gradually increased to 1.4 tons in 1996 and reached an average of 3 tons in the period 2001-2002. Until 1996, exports of the substance from Switzerland were drawn from local manufacture of the raw material. Since 1997, imports of methylphenidate, mainly from the United Kingdom, have supplied the raw material for the manufacture of preparations. In 2002, the methylphenidate raw material exported by the United Kingdom amounted to 3.6 tons.

36. The number of countries and territories importing methylphenidate for domestic consumption has been growing. Since 1995, 114 Governments have reported such imports. The United States is still the main consumer of

⁴ See *Report of the International Narcotics Control Board for 1996* (United Nations publication, Sales No. E.97.XI.3), paras. 90-95; *Report of the International Narcotics Control Board for 1997* (United Nations publication, Sales No. E.98.XI.1), paras. 151-154; and *Report of the International Narcotics Control Board for 1998* (United Nations publication, Sales No. E.99.XI.1), paras. 148-151.

Figure 1. Manufacture of methylphenidate, 1993-2002

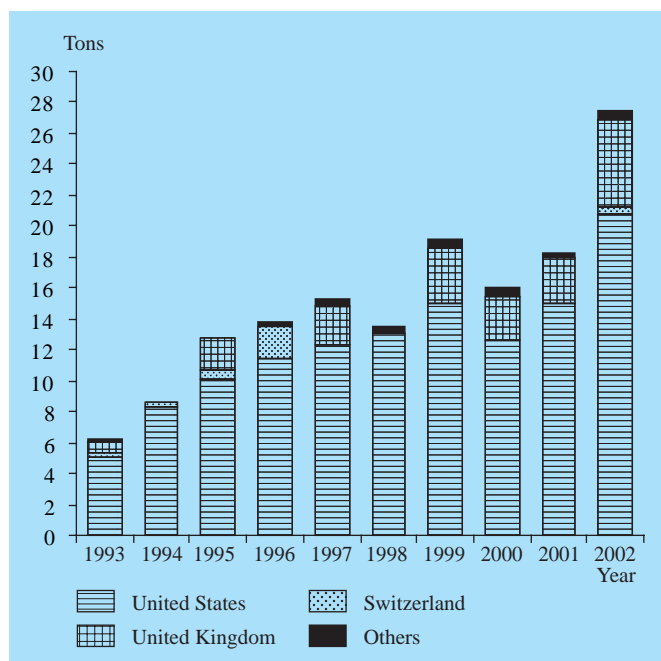
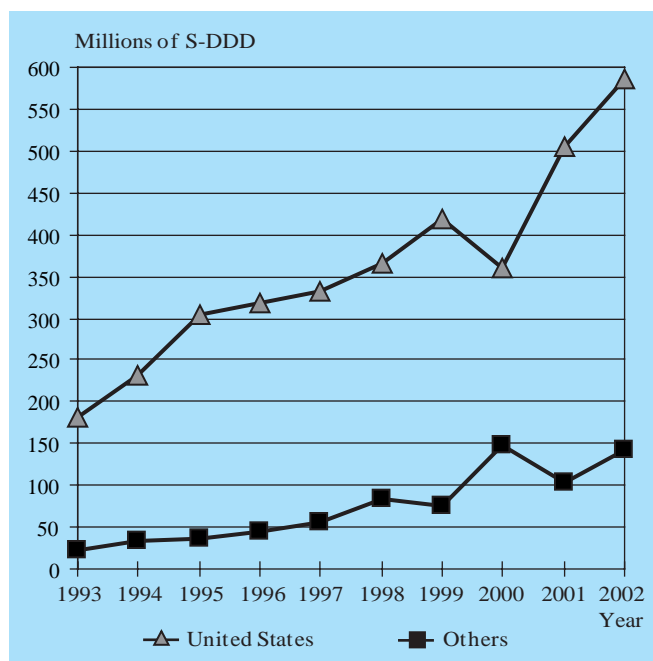


Figure 2. Calculated medical consumption of methylphenidate, 1993-2002



methylphenidate, use of the substance having increased in the last five years by more than 60 per cent, from 365 million to 586 million S-DDD. That country accounted for 80 per cent of the global medical use of methylphenidate in 2002 (see figure 2).

37. The United Kingdom, the country using the second-highest total quantity of methylphenidate, reported 29 million S-DDD for domestic consumption in 2002. Canada, which for many years had been the second-biggest consumer of the substance, reported consumption of 18 million S-DDD in 2002. Switzerland increased its internal use of the substance from 1 million S-DDD in 1997 to 7 million S-DDD in 2002. Between 1990 and 2000, methylphenidate imports rose in Australia from 0.4 million S-DDD to 7 million S-DDD, then dropped in 2002 to 5.4 million S-DDD. Between 1990 and 2002, imports into Germany increased from 0.6 million to 25 million S-DDD, imports into the Netherlands from 0.2 million to 7.4 million S-DDD and imports into Mexico from nil to 4.7 million S-DDD. In Japan, where methylphenidate is used almost exclusively for the treatment of narcolepsy, imports of that substance increased from 2 million S-DDD in 1990 to 8.7 million S-DDD in 2002. In addition to the above-mentioned countries, 18 other countries imported more than 10 kg (that is, 0.3 million S-DDD) of methylphenidate in 2002.

38. The countries with the highest level of medical use of methylphenidate, calculated on the basis of statistics provided for the years 1998, 2000 and 2002⁵ and expressed in S-DDD per 1,000 inhabitants per day,¹ are listed in table 2 according to their level of consumption in the year 2002.

Table 2. Calculated medical consumption of methylphenidate, 1998, 2000 and 2002

Country ^a	S-DDD per 1,000 inhabitants per day		
	1998	2000	2002
United States	3.69	3.69	5.88
Iceland	0.78	2.29	3.56
Switzerland	1.91	2.79	2.72
Canada	2.62	4.74	1.59
New Zealand	0.98	1.72	1.54
United Kingdom	0.64	1.31	1.35
Netherlands	0.48	0.99	1.21
Israel	0.36	0.58	0.97
Norway	0.58	0.74	0.95
Belgium	0.29	0.47	0.79
Australia	0.79	0.99	0.79
Germany	0.20	0.56	0.78
Spain	0.28	0.24	0.55
Ireland	0.14	0.26	0.35
Denmark	0.11	0.19	0.27
South Africa	0.08	0.10	0.23
Chile	0.15	0.15	0.22
Sweden	0.04	0.10	0.21
Japan	0.10	0.13	0.19
Mexico	0.10	0.12	0.13

^a Countries are listed according to their level of consumption of methylphenidate in 2002.

Phenmetrazine

39. The medical use of phenmetrazine has been discontinued in all countries. Small stocks of the substance held in the Czech Republic and Germany were exhausted in 1996. International trade in phenmetrazine is limited to rare transactions of a few grams.

⁵ See Report of the International Narcotics Control Board for 1994 (United Nations publication, Sales No. E.95.XI.4), para. 75.

Anti-emetics

Delta-9-tetrahydrocannabinol and its stereochemical variants

40. The substance *delta*-9-THC was originally included in Schedule I but was transferred to Schedule II in 1991 in view of the use of one of its stereochemical variants (dronabinol) for the relief of nausea associated with cancer chemotherapy. The substance is also used to stimulate appetite in patients with acquired immunodeficiency syndrome (AIDS). The United States is the only country that has reported the manufacture of *delta*-9-THC in significant quantities. The manufacture of *delta*-9-THC in that country was relatively stable, averaging 66 kg in the period 1995-1999. However, the quantity manufactured has increased considerably since 2000, with an average of 190 kg manufactured in the past three years. The two other countries that have reported manufacture of the substance in small quantities in 2002, namely, Germany (4.7 kg) and the United Kingdom (4.9 kg), have also increased their manufacture compared with the past years. Almost all of the *delta*-9-THC manufactured in the United States and in Germany was used domestically. The United Kingdom reported less use of the substance but doubled its stocks, to 8.4 kg. Exports of the substance from the United States reached 2.9 kg in 2002. Imports of the substance were reported by 11 countries, the most significant of which were Canada (1,022 grams), followed by Germany (508 grams), Belgium (178 grams), the Netherlands (105 grams), Austria (77 grams) and Switzerland (44 grams). The United States reported stocks of *delta*-9-THC amounting to 145.6 kg in 2002.

Hallucinogens

Phencyclidine

41. Phencyclidine is primarily used as an anaesthetic agent in veterinary medicine. The manufacture of small quantities of the substance has been reported in the past by Australia, France, Israel, the United Kingdom and the United States (a total of 327 grams in the period 1995-2002). The biggest stocks of phencyclidine are held by the United States. In 2002, stocks of phencyclidine in the United States amounted to 1,145 grams, which represents 75 per cent of global stocks. Other countries holding stocks of phencyclidine are France (210 grams), followed by (in decreasing order of stock levels) Israel, the United Kingdom, Denmark, Australia and Switzerland. International trade in phencyclidine has been limited to occasional transactions of only a few grams.

Sedative-hypnotics

Mecloqualone

42. Mecloqualone has not been manufactured since 1980, although some stocks are being maintained. The United States reported 719 grams of that substance in stock in 1999, while the United Kingdom reported 152 grams in stock in 2001. There are no reports on the use of mecloqualone in recent years.

Methaqualone

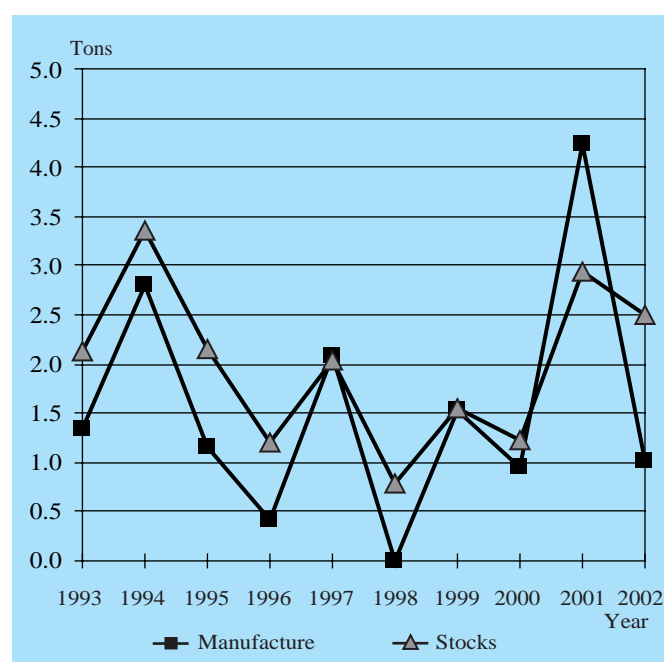
43. In recent years, the manufacture of methaqualone has decreased dramatically from its peak level of over 50 tons

annually in the 1980s. The last significant manufacture of the substance was reported in 1997 by Switzerland (340 kg) and the Czech Republic (43 kg). Since then, smaller quantities (2 kg in 1998, 11 kg in 2000) were manufactured only in the United States. Over the period 1998-2002, the global stocks of methaqualone, almost entirely held by Switzerland, have decreased from 2.4 tons in 1997 to a little over 1 ton in 2002, as a result of the continued global medical use of methaqualone. Between 1998 and 2002, global use dropped from 3 million to 1.2 million S-DDDs. In the period 1998-2002, use of methaqualone has only been reported by Belgium, the Czech Republic, Germany, Switzerland and the United Kingdom. Switzerland is by far the main consumer, accounting for more than 99 per cent of the global use in 2002. In Belgium, the use of methaqualone has decreased from over 800 kg in 1992 to 10.5 kg in 1998 and no consumption has been reported since then. Consumption in the Czech Republic became insignificant after 1997, when 49 kg of methaqualone was used for medical purposes. The volume of trade in methaqualone decreased from over 40 kg in 1997 to well below 1 kg, Germany, Sierra Leone and the United Kingdom being the only importers and Switzerland the main exporter in 2002.

Secobarbital

44. The manufacture of secobarbital, a substance that in the past was frequently diverted from licit manufacture and trade into the illicit traffic, has declined substantially since its transfer from Schedule III to Schedule II in 1988. More than 11 tons were reported as manufactured worldwide in 1988. The total dropped to 2.6 tons in 1990 and declined further to an annual average of 1.8 tons in the period 1997-2001. In 2001, the manufacture of secobarbital reached its highest level since 1989, amounting to 4.2 tons; it was accounted for by only two countries: Germany (2.2 tons) and the United States (1.9 tons). However, in 2002, only Germany reported manufacture of about 1 ton of the substance (see figure 3). Global stocks of secobarbital averaged 1.8 tons during the period 1998-2002.

Figure 3. Secobarbital: total reported manufacture and stocks, 1993-2002



45. During the period 1998-2002, four countries reported the manufacture of secobarbital at least once, namely, in decreasing order of amounts manufactured: the United States (mainly for domestic use), Germany (for domestic use and export), Denmark (almost exclusively for export) and Japan (mostly for domestic use). In 2002, Germany manufactured almost 100 per cent of world total manufacture of secobarbital. Stocks in the United States were cut by half in 2002 compared with 2001. Global average imports of secobarbital were 890 kg for the period 1998-2002, with a peak of 1.6 tons in 2001. The main traders in the substance in recent years were Germany, Ireland, Switzerland and the United Kingdom. Major importers included Belgium, Canada, the Netherlands, Spain and Sweden. Cyprus more than tripled its imports of the substance in 2002 compared with 2001.

Antitussives

Zipeprol

46. Zipeprol, an antitussive with bronchospasmolytic and mucolytic activities was brought under international control in 1995. Statistics on the substance have been available only since that year. No manufacture or international trade in the substance was reported in 2002. The manufacture of zipeprol in recent years has been reported only by France (1.9 tons in the period 1996-2001) and the Republic of Korea (almost 1.3 tons in the period 1996-2001). Stocks of zipeprol in 2002 were held only by France (166 kg), Mexico (134 kg), Chile (33 kg) and Italy (811 grams).

Substances listed in Schedule III

47. Nine substances are listed in Schedule III. According to the scheduling criteria adopted by the World Health Organization (WHO) Expert Committee on Drug Dependence, substances under Schedule III are those whose liability to abuse constitutes a substantial risk to public health and which have moderate to great therapeutic usefulness. One substance, cathine, belongs to the group of central nervous system stimulants; six substances belong to the group of sedative-hypnotics: four barbiturates (amobarbital, butalbital, cyclobarbital and pentobarbital), gluthetimide and flunitrazepam; and the two remaining substances, buprenorphine and pentazocine, belong to the group of analgesics.

2.5 tons in 1998 to a high of 3.9 tons in 2000. Switzerland, a traditional exporter of the substance, with an average reported export of 600 kg during the period 1998-2001, did not export cathine in 2002.

Central nervous system stimulants

Cathine

48. Cathine, a substance used as an anorectic, was included in Schedule III in 1986. In recent years, the total quantity of cathine manufactured has strongly fluctuated, reflecting the manufacturing levels of the only cathine manufacturer, Germany. In 2001, Germany reported the manufacture of 6.4 tons of cathine, the largest quantity ever manufactured, and in 2002 it reported 4.3 tons.

49. Total imports of cathine decreased from 5 tons in 1998 to 3.8 tons in 2002. The world's biggest importers of the substance in the period 1998-2002 were South Africa, Mexico and Italy. Imports of cathine by South Africa increased from an annual average of 1.6 tons per year during the period 1996-1998 to 1.8 tons during the period 1999-2002. Mexico increased its imports from zero in 1996 to 1.2 tons in 2001, followed by 810 kg in 2002. Italy imported an average of 1 ton of cathine annually during the period 1998-2002, most of which was for re-export. Cathine imports by Switzerland, which had averaged 415 kg annually in the previous four years, fell sharply to 40 kg in 2002. Germany, the world's biggest exporter of cathine, supplemented its domestic manufacture of the substance by importing an average of almost 510 kg annually during the period 1997-2001, although no import of the substance was reported in 2002. Germany's exports of the substance averaged 3 tons annually during the period 1998-2002, ranging from a low of

Sedative-hypnotics

Amobarbital, butalbital, cyclobarbital and pentobarbital

50. Barbiturates are a group of central nervous system depressants that are closely related in their chemical structure. Classified as sedatives-hypnotics, they used to be prescribed for the treatment of insomnia, anxiety, stress and epilepsy. Some barbiturates were also used as anaesthetics for short surgery interventions (ultra-short-acting substances) while others have selective anticonvulsant activity. Individual barbiturates differ in speed of onset, duration of action and potency. A low dose of 50 mg can relieve anxiety and tension, while a higher dose of 100-200 mg usually leads to sleep. Similarly to benzodiazepines, barbiturates encountered on the illicit market have usually been diverted from licit circuits rather than synthesized in clandestine laboratories. The potential for abuse is great and the long-term effects show the development of tolerance and strong physical and psychological dependence.

51. The substances amobarbital, cyclobarbital and pentobarbital were scheduled in 1971 when the 1971 Convention was adopted, while butalbital was added in 1987 to Schedule III of the 1971 Convention. Three of these barbiturates, amobarbital, butalbital and cyclobarbital, are mainly used as hypnotics (to induce sleep) and therefore have a place today in the treatment of intractable insomnia. Pentobarbital, a short-acting barbiturate, has also been used for pre-medication in anaesthesia. In per capita terms, during the period 1998-2002, the United States, Denmark, Italy, Canada and Germany had the highest calculated usage of these four substances, the average figures ranging from 6.1 to 3.1 S-DDD per 1,000 inhabitants per day. Total reported manufacture of those substances fluctuated around its five-year average of 1.2 billion S-DDD (see figure 4). In figure 5, the distribution of shares of total output in 2002 among the manufacturing countries is presented.

Figure 4. Barbiturates listed in Schedule III: total reported manufacture, 1993-2002

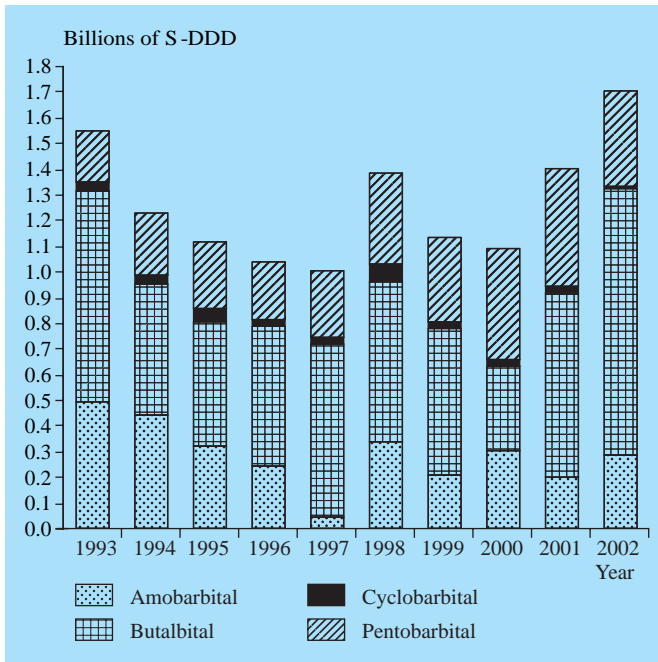
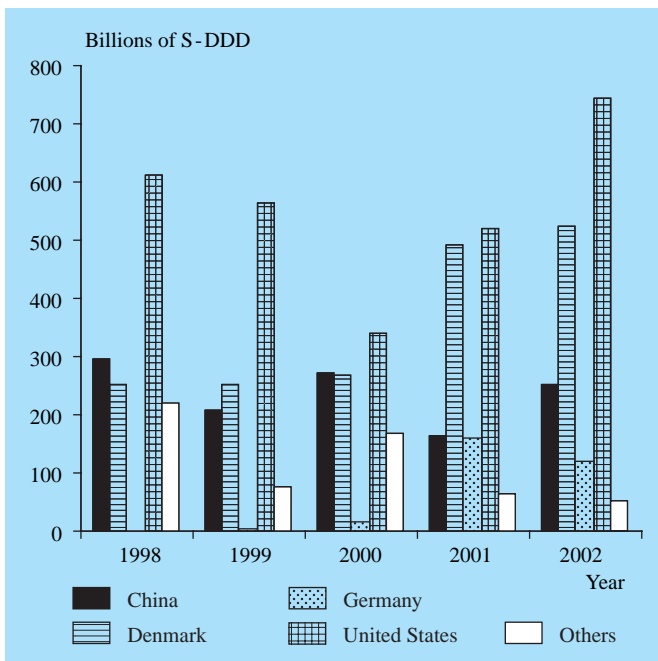


Figure 5. Barbiturates listed in Schedule III: total reported manufacture, by country, 2002



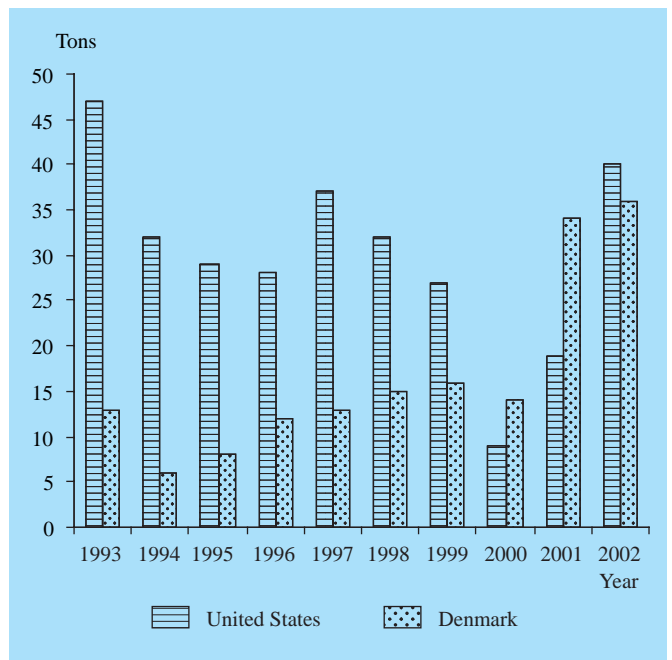
52. Global manufacture of butalbital averaged about 48.7 tons per year during the period 1998-2002, although there were significant fluctuations (see figure 6). The only regular manufacturers of butalbital in the last decade were Denmark and the United States, while Germany reported small volumes of output in the three years to 2002. Traditionally, the United States was the main manufacturer of the substance, accounting for up to three quarters of the total output. Butalbital has been used for the manufacture of a number of preparations exempted in the United States from

certain control measures in accordance with article 3 of the 1971 Convention. In recent years, the manufacture of butalbital in the United States declined to 9.4 tons (in 2000), then rose again sharply in 2002, when total manufacture reached almost 40 tons. The quantities manufactured in Denmark have increased steadily, from 14.6 tons in 1998 to 33.5 tons in 2001, which made that country the world's leading manufacturer of butalbital between 2000 and 2001. The output of Denmark increased further in 2002, to 36 tons. In recent years, Denmark, the United States and Italy were the countries with the highest rates of use of the substance.

53. Among the 13 countries that reported exports of butalbital during the five-year period 1998-2002, Denmark accounted for as much as 98 per cent of global exports of the substance in 1999 and remained the biggest exporter in 2002, supplying 98 per cent of the 38 tons exported globally. The exports of butalbital by the United States were highly irregular, as the volume of exports almost doubled from 1996 (1.1 tons) to 1997 (2 tons) before collapsing to an average of 87 kg during the period 1998-1999; no exports of that substance were reported by the United States for 2000 and 2001, while 825 kg of exports were reported in 2002. Italy and Switzerland were among the smaller exporters of butalbital during the period 1998-2002, when their combined annual average was 210 kg.

54. The United States, Italy and Canada remained the main importers of butalbital. The imports of the substance by the United States were subject to significant fluctuations during the period 1998-2002. Most recently, import volumes to the United States increased from 4.3 tons in 2000 to 28 tons (82 per cent of the total) in 2002. The Italian share of total imports of the substance fell from 72 per cent in 1997 to 16 per cent in 2001, while the imports of butalbital by Canada were relatively stable and averaged 1.4 tons per year during the period 1998-2002. During the same period, Denmark imported small but increasing quantities of the substance (845 kg in 2002).

Figure 6. Butalbital: total reported manufacture, 1993-2002



55. The total reported manufacture of pentobarbital increased steadily from about 35.5 tons in 1998 to 45.8 tons in 2001 (see figure 7), reaching 36.5 tons in 2002. While Switzerland was among the leading manufacturers of the substance, together with the United States, Denmark and Germany until 2001, Switzerland did not report any manufacture of the substance in 2002. For the three years to 2002, Denmark, New Zealand and Ireland had the highest relative use of the substance, ranging from 2.3 to 3.4 S-DDD per 1,000 inhabitants per day. In 2002, of a total manufacture of pentobarbital of 21 tons and stocks held of 24 tons, 23 tons were destined for domestic use in the United States. In Denmark, which traditionally manufactures the substance for export, the quantity of manufactured pentobarbital fell sharply to 4 tons in 2001 and 2002. By contrast, the volumes of manufactured pentobarbital in Germany have been increasing in recent years, notably rising from 259 kg in 1999 to over 14 tons in 2001 and about 10 tons in 2002. Japan, another traditional manufacturer of the substance, while not reporting any output of pentobarbital between 1999 and 2001, manufactured 559 kg in 2002.

56. The biggest exporters of pentobarbital during the period 1998-2002 were, in decreasing order of export volumes, Switzerland, Germany, Denmark, Canada, the United States and France. Together, they accounted for over 97 per cent of global exports of the substance in that period. In 2002, Germany was the leading exporter: the 11.4 tons of pentobarbital supplied by that country accounted for about 50.6 per cent of global exports of the substance. Among the remaining countries, the annual average export volumes during the period 1998-2002 were 7 tons exported by Switzerland, 5 tons by Germany and 4 tons each by Canada, Denmark and the United States. According to the reported statistics, 67 countries imported pentobarbital during the period 1998-2002. Canada (5.9 tons), France (4 tons) and the United States (3.2 tons) were the biggest importers of the substance in 2002. They were followed by Germany, the Netherlands, Switzerland and South Africa.

57. The main countries manufacturing amobarbital in recent years were China, Denmark and Japan (see figure 8). China is by far the dominant manufacturer of the substance, supplying an average of 23.7 tons, or 89 per cent of the world's output, during the period 1998-2002. Almost all the amobarbital manufactured in China in 2002 was for domestic use and only a few tons were exported.

58. The main exporter of amobarbital in the period 1998-2002 was China, followed by the Netherlands, Denmark, Germany and Ireland. China's exports of amobarbital have followed a clear upward trend in recent years: although the volume of 2.4 tons exported in 2001 was almost 60 per cent lower than the volume exported in 2000, nearly 3 tons of amobarbital were exported in 2002. In recent years the Netherlands had exported an average of 3 tons of amobarbital per year, but those volumes declined to 1.2 tons in 2001, rising again to 2.3 tons in 2002. Denmark more than doubled its exports of amobarbital, the trade volume increasing from an average of 548 kg during the period 1998-2000 to 1.3 tons in 2001, but did not export the substance in 2002. While the volume of amobarbital exported by Ireland has also increased, averaging 475 kg during the period 1998-2002, exports by Germany fell sharply, from 955 kg in 1998 to 296 kg in 2002.

59. Global annual average imports of amobarbital were 6.8 tons for the period 1998-2002. While global calculated use of the substance decreased gradually, from 35.6 tons in 1998 to 19.6 tons in 2001, it increased sharply in 2002, to 33.5 tons. The Netherlands, Romania, Ireland and Hungary, in that order, were the world's biggest importers of amobarbital in recent years. In the Netherlands, imports of amobarbital showed a notable increase, averaging 3.4 tons per year during the period 1997-2001, all of it destined for re-export. Romania imported 7.1 tons of amobarbital in 2002, accounting for over 68 per cent of the total reported imports. Ireland reported having imported increasingly higher volumes of the substance up to 2001 (1.1 tons), after which it reduced its

Figure 7. Pentobarbital: total reported manufacture, 1993-2002

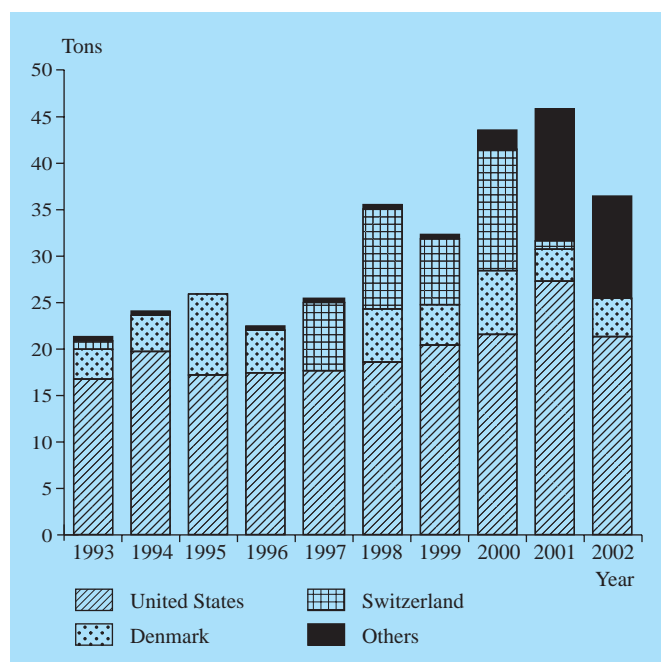


Figure 8. Amobarbital: total reported manufacture, 1993-2002

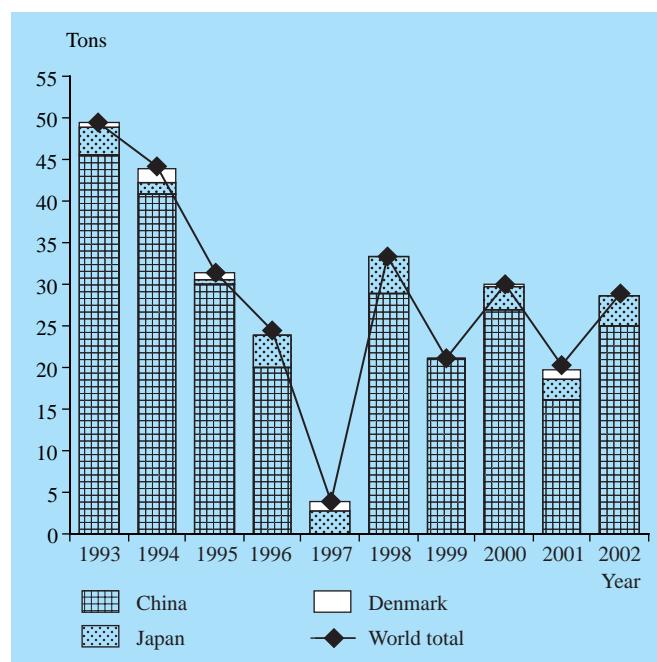
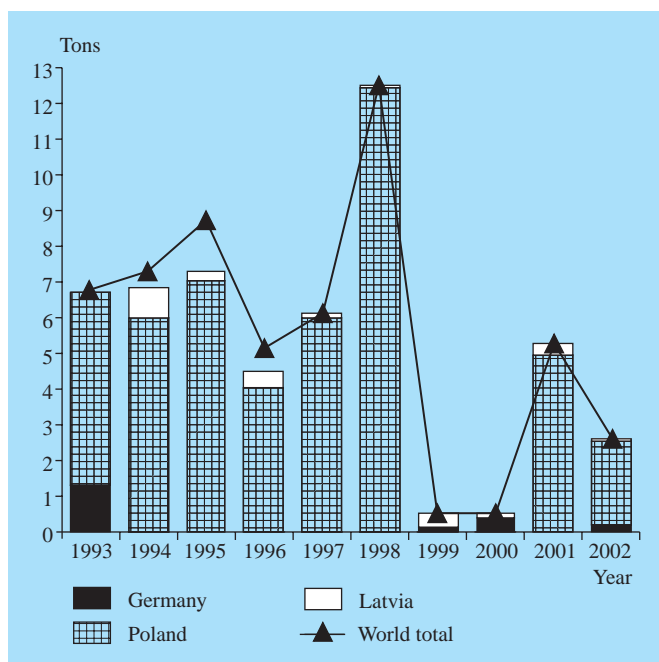


Figure 9. Cyclobarbital: total reported manufacture, 1993-2002



imports to 3 kg in 2002; imports by Hungary averaged 233 kg per year during the period 1998-2002.

60. Cyclobarbital is mainly used in some Central European and Eastern European countries, Poland and Latvia having the highest per capita usage rates in recent years. In the last decade, Poland was the leading manufacturer of cyclobarbital, accounting for up to 99 per cent of the world total (see figure 9). During the period 1999-2000, when no manufacture was reported by Poland, world total manufacture of cyclobarbital averaged only 540 kg, while in 2002 Poland accounted for 2.3 tons or 88.4 per cent of the total world manufacture of 2.6 tons. Latvia and Germany each averaged less than 200 kg of annual cyclobarbital manufacture during the period 1998-2002.

61. Poland was also the main exporter of cyclobarbital, its exports of the substance averaging 1.5 tons during the period 1998-2002, which represented about 70 per cent of total exports of cyclobarbital during that period. The other main exporters of cyclobarbital were Germany, Latvia and Switzerland, their exports of the substance fluctuating around their combined average level of 217 kg per year during the period 1998-2002. The Russian Federation, having no domestic manufacture of cyclobarbital, has been the biggest importer of cyclobarbital, its imports of the substance averaging 1.6 tons per year during the period 1998-2002. Belarus, Bulgaria and Switzerland were also significant importers of cyclobarbital during that period.

Glutethimide

62. Total reported manufacture of glutethimide fluctuated considerably during the 20-year period 1983-2002. After

peaking at over 90 tons annually in the early 1980s, global manufacture of the substance fell sharply to 3.5 tons in 1994, only to increase to an annual average of 21 tons during the period 1995-1997. Since then, manufacture of glutethimide has been reported only by Hungary (7.6 tons in 1998 and 732 kg in 2001), which has been the sole manufacturer of the substance since 1997.

63. Just as manufacture of glutethimide has dropped, so has the volume of international trade in the substance, decreasing 10-fold, from an annual average of 14.6 tons during the period 1995-1998 to an annual average of 1.4 tons during the period 1999-2001, and decreasing further in 2002 to 50 kg. Hungary, France and China were the only exporters of glutethimide in 2002, together accounting for a global total of 729 kg.

64. The two main importers of glutethimide in former years, Switzerland and Bulgaria, did not report any imports in 2002. In Switzerland before 2002, a significant share of imports of glutethimide was re-exported and large quantities of the substance were converted into aminoglutethimide, a non-psychotropic substance used as an antineoplastic agent. Bulgaria imported 650 kg of the substance annually between 1998 and 2001. In 2002, only Hungary (300 kg) and Romania (200 kg) reported imports.

Flunitrazepam

65. Flunitrazepam continues to be one of the most frequently abused benzodiazepines. The illicit market for flunitrazepam appears to be supplied mainly through diversion of the substance from domestic distribution channels and not through diversion from international trade. Preparations of flunitrazepam are frequently smuggled out of countries where the diversion has taken place and into other countries where there is an illicit market for such preparations. Several countries, including major manufacturers and importers of the substance, have adopted strict control policies for flunitrazepam, in close cooperation with the pharmaceutical industry.

66. Due to frequent diversions and abuse, flunitrazepam was transferred from Schedule IV to Schedule III in 1995. In illicit medical use, like diazepam it is used for the short-term management of insomnia and, in some countries, for pre-medication and for induction of general anaesthesia. Since 1997, only Italy and Switzerland have reported manufacture of the substance. In 2002, Italy reported one third and Switzerland two thirds of the total global manufacture of 409 kg. This is a considerable decrease from the 2000 level, when Switzerland manufactured 1.2 tons of the substance, making it the most manufactured benzodiazepine-type sedative-hypnotic in 2000; Switzerland accounted for 86 per cent of the total reported manufacture of flunitrazepam (1.4 tons) that year. Argentina, Brazil, the Czech Republic and Denmark were the only other countries reporting the manufacture of flunitrazepam in the 10-year period 1993-2002.

67. International trade in flunitrazepam was relatively stable during the period 1992-2000, fluctuating around a 10-year average of 1.2 tons, though in recent years there has been a downward trend. Italy, Ireland, the United Kingdom,

the Czech Republic and Germany have traditionally been the main exporters of flunitrazepam, supplying an average of 90 per cent of global exports during the period 1992-1996. Although those countries still account for between 25 and 35 per cent of global exports of flunitrazepam, in recent years Switzerland has become the leading exporter of the substance, accounting for two thirds of total exports in 2002. The annual average of global imports of the substance during the period 1998-2002 was 15 per cent lower than the average during the period 1992-1996, most probably due to strict national control measures and the transfer of the substance to Schedule III of the 1971 Convention. Japan remained the leading importer of flunitrazepam, with more than half of the global exports (1.1 tons) in 2002. The other main importers of flunitrazepam in the period 1998-2002 were, in decreasing order of import volumes, Brazil, Switzerland, Germany, the Netherlands and the Czech Republic; those countries reported importing quantities well below 100 kg per year. Thirty-four other countries in all regions of the world imported flunitrazepam in 2002 in quantities exceeding 1 kg.

Analgesics

Buprenorphine

68. Buprenorphine, listed in Schedule III since 1989, belongs to the family of opioids and it is used mainly as an analgesic. In several countries, buprenorphine is also used in the detoxification and substitution treatment of heroin addiction. Total reported manufacture of the substance increased steadily from 1993 onwards, with marked increases in 1999 (978 kg) and 2000 (1,056 kg), when the substance was used in higher doses for substitution treatments of heroin addicts. In 2002, the total manufacture of the substance amounted to 832 kg. The United Kingdom continued to be the main manufacturer of buprenorphine, accounting for 87 per cent of the world total, on average, during the period 1998-2002; its manufacture of the substance increased from 274 kg in 1996 to 996 kg in 2000 and decreased subsequently; in 2002, the United Kingdom reported the manufacture of 619 kg of buprenorphine. The second largest manufacturer of buprenorphine was Australia, with annual average manufacture of 85 kg since 1999, the year for which manufacture of the substance was first reported. India has also been a manufacturer of buprenorphine, with annual average manufacture of 18 kg during the period 1998-2002. The other manufacturers of buprenorphine in recent years included the Netherlands, with 41 kg reported in 2000, and the Czech Republic, with 10 kg reported in 2002. Total stocks of the substance increased from 115 kg in 1996 to 688 kg in 2002, although higher levels were held in 2000 and 2001. In 2002, significant quantities were held in stock by the United Kingdom (338 kg), Germany (154 kg) and France (121 kg).

69. Total exports of buprenorphine rose gradually from 100 kg in 1996 to 403 kg in 2001 and reached 702 kg in 2002. That trend was driven by the rise in buprenorphine exports from Australia and the United Kingdom, the main exporters of the substance. Nine other countries have reported exports of buprenorphine in recent years. In 2002, non-trivial amounts of buprenorphine were exported by Germany (74 kg), Argentina (10 kg) and the Netherlands (9 kg).

70. France was the dominant importer among the 25 countries that reported annual imports of more than 1 kg of buprenorphine in the period 1998-2002. France's imports of the substance grew steadily from 68 kg in 1996 to 254 kg in 2002; those imports were all destined for domestic use. In 2002, Germany significantly increased its imports of buprenorphine (246 kg), to reach levels similar to those of France. Other major importers of buprenorphine in 2002 were the United States (35 kg), Italy (33 kg), the United Kingdom (21 kg), Australia (17 kg) and the Islamic Republic of Iran (13 kg). Average annual imports of the substance during the period 1998-2002 increased markedly in Germany, Italy and the United States. The import of buprenorphine was reported for the first time in 2001 by Brazil (28 kg) and the Netherlands (4 kg), but no imports were reported by those two countries in 2002. In addition to its use as an analgesic, buprenorphine is used in a number of countries for the detoxification and substitution treatment of heroin addicts. Increased use of the substance is reflected in statistical reports from Australia, Czech Republic, France, Germany, Italy, the United Kingdom and the United States, while small-scale use for that purpose has also been reported by China, Denmark, Finland, India, Norway, Sweden and Switzerland.

Pentazocine

71. Pentazocine is an opioid analgesic with actions and uses similar to those of morphine. It was included in Schedule III in 1984. Total reported manufacture of pentazocine rose steadily from 1.3 tons in 1996 to 6.6 tons in 2002. Total stocks of pentazocine increased drastically, from an average of 814 kg during the period 1996-1997 to an average of 3.36 tons during the period 1998-2002. Italy, the United Kingdom and India were the main manufacturers of pentazocine in recent years. In 2002, however, the manufactures of India (2.9 tons) and Italy (3 tons) accounted for 91 per cent of total annual manufacture of the substance. The manufacture of pentazocine in the United Kingdom has been irregular, averaging 1.3 tons per year in the past and 258 kg in 2002, with no manufacture reported in 1999 or 2001. India, which had not reported pentazocine manufacture during the period 1996-1998, became one of the leading manufacturers of the substance, manufacturing 2.5 tons in 1999, 1.4 tons in 2001 and 2.9 tons in 2002, mainly for domestic use. The United States manufactured a total of 693 kg in the period 1998-2002. Other countries that have reported manufacture of pentazocine in recent years are Hungary (136 kg in 2001) and Slovenia (103 kg in 1998).

72. Of the 17 countries that reported exports of pentazocine in recent years, Italy was the leader, accounting for about 58 per cent of global exports in 2002; it was followed by the United Kingdom (467 kg), Portugal (386 kg), Switzerland (377 kg), India (352 kg), the United States (227 kg) and Slovenia (198 kg). Over 40 countries have reported imports of pentazocine in quantities higher than 1 kg in recent years. The major importers of the substance in 2002 were the United States (1,792 kg), Slovenia (390 kg), Romania (384 kg), Japan (288 kg) and Canada (209 kg). Significant quantities were also imported by the United Kingdom (411 kg), Switzerland (379 kg) and Portugal (347 kg), but those were used mainly for re-export.

Substances listed in Schedule IV

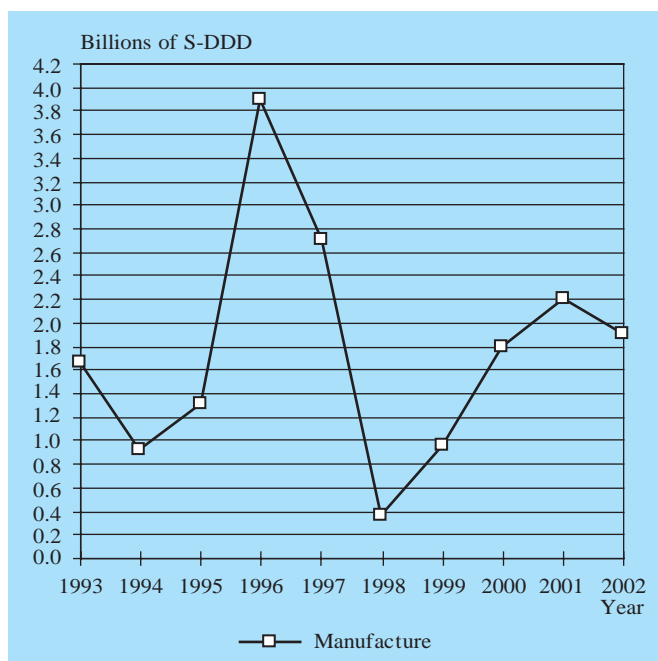
73. According to the WHO scheduling criteria for the inclusion of substances in Schedule IV of the 1971 Convention, substances for inclusion in that Schedule are those “whose liability to abuse constitutes a smaller but still significant risk to public health than substances included in Schedule III and which have a therapeutic usefulness from little to great”. Sixty-two substances with various applications in medicine are listed in Schedule IV. Substances included in that Schedule belong to the following groups: central nervous system stimulants (14 substances); benzodiazepine-type anxiolytics (22 substances); other anxiolytics (1 substance); benzodiazepine-type sedative-hypnotics (11 substances); benzodiazepine-type anti-epileptics (1 substance); barbiturate-type sedative-hypnotics and anti-epileptics (7 substances); other sedative-hypnotics (5 substances); and analgesics (1 substance).

Central nervous system stimulants

74. Fourteen stimulants are listed in Schedule IV: amfepramone, aminorex, benzfetamine, etilamfetamine, fencamfamin, fenproporex, mazindol, mefenorex, mesocarb, pemoline, phendimetrazine, phentermine, pipradrol and pyrovalerone. Both amfepramone and pipradrol were originally included in Schedule IV, while all the other stimulants were added at later stages. The stimulants in Schedule IV are mainly used as anorectics or for the treatment of ADD.

75. Reported manufacture of central nervous system stimulants listed in Schedule IV showed extreme fluctuations during the period 1996-2002 (see figure 10). The level of manufacture was relatively stable, with an annual average of 1.2 billion S-DDD for total reported manufacture in the period 1991-1995. In 1996, a record high of 3.9 billion S-DDD

Figure 10. Central nervous system stimulants listed in Schedule IV: total reported manufacture, 1993-2002

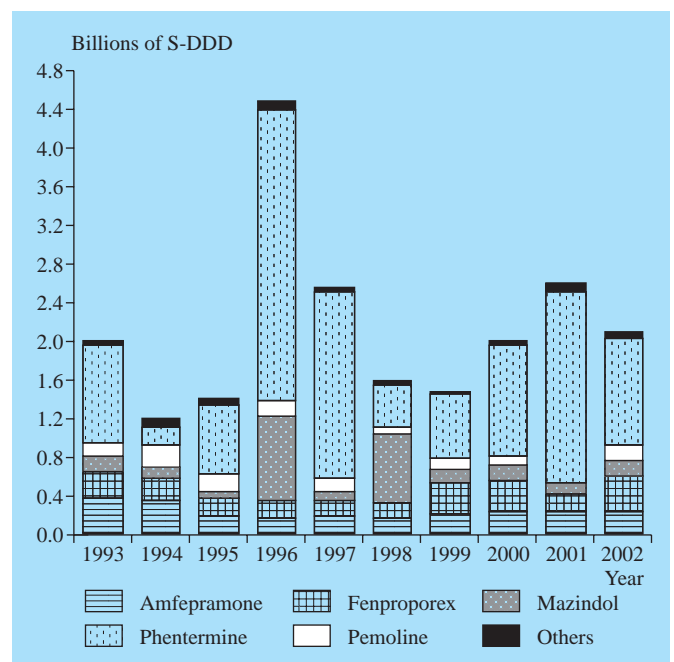


was reached as a result of the increasing use of stimulants as anorectics. As a consequence of medical controversy about the use of those substances for the treatment of obesity, total manufacture started to decrease in 1997 and reached a record low level in 1998 (356 million S-DDD). After 1998, manufacture increased once more and reached a total reported manufacture of 2.2 billion S-DDD in 2001, subsequently decreasing slightly to 1.8 billion S-DDD in 2002, equal to the level recorded 10 years previously.

76. The fluctuations in reported manufacture of central nervous system stimulants listed in Schedule IV between 1996 and 1998 were mainly a reflection of developments in the use of phentermine in the United States (see figure 11) for the treatment of obesity in combination with another anorectic (fenfluramine). After the withdrawal of fenfluramine from the market of the United States and a number of other markets in September 1997, the use of phentermine also declined significantly. During the period 2001-2002, manufacture and consumption picked up again and phentermine became once again the most used anorectic in the United States.

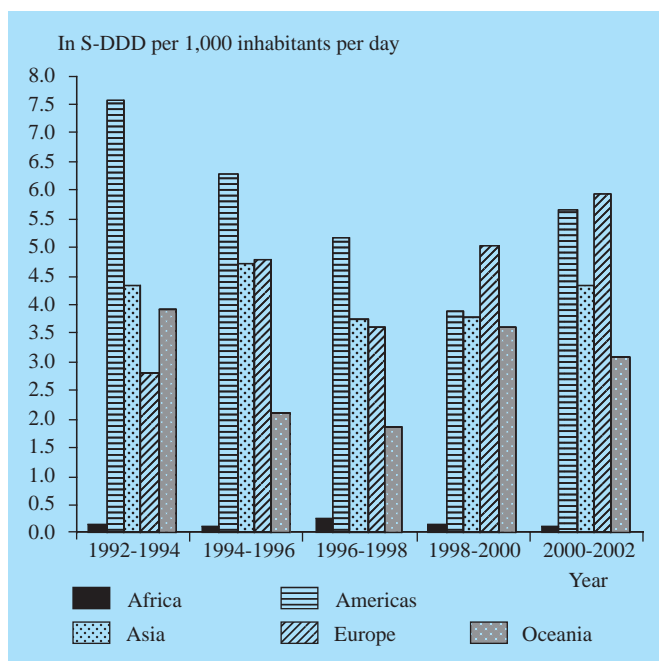
77. The highest per capita consumption of stimulants in Schedule IV during the 1990s has traditionally been in the Americas. Those high consumption levels have been successfully curbed in a number of countries in South America (such as Argentina and Chile) through measures against their inappropriate use. The temporary decrease in the consumption of phentermine in the United States has also contributed to that development. However, since 2001, consumption of phentermine in the United States has again been rising, although at a level not yet comparable with its use in 1996. At

Figure 11. Central nervous system stimulants listed in Schedule IV: calculated global consumption,* 1993-2002



*Statistical data submitted by Governments are used to calculate the approximate global consumption in a given year. These consumption figures are expressed in defined daily doses for statistical purposes (S-DDD).

Figure 12. Central nervous system stimulants listed in Schedule IV: average national consumption in selected countries, by region,* 1992-2002



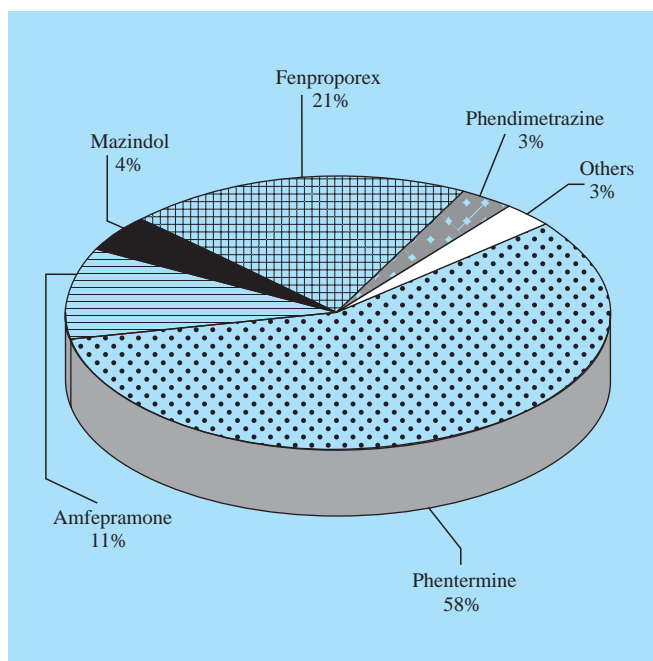
* Statistical data submitted by Governments are used to calculate the average annual consumption for a three-year period. Data from the five countries with the highest consumption were included in the calculation for each region.

the same time, the consumption of anorectics has increased significantly in some countries in Asia and Europe (see figure 12), the two regions where the highest regional per capita consumption has been recently recorded. Very divergent trends in per capita consumption have been recorded in European countries. While the consumption of anorectics has decreased significantly in some European countries, others have recorded remarkable increases. Worldwide, the United Kingdom (9.9 S-DDD per 1,000 inhabitants per day), Spain (9.05 S-DDD) and Singapore (8.94 S-DDD) reported the highest calculated per capita use of stimulants in Schedule IV in the period 2000-2002. Reports of diversion and abuse of anorectics have been received from several countries in all regions of the world in recent years.

78. In 2002, of the total reported manufacture of the 14 stimulants in Schedule IV, the reported manufacture of phentermine (1.1 billion S-DDD) accounted for 58 per cent, that of amfepramone (215 million S-DDD) accounted for 11 per cent, that of fenproporex (406 million S-DDD) accounted for 21 per cent (see figure 13); other substances such as mazindol (77 million S-DDD) and phendimetrazine (63 million S-DDD) accounted for 7 per cent, while pemoline (37 million S-DDD), benzfetamine (5 million S-DDD) and etilamfetamine (100 thousand S-DDD) accounted for 3 per cent. No manufacture was reported for any of the other central nervous system stimulants included in Schedule IV.

79. Phentermine has been the main substance in the group of stimulants in Schedule IV, its share of total stimulant manufacture fluctuating widely between 25 per cent and 76 per cent in recent years. In the period 1991-1995, the average annual manufacture of phentermine was about 9.5 tons; and in 1996, its total manufacture amounted to

Figure 13. Central nervous system stimulants listed in Schedule IV: substances' shares of total reported manufacture, 2002



50 tons, the highest level ever reported. In 1997, that figure decreased to 30 tons and in 1998 no phentermine was manufactured. Total reported manufacture of phentermine increased steadily from 2.6 tons in 1999 to 16 tons in 2002 and peaked noticeably in 2001 at 25.5 tons. The main manufacturers during the period 2001-2002 were the United States (21.6 tons in 2001 and 12.4 tons in 2002) and Spain (1.6 tons in 2001 and 4.1 tons in 2002); smaller quantities were manufactured by Germany and Italy in 2001. No manufacture was reported in 2002.

80. Sixteen countries have reported the export of phentermine at least once during the period 1998-2002. The United Kingdom has been the main exporter of phentermine in recent years (averaging 1.9 tons per year during the period 1998-2002), followed, in decreasing order of export volumes, by the Netherlands, Switzerland, Australia and the United States. Imports of phentermine in quantities of more than 100 kg were reported in 2002 by 12 countries and territories, but the global international trade in that substance fell by one half to 4.7 tons in 2002. The major importer of the substance was Australia (accounting for about 25 per cent of global imports), which re-exported a significant share of it. Thailand's imports of the substance in 2002 fell by more than 50 per cent.

81. In 2002, total reported manufacture of amfepramone, a substance mainly used as an anorectic, amounted to about 16 tons and only Brazil reported having manufactured the substance, doubling the quantity manufactured in previous years. Switzerland and Italy, the two traditional manufacturers of amfepramone, did not report any manufacture in 2002. Switzerland was the main exporter of amfepramone, but reported annual average exports of more than 7 tons of the substance in the period 1998-2001 fell to only 2.4 tons in 2002. While Italy exports practically all of the amfepramone that it manufactures, the amfepramone manufactured in Brazil is almost exclusively for domestic use. In 2002, the global imports of amfepramone fell sharply, by nearly 50 per

cent (3.7 tons) and although 15 countries reported the import of amfepramone in 2002, only five countries reported imports of over 200 kg: United States (888 kg), Mexico (601 kg, for domestic use), Germany (595 kg), Switzerland (358 kg) and Chile (255 kg). Attempts to divert amfepramone from licit distribution channels and cases involving illicit trafficking in the substance have been reported in several countries in Asia and Europe in recent years.

82. Fenproporex, a substance mainly used as an appetite suppressant, was brought under international control in 1986. Since then, only Brazil, France and Switzerland have reported its manufacture. In 2002, the global manufacture of fenproporex increased to 8 tons. Germany reported for the first time manufacture of 1.8 tons (mainly for export), Brazil reported 4.2 tons, France 1.1 tons and India 935 kg. In the period 1995-1999, the manufacture of fenproporex in France varied greatly, averaging around 1.3 tons annually, a significant drop from the annual average of nearly 3 tons of that substance manufactured in that country in the period 1992-1994. No manufacture of fenproporex was reported by France during the period 2000-2001, but in 2002 the manufacture reported by France was about 1.1 tons. Switzerland, which had reported steadily increasing manufacture of fenproporex since 1997, reaching 4.9 tons in 2000, did not report any manufacture in 2001 or 2002. Switzerland exported all the fenproporex that it manufactured. The leading importer of the substance in 2002 was Brazil (1.7 tons), followed by Switzerland (924 kg) and Germany (584 kg). Since 1995, 14 other countries, mainly in Latin America and Southern Europe, have reported having imported the substance in quantities of more than 1 kg.

83. Mazindol was manufactured exclusively in Brazil (an average of 82 kg in the period 1999-2002), about half of which was for domestic consumption and the rest for export. Two other countries have reported the manufacture of mazindol: Poland in 1998 (25 kg) and 1999 (1 kg) and Argentina in 2002 (22 kg). Global use of the substance fell sharply from 702 kg in 1998 to an annual average of 145 kg during the period 1999-2002. Although 18 countries have at least once reported an import of at least 1 kg of mazindol during the period 1998-2002, the main importers remained Mexico (88 kg in 2002, exclusively for domestic consumption) and Switzerland (24 kg in 2002, for export). Brazil also reported an export of 22 kg of the substance in 2002. During the period 1998-2002, four other countries reported exports of the substance, namely, Argentina, Panama, Poland and the United Kingdom.

84. Italy was the only manufacturer of phendimetrazine in 2002, reporting 4.4 tons. The United States reported the manufacture of phendimetrazine only in 1999 and 2001; in both years it manufactured a relatively small quantity of that substance (560 kg in 1999 and 274 kg in 2001). The phendimetrazine manufactured in Italy is mainly destined for export (4.3 tons in 2002). Denmark, for the first time in five years, reported the export of 42 kg in 2002. Traditionally, the United States has been the main importer of the substance (3.2 tons in 2002). Since 1998, six other countries have reported imports of phendimetrazine in quantities of more than 1 kg, with a peak from the Republic of Korea (641 kg imported in 2002).

85. The manufacture of benzphetamine has been reported only by the United States since 1999, with an average of

1.3 tons manufactured yearly in 2000 and 2001. Manufacture fell sharply to 389 kg in 2002. While all the amount manufactured has traditionally been used for domestic consumption, no domestic consumption was calculated for the United States in 2002, as manufactures were added to stocks. No international trade of the substance has been reported in recent years.

86. Pemoline, a substance under international control since 1989, is used to treat children with ADD. The manufacture of pemoline amounted to 8.7 tons in 1995, then declined sharply to 4.6 tons in 1997 and zero in 1998. In 2001, only the United States reported manufacture of the substance (35 kg). In 2002, both the United States and Switzerland reported the manufacture of pemoline, with the combined total amount reaching 1.4 tons. The Netherlands (449 kg), Switzerland (255 kg) and Israel (231 kg) were the main exporters of the substance. The main importers of pemoline in 2002 were the United States (381 kg), Israel (331 kg) and Argentina (218 kg), all three countries importing the substance mainly for domestic consumption. In 2002, nine other countries reported imports of pemoline in quantities of more than 100 kg.

87. In the 1980s and early 1990s a significant part of the international trade in pemoline was attributed to a few attempts by drug traffickers to divert that substance from licit manufacture and trade into illicit channels. Since 1993, most of those attempts have been thwarted by Governments working in close cooperation with INCB.

88. Reports on the manufacture of and trade in the other stimulants included in Schedule IV have been sporadic. In 1999, the manufacture of pipradrol was reported by France (20 kg). In 2002, Australia reported the import of 2 kg of pipradrol and the manufacture of 3 kg of etilamfetamine (for domestic use). In the period 1999-2002, no manufacture of aminorex, femcamfamin, mefenorex, mesocarb or pyrovalerone was reported. Occasional trade transactions were reported for fencamfamine, mefenorex and pipradrol, while no international trade was reported for aminorex, benzphetamine, etilamfetamine, mesocarb and pyrovalerone.

Benzodiazepine-type anxiolytics

89. Thirty-three benzodiazepines were included in Schedule IV in 1984. Midazolam was added to Schedule IV in 1990 and brotizolam was added to it in 1995. Flunitrazepam was transferred in 1995 from Schedule IV to Schedule III.

90. The number of countries and territories reporting on benzodiazepine manufacture and/or trade has increased considerably. Since 1990, 184 countries and territories have reported at least once the manufacture of or trade in benzodiazepines in quantities of more than 1 kg. Global reporting on the manufacture and trade in benzodiazepines was not complete until recently, when a number of important manufacturing and trading countries established national control measures for those groups of substances. Data on benzodiazepines have been made available by Switzerland only since 1997, by Austria since 1998, by Belgium in 1999 and by Canada in 2001.

91. Twenty-two benzodiazepines are generally classified as anxiolytics. The total reported manufacture of this group of substances, expressed in S-DDD, rose steadily between 1996

Figure 14. Benzodiazepine-type anxiolytics: total reported manufacture, by substance, 1993-2002

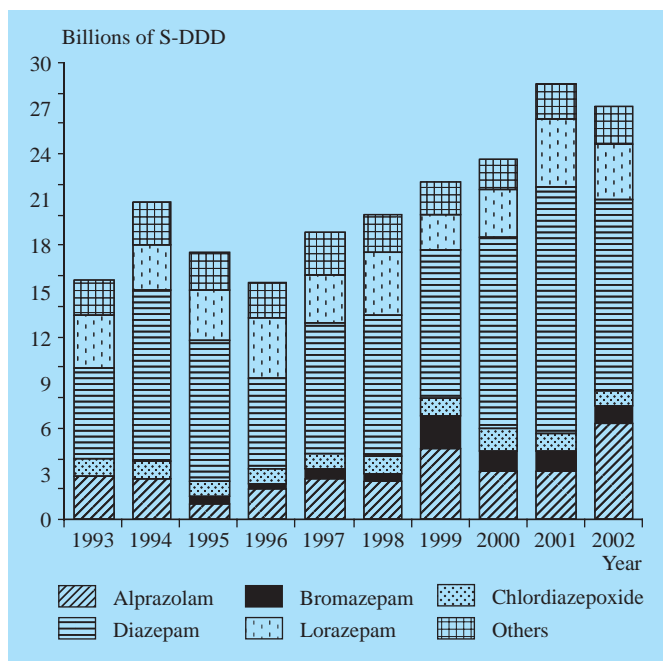
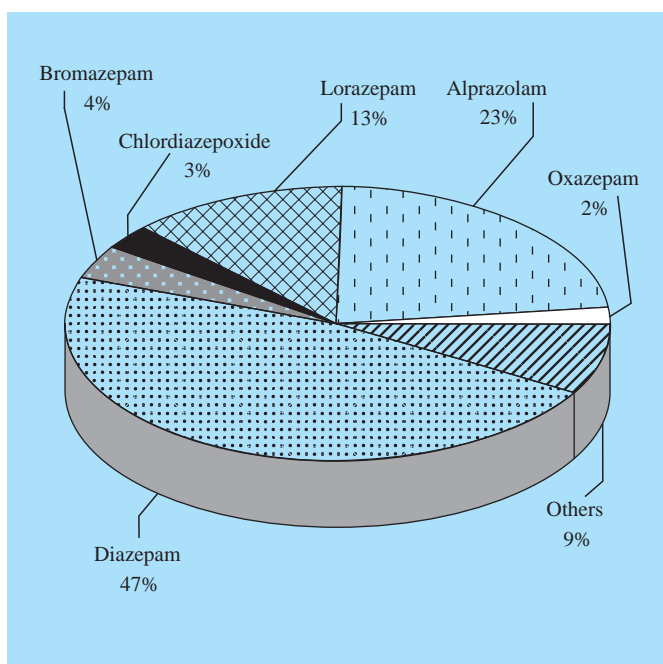


Figure 15. Benzodiazepine-type anxiolytics: substances' shares of total reported manufacture, 2002



and 2001/2002, when it reached a two-year average of nearly 28 tons (see figure 14). Fluctuations in the level of manufacture of benzodiazepine-type anxiolytics are usually a reflection of fluctuations in the manufacture of diazepam, the main substance of this group, which accounted for 47 per cent (or 12.7 billion S-DDD) of the total in 2002. In 2002, the share of alprazolam (6.3 billion S-DDD) increased to 23 per cent, while the manufacture of lorazepam (3.6 billion S-DDD) accounted for 13 per cent of total output. Bromazepam, chlordiazepoxide, clorazepate and oxazepam each accounted for between 1 and 5 per cent of the total reported manufacture

Figure 16. Benzodiazepine-type anxiolytics: countries' shares of total reported manufacture, 2002

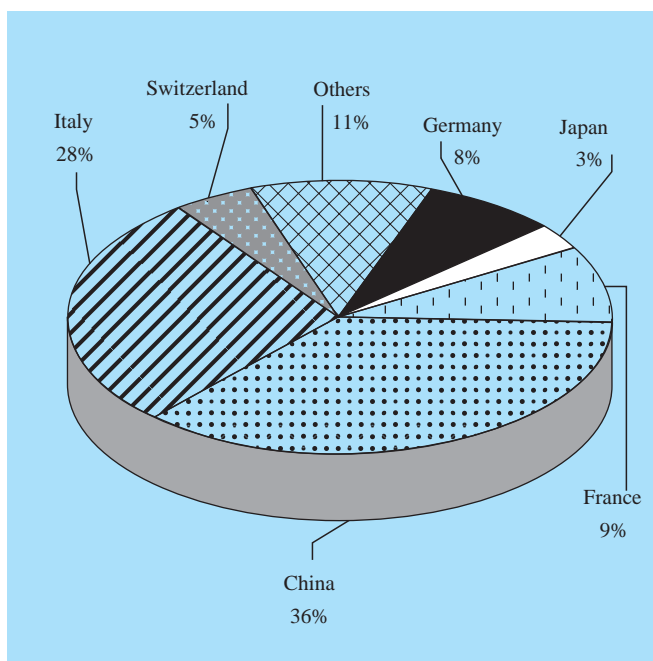
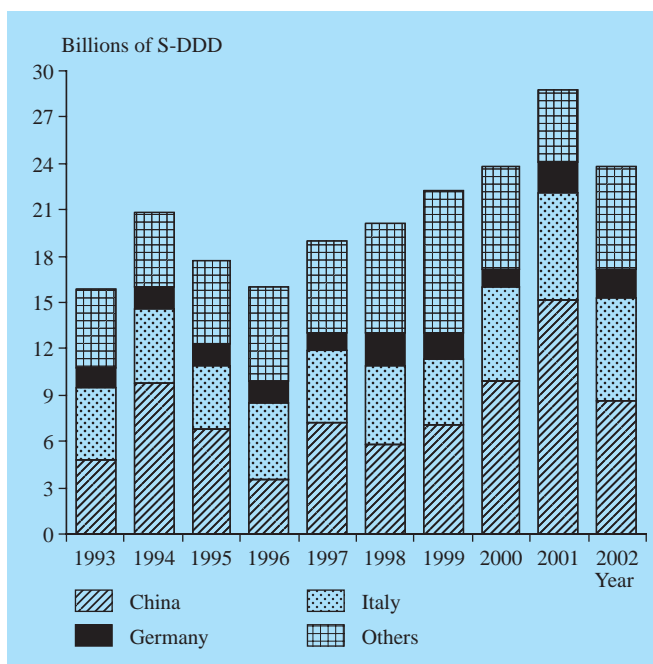
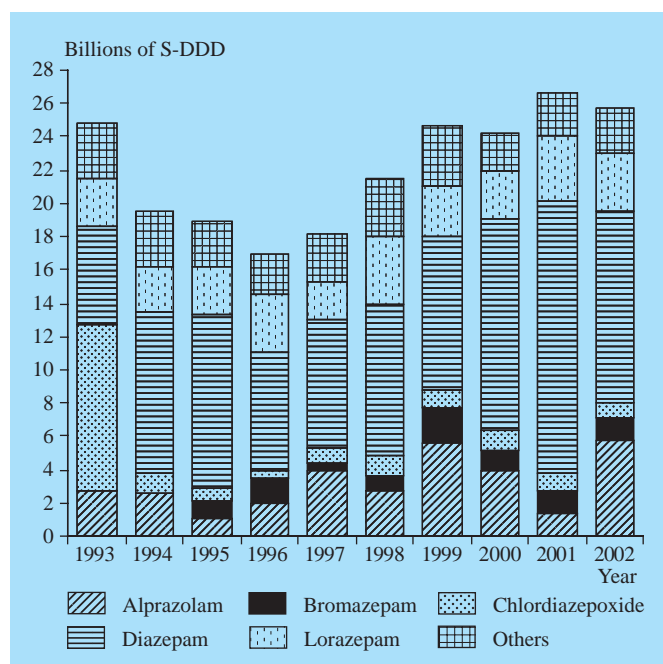


Figure 17. Benzodiazepine-type anxiolytics: reported manufacture, selected countries, 1993-2002



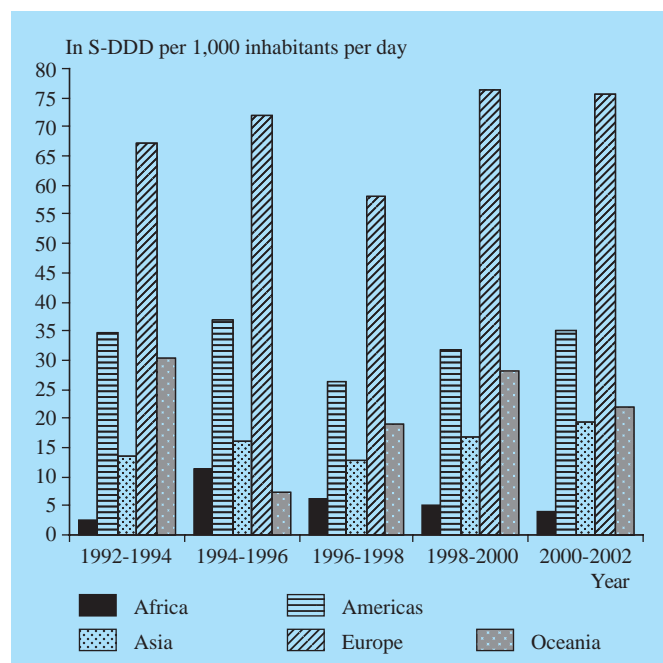
of benzodiazepine-type anxiolytics in 2002 (see figure 15). The remaining 14 substances in that group (clobazam, clobazepam, cloxazolam, delorazepam, ethyl loflazepate, fludiazepam, halazepam, ketazolam, medazepam, nordazepam, oxazolam, pinazepam, prazepam and tetrazepam) each, accounted for less than 1 per cent of the total reported manufacture calculated in S-DDD. No manufacture of camazepam was reported in 2002. As shown in figures 16 and 17, China and Italy were the leading manufacturers of benzodiazepine-type anxiolytics in the 10-year period 1993-2002 and together accounted for almost two thirds of world manufacture in 2002.

Figure 18. Benzodiazepine-type anxiolytics: calculated global consumption,* by substance, 1993-2002



* Statistical data submitted by Governments are used to calculate the approximate global consumption in a given year. Those consumption figures are expressed in defined daily doses for statistical purposes (S-DDD).

Figure 19. Benzodiazepine-type anxiolytics: average national consumption in selected countries, by region,* 1992-2002



* Statistical data submitted by Governments are used to calculate the average annual consumption for a three-year period. Data from the five countries with the highest consumption were included in the calculation for each region.

92. Approximate consumption levels, calculated by INCB, follow the trend in manufacture (see figure 18). In 2002, total consumption of this group of substances reached 25.7 billion S-DDD. The calculated average national consumption of benzodiazepine-type anxiolytics is higher in

Europe than in the other regions (see figure 19). The average use in the five leading European consumer countries for that group of substances reached more than 70 defined daily doses per 1,000 inhabitants per day in 2002.

93. In the past, attempts have frequently been made to divert some benzodiazepine-type anxiolytics, especially diazepam and chlordiazepoxide, from international trade into the illicit drug traffic, mainly in countries in Africa and South-East Asia. Nowadays, such diversions mostly occur from domestic distribution channels.

94. Diazepam, the most traded substance in the group of benzodiazepine-type anxiolytics, is consumed in all regions of the world. During the period 1997-2000, global manufacture of diazepam followed an increasing trend, averaging over 100 tons annually. After a peak of 163 tons in 2001, manufacture dropped to 127 tons in 2002. China has traditionally been the major manufacturer and exporter of the substance; it accounted for more than 60 per cent of global manufacture of that substance in 2002. The fluctuations in manufacturing levels therefore mostly reflect the fluctuations in manufacturing levels in China. The other main manufacturers and exporters of diazepam in recent years included Italy, India, Switzerland and Brazil.

95. The manufacture by China of over 80 tons of diazepam in 2002, 44 per cent less than the previous year (143 tons), was similar to the average volume of manufacture in the years prior to 2001. China supplied at least one third of global exports of diazepam, 20 tons on average, in the period 1998-2002, which was far below the levels reported by that country in the mid-1990s (for example, 67 tons in 1994).

96. The manufacture of diazepam rose in Italy, the second largest manufacturer and exporter of the substance, increasing from 16 tons in 2001 to 27 tons in 2002. Export levels reached 17 tons in 2002. The manufacture of diazepam in India has declined in recent years, falling from an average of 11 tons during the period 1998-1999 to 7.6 tons in 2002. Despite the decreasing trend in the manufacture of diazepam, India increased its exports from an average of 1 ton of the substance annually during the period 1997-2001 to 2 tons in 2002. In the same period, diazepam manufacture in Brazil and Switzerland fluctuated around 3 tons annually. Switzerland manufactures mainly for export (nearly 10 tons in 2002), while 95 per cent of the diazepam manufactured in Brazil was for domestic use. The only other manufacturers of diazepam in 2002 were the United States (1,424 kg), Poland (883 kg), the Russian Federation (238 kg) and Japan (52 kg).

97. For 2002, 116 countries and territories reported having imported diazepam in quantities of more than 1 kg. In 2002, Switzerland (7 tons), the United States (4.2 tons), Denmark (3.3 tons) and Germany (3 tons) were the biggest importers of the substance, accounting for a third of all global imports. Denmark and Switzerland imported for re-export. Spain, formerly the main importer of diazepam, reduced its imports of the substance from 29 tons (used mainly for veterinary purposes) in 1989 to 10 tons in 1997 and 1.4 tons in 2002. Global consumption of diazepam reached 9.3 billion S-DDD in 2002. According to calculated consumption figures, China (5.7 billion S-DDD) is the main consumer worldwide.

98. Total reported manufacture of alprazolam fluctuated in recent years, increasing from 1.1 tons in 1995 to 4.7 tons in 1999,

subsequently falling to an average of 3.3 tons during the period 2000-2001, then increasing in 2002 to a peak of 6.3 tons. Those fluctuations in the level of global manufacture reflected, to a large extent, manufacturing levels in India and the United States. In 2002, India reported the manufacture of 2 tons of alprazolam, the highest quantity ever reported. The United States, which had accounted for 60 per cent of the world total manufacture of the substance prior to 1995, reported no manufacture of alprazolam in the period 2000-2001 and the manufacture of 1.2 tons for 2002. Italy manufactured 1.2 tons of the substance and France 1.3 tons. Those four countries accounted for more than 90 per cent of global manufacture of alprazolam. They were also the main exporters of the substance, together accounting for more than 70 per cent of total flows in 2002.

99. In 2002, 67 countries and territories in all regions of the world declared imports of alprazolam in quantities exceeding 1 kg. The total flow of imports increased from 1.6 tons in 1997 to an average of 3.4 tons annually in the period 1998-2001 and reached 4.9 tons in 2002, mainly as a result of increasing import volumes reported by Belgium and the United States. In 2002, the main importers of alprazolam were Belgium (1.2 tons), the United States (947 kg), Switzerland (392 kg), Argentina (311 kg), Spain (248 kg), France (201 kg), Japan (139 kg) and Hungary (133 kg), which together accounted for over three quarters of the total import volume. Most of the alprazolam imported by Belgium, France and Switzerland was destined for re-export. Global consumption during the period 1998-2002 averaged more than 3 billion S-DDD, the United States being the highest calculated consumer (1.2 billion S-DDD).

100. Total reported manufacture of lorazepam dropped from 11.1 tons in 2001 to 9 tons in 2002, a level comparable to the average level during the period 1998-2000. Such fluctuations are attributable to significant changes in the levels of manufacture of Germany and Italy, the two main manufacturers of lorazepam. Those two countries manufactured 4.4 tons and 3.2 tons respectively in 2002, accounting for about 85 per cent of total manufacture. India increased its manufacture to 1 ton in 2002 from around 500 kg of the substance in recent years. The only other countries that reported having manufactured lorazepam in 2002 were Poland (190 kg), the United Kingdom (121 kg), Brazil (26 kg), Israel (24 kg), Slovakia (13 kg) and Spain (6 kg).

101. Trade flows in lorazepam averaged a little over 10 tons annually in the period 1998-2002. Italy, Germany and Ireland were the main exporters of the substance in recent years, together accounting for more than 80 per cent of total exports of the substance in 2002. Of the 77 countries that imported more than 1 kg of lorazepam at least once in the period 1997-2002, Ireland and the United States imported the most, together accounting for about 40 per cent of total imports of the substance in the period 1998-2002. The other main importers of lorazepam in 2002 included France (745 kg), Spain (722 kg), the United Kingdom (645 kg) and Italy (620 kg). Global calculated consumption averaged 3.5 billion S-DDD in the period 1998-2002, Germany being the main consumer (1 billion S-DDD).

102. Total reported manufacture of bromazepam fluctuated significantly in the period 1998-2002. After increasing sharply from an annual average of 6 tons during the period 1997-1998, global output of the substance peaked at over 21 tons

in 1999, after which a steady decline led to a level of 12 tons in 2002. Switzerland (5.7 tons) remained the major manufacturer of bromazepam, reporting nearly half of global manufacture in 2002. The only other main manufacturers of the substance were Italy (averaging 4.2 tons annually in the period 1999-2002) and Brazil (averaging 1.6 tons per year during the same period).

103. Global exports of bromazepam reached 17 tons in 2002, the main exporters being Switzerland (9.4 tons) and Italy (5.3 tons), which together accounted for 65 per cent of total exports of the substance in 2002. Of the 82 countries that reported imports of bromazepam in quantities of more than 1 kg in 2002, four of them accounted for 53 per cent of global imports. During the period 1998-2002, all of the bromazepam imported by Switzerland and Italy was re-exported; during the same period, France and Germany imported bromazepam mainly for domestic use. Calculated global consumption of bromazepam fluctuated at about 1.1 billion S-DDD annually during the period 1998-2002.

104. In recent years, total reported manufacture of chlordiazepoxide fluctuated widely around its annual average for the period 1997-2001 (36 tons). In 2002, five countries reported having manufactured chlordiazepoxide and total reported manufacture of the substance decreased to 28 tons. Those fluctuations reflected changes in the quantities of chlordiazepoxide manufactured in China, Italy and India, the main manufacturing countries, which accounted for 95 per cent of global output in 2002. While nearly half of the 19 tons of chlordiazepoxide manufactured in China in 2002 was for domestic consumption, all of the 7 tons manufactured in Italy were destined for export. India manufactured mainly for domestic use. China, Italy and Switzerland, the other main exporter of chlordiazepoxide, together accounted for over 88 per cent of global exports in 2002.

105. International trade in chlordiazepoxide averaged over 20 tons during the period 1998-2002; since 1997, 106 countries have reported, at least once, imports of the substance in quantities exceeding 1 kg. In 2002, 21 tons of the substance were imported. The main importers of chlordiazepoxide in 2002 were Iran (Islamic Republic of) (4 tons, for domestic use), Switzerland (3.4 tons, entirely for re-export), Spain (3.2 tons, 30 per cent of which was for re-export) and the United States (1.6 tons, for domestic use). In the period 1998-2002, global consumption of the substance averaged about 1 billion S-DDD per year.

106. World manufacture of oxazepam has been fairly stable in recent years, averaging nearly 30 tons per year during the period 1998-2002. The main manufacturers of oxazepam in 2002 were Italy (16.5 tons), France (7.6 tons) and India (2.8 tons), which together accounted for more than 90 per cent of global output. The volumes of trade in oxazepam averaged about 41 tons annually during the five-year period 1998-2002. Ireland and France were the main importers of oxazepam, both countries importing the substance mainly for re-export.

107. Total reported manufacture of clorazepate averaged 8.6 tons during the period 1998-2002. France (7 tons) and Italy (1.2 tons) accounted for more than 90 per cent of total output of clorazepate in 2002. The volume of international trade in clorazepate increased in 2002 by nearly 69 per cent compared with 2000, 58 countries having imported nearly

13 tons of clorazepate. The main importers of clorazepate were Spain (more than half for re-export) and France (all for re-export). Total reported manufacture of tetrazepam averaged 22 tons per year during the period 1998-2002, while international trade fluctuated between 30 and 40 tons. France was the main manufacturer, accounting for nearly 90 per cent of global manufacture, and the main exporter, accounting for more than half of all exports of the substance. Thirty-one countries reported imports of more than 1 kg of tetrazepam in 2002.

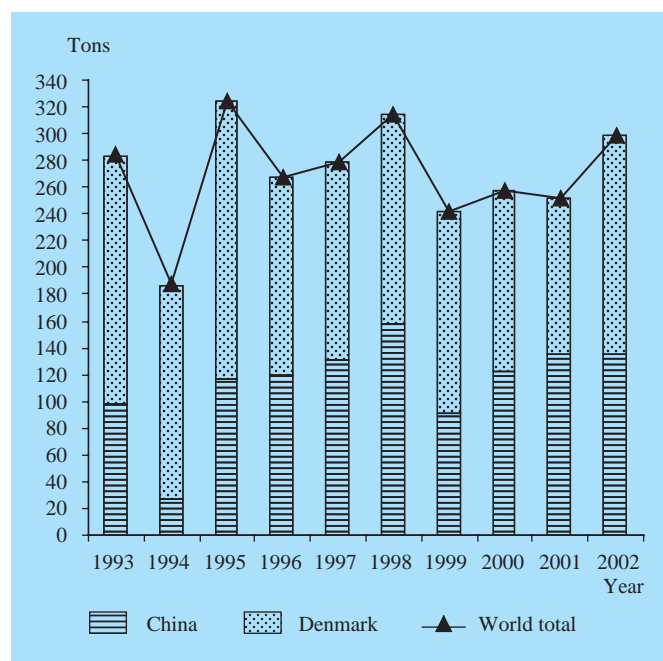
108. In 2002, total reported manufacture of clotiazepam, cloxazolam, delorazepam, ethyl loflazepate, fludiazepam, medazepam, nordazepam, oxazolam and pinazepam increased or remained at the same level as in 2001, as their combined total grew by one third from 679 million to 912 million S-DDD. The combined manufacture of clobazam, halazepam, ketazolam and prazepam (281 million defined daily doses) declined in 2002 to half its level of 2001.

Other anxiolytics

Meprobamate

109. Due to its gradual replacement by benzodiazepines, the manufacture of meprobamate, the only non-benzodiazepine-type substance in Schedule IV used as an anxiolytic, decreased continuously, from a record level of nearly 1,000 tons in the late 1970s to an annual average of a little more than a quarter of that amount in the 10-year period 1993-2002. Apart from two instances of manufacture of small amounts of meprobamate, by Iraq in 1996 (110 kg) and by Switzerland in 1997 (56 kg), China and Denmark were the only manufacturers of the substance after 1998 (see figure 20). Most of the meprobamate manufactured by China and Denmark was exported, as those two countries accounted for 89.8 per cent of global exports during the period 1998-2002.

Figure 20. Meprobamate: total reported manufacture, 1993-2002



Manufacturing levels in China fluctuated between 91 tons and 158 tons and averaged 128 tons per year in the period 1998-2002. In Denmark, the manufacture of meprobamate experienced similar fluctuations, averaging 144 tons per year during the same period. The highest level of stocks of meprobamate during that period were held by Denmark, which averaged 33 tons, and France, which averaged 24 tons. China did not report any stocks of meprobamate.

110. The level of imports of meprobamate averaged over 313 tons annually in the five-year period 1998-2002; 76 countries reported imports of the substance at least once during that period. France was the main importer of meprobamate, purchasing an average of 92 tons annually during the period 1998-2002, almost all of which was for domestic use. In 2002, France imported 85 tons of meprobamate, accounting for 26 per cent of the world total. The other main importers of the substance in 2002 were South Africa (62 tons), Cuba (55 tons), Hungary (21 tons) and Denmark (6 tons, mostly for re-export). The United States did not report imports of meprobamate in 2001, but imported an average of 20 tons in the years prior to 2001; in 2002 its imports amounted to 25 tons, mostly for domestic use.

Benzodiazepine-type sedative-hypnotics

111. Twelve benzodiazepines are generally used as sedative-hypnotics: brotizolam, estazolam, flunitrazepam (the only benzodiazepine included in Schedule III), flurazepam, haloxazolam, loprazolam, lormetazepam, midazolam, nimetazepam, nitrazepam, temazepam and triazolam.

112. Total reported manufacture of the 12 substances in the group increased from an average of 6.3 billion S-DDD per year during the period 1997-2001, to 7.8 billion S-DDD in 2002, continuing the steady trend of growing use of that group of substances during the 10-year period 1993-2002. During the period 1998-2002, Belgium, Canada and Switzerland started reporting to INCB on their manufacture of benzodiazepines, which brought the calculated levels of annual consumption in line with the levels of total manufacture (see figures 21 and 22).

113. The calculated average national consumption of benzodiazepine-type sedative-hypnotics, expressed in defined daily doses per 1,000 inhabitants per day, is higher in Europe than in the other regions (see figure 23).

114. In 2002, the levels of manufacture of lormetazepam (1.9 billion S-DDD), brotizolam (1.3 billion S-DDD), temazepam (1.2 billion S-DDD), nitrazepam (1.2 billion S-DDD) and triazolam (984 million S-DDD) accounted for 84 per cent of the total manufacture of benzodiazepine-type sedative-hypnotics (see figure 24). Manufacture of flunitrazepam declined steadily in the period 2000-2003, from 21 per cent (1.4 billion S-DDD) to 5 per cent (409 million S-DDD) of the total. Estazolam (433 million S-DDD), midazolam (184 million S-DDD), flurazepam (153 million S-DDD) and loprazolam (122 million S-DDD) together accounted for 11 per cent of the total. Manufacture of haloxazolam and nimetazepam was below 1 per cent of total manufacture in the group of benzodiazepine-type sedative-hypnotics. Germany and Italy were the main manufacturers of that group of substances (see figures 25 and 26).

Figure 21. Benzodiazepine-type sedative-hypnotics: total reported manufacture, by substance, 1993-2002

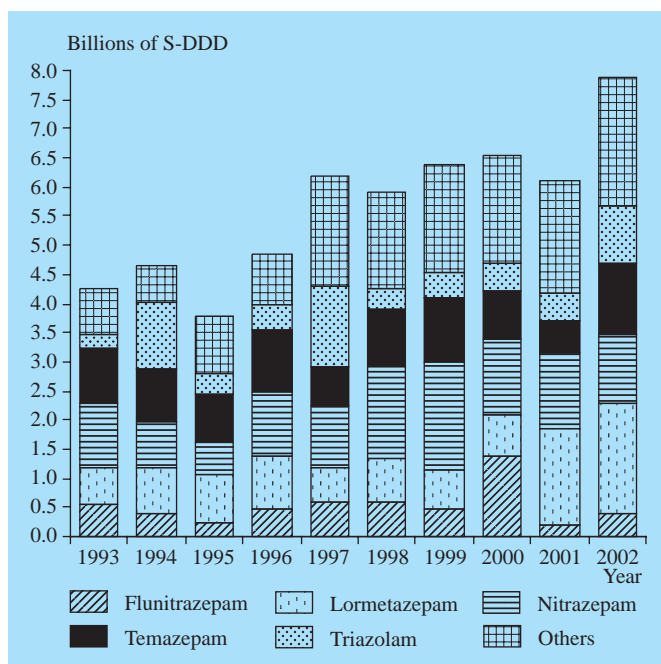
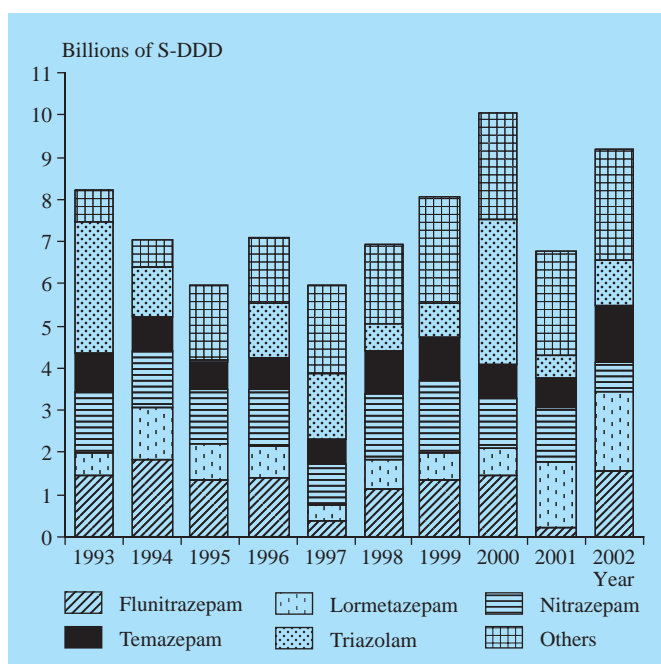


Figure 22. Benzodiazepine-type sedative-hypnotics: calculated global consumption,* 1993-2002

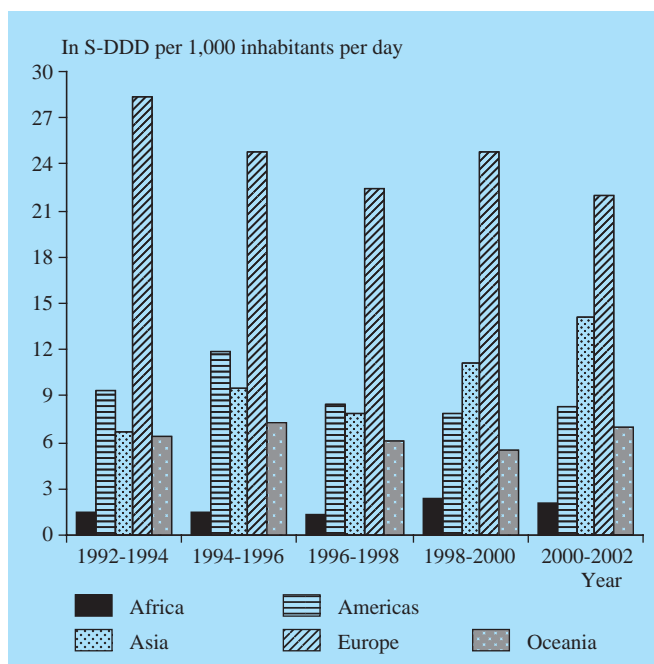


* Statistical data submitted by Governments are used to calculate the approximate global consumption in a given year. Those consumption figures are expressed in defined daily doses for statistical purposes (S-DDD).

115. Comments on flunitrazepam, a substance that was transferred from Schedule IV to Schedule III in 1995, are included in paragraphs 65-67 above.

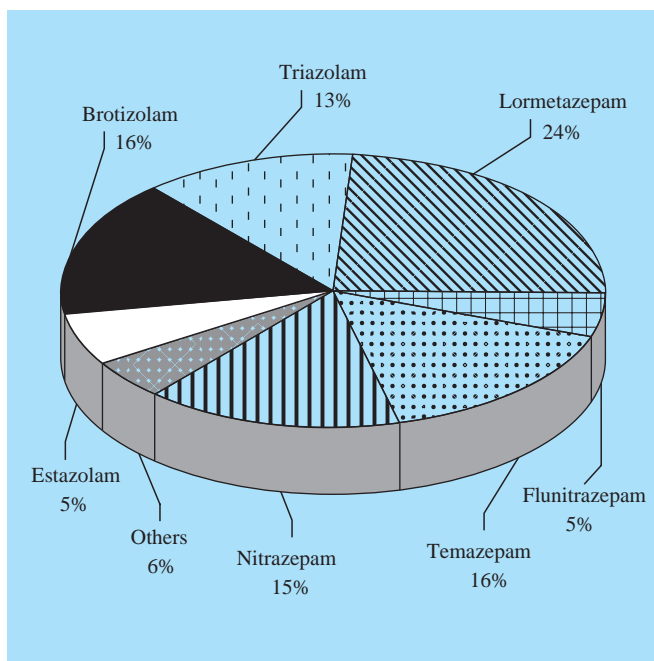
116. The manufacture of lormetazepam increased steadily after 1991, reaching a peak of 899 kg in 1996; after averag-

Figure 23. Benzodiazepine-type sedative-hypnotics: average national consumption,* by region, 1992-2002



* Statistical data submitted by Governments are used to calculate the average annual consumption for a three-year period. Data from the five countries with the highest consumption were included in the calculation for each region.

Figure 24. Benzodiazepine-type sedative-hypnotics: substances' shares of total reported manufacture, 2002



ing 670 kg during the period 1997-2000, it peaked at 1.9 tons in 2002. The latest boost in manufacture took place as a result of a significant increase in the output in 2002 of Germany (1.4 tons), which nearly quadrupled the amount of lormetazepam it manufactured compared to 2000. The only other manufactures of lormetazepam in 2002 were

Figure 25. Benzodiazepine-type sedative-hypnotics: reported manufacture, selected countries, 1993-2002

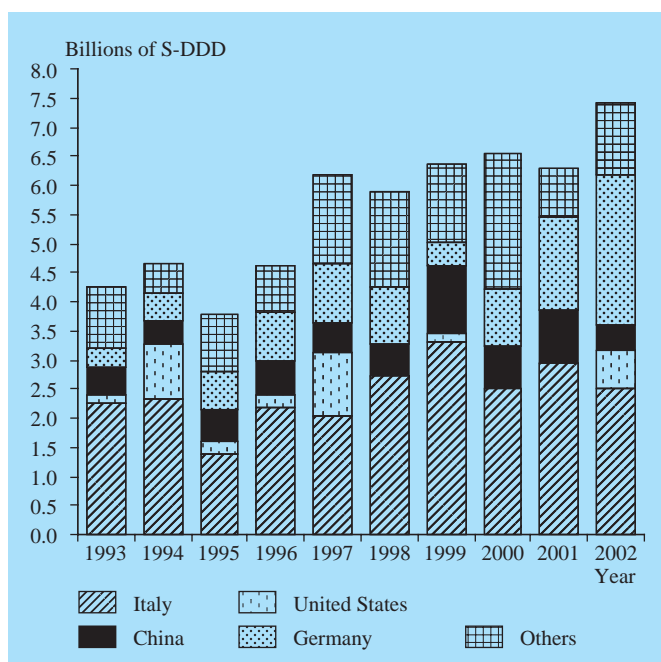
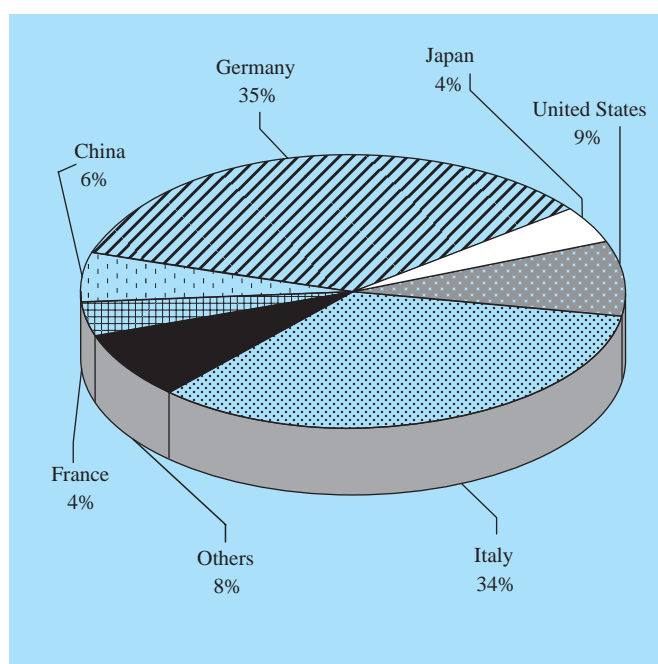


Figure 26. Benzodiazepine-type sedative-hypnotics: countries' shares of total reported manufacture, 2002



Italy (468 kg) and Poland (6 kg). Germany and Italy were also the main exporters of lorazepam, accounting together for nearly two thirds of global exports (1.8 tons). Imports of lorazepam increased from 664 kg in 1997 to over 1.7 tons in 2002. Spain, France, Italy, Ireland, Belgium and Germany were the main importers of the substance in recent years, most of their imports being destined for re-export. After fairly consistent levels of consumption of around 630 million S-DDD during the period 1998-2000, global consumption increased during the period 2001-2002 to an average of 1 billion S-DDD, with Italy and France as the calculated highest users of the substance.

117. In 1995, brotizolam, a potent hypnotic with the same statistical defined daily dose as triazolam (S-DDD of 0.25 mg), was included in Schedule IV of the 1971 Convention. The manufacture of that substance was reported for the first time in 1997. In 2002, 300 kg of brotizolam were manufactured by Germany, the only country to report manufacture of the substance for that year. International trade in brotizolam involved 14 countries and import volumes averaged 180 kg annually during the period 1998-2002. Germany and Italy were the main exporters of the substance, with Germany accounting for around 80 per cent of global exports in 2002 (146 kg). The main importers in 2002 were Japan (109 kg), the Republic of Korea (54 kg) and Mexico (38 kg). Global calculated consumption hovered around 900 million S-DDD, with Japan (474 million S-DDD), Germany (380 million S-DDD) and Mexico (140 million S-DDD) accounting for 68 per cent of the global consumption of the substance in 2002.

118. In the period 1993-2002, reported manufacture of temazepam fluctuated between 13.4 tons (in 1997) and 23 tons (in 1992). In 2002, it reached a new peak of 25 tons. Italy, with a reported manufacture of 22.5 tons in 2002, was the main manufacturer throughout that period, accounting

for over 90 per cent of total output, on average. The United States manufactured almost 1.4 tons of temazepam in 2002. Poland was the only other manufacturer during that five-year period and reported an average of over 700 kg of output annually.

119. The level of international trade in temazepam averaged about 20 tons per year during the period 1998-2002. Italy was by far the biggest exporter of the substance, accounting for 80 per cent of total exports in 2002. Other large exporters in 2002 were Ireland (1.4 tons), Germany (1.1 tons) and Finland (501 kg). Thirty-five countries reported imports of temazepam at least once in the period 1998-2002. The United States (11.7 tons), Ireland (1.8 tons), Germany (1.6 tons), the United Kingdom (1.6 tons), Australia (1.5 tons), Canada (1.4 tons), the Netherlands (1.4 tons) and Finland (1.3 tons) were the main importers of the substance in 2002, accounting for 86 per cent of global imports. While Finland, Germany and Ireland re-exported most of their imports in recent years, the United Kingdom and the United States used temazepam for domestic consumption or to supplement their existing stocks. In 1995, the control measures for temazepam were strengthened in the United Kingdom to counter the increasing diversion of the substance into the illicit market in that country.⁶ As a result, imports of temazepam decreased considerably, from a peak level of 6.3 tons in 1994 to 1.3 tons in 1996. After that, the level of imports into the United Kingdom fluctuated, reaching a new peak of 7.3 tons in 1998 and gradually decreasing in subsequent years. Global consumption averaged about 780 million S-DDD during the period 1998-2002, with Germany, the Netherlands and the United States as calculated main consumers.

⁶ See *Report of the International Narcotics Control Board for 1995* (United Nations publication, Sales No. E.96.XI.1), para. 113.

120. Triazolam is a potent hypnotic, having, together with brotizolam, the lowest statistical defined daily dose of all psychotropic substances (0.25 mg). Total reported manufacture of triazolam reached a record level of 539 kg (2.2 billion S-DDD) in 1988. Discussions at the beginning of the 1990s on the medical use of triazolam had major repercussions on the market for the substance, as the manufacture of triazolam decreased considerably (by 90 per cent) to 55 kg in 1992. Since then, total reported manufacture of triazolam has been steadily increasing, reaching 233 kg in 2002. The above-mentioned fluctuations in the early and mid-1990s mainly reflected the fluctuations in manufacture and stocks in the United States.

121. Until 2002, the United States had not reported any manufacture of triazolam since 1997, when 271 kg of the substance were manufactured. It once again became the leading manufacturer in 2002 (136 kg), accounting for 58 per cent of global manufacture of triazolam. The only other countries to report manufacture of triazolam were Italy (49 kg), France (42 kg), Japan (13 kg) and China (6 kg). The United States continued to be the main exporter of triazolam, exporting 92 kg in 2002. Belgium, France and Italy were the other main exporters of the substance. The imports of Japan (103 kg), Belgium (92 kg, mostly for re-export), Italy (20 kg) and the Republic of Korea (17 kg) accounted for 83 per cent of total imports in 2002. The level of global calculated consumption of triazolam stood at an average 55 million S-DDD during the period 1998-2002. China, Italy and Japan continued to be the main consumer countries.

122. After substantial fluctuations in the early 1990s, nitrazepam manufacture increased gradually from 2.7 tons in 1995 to 9.4 tons in 1999. Since then, that trend has been reversed, with global output falling by 30 per cent to an average of 6.5 tons during the period 2000-2001 and then to 5.8 tons in 2002. That volatility in the manufacture of nitrazepam was a result of changing levels of manufacture of the substance in Italy and Switzerland. Italy manufactured 2.1 tons of nitrazepam in 2002, which was two thirds less than the previous year. Switzerland reported the manufacture of 1.5 tons in 1999, but no manufacture for the subsequent three years. The only other manufacturers of the substance in 2002 were India (2.1 tons), China (1.4 tons) and the Russian Federation (248 kg).

123. Annual international trade flows in nitrazepam averaged about 6 tons annually during the period 1998-2002. Italy was the main exporter of the substance (2.7 tons), accounting for 77 per cent of total exports in 2002. Since 1998, 72 countries have reported at least once nitrazepam imports in excess of 1 kg. In 2002, Japan was the main importer of the substance, reporting imports of 671 kg, followed by the United Kingdom (356 kg), Cuba (350 kg), the Netherlands (317 kg), Hungary (216 kg), Germany (206 kg) and Canada (205 kg).

124. In 2002, total manufacture of estazolam (810 kg) decreased by two thirds compared with the annual average for the period 1999-2001. That decrease is explained by lower levels of manufacture in China, which had previously been the main manufacturer of the substance (entirely for domestic consumption). In 2002, the only countries that manufactured estazolam were Japan (489 kg), China (338 kg), Poland (300 kg), the United States (116 kg) and Italy (56 kg). The main exporters of estazolam in recent years were Japan,

Italy and the Netherlands. Of 10 countries importing the substance, Brazil, Portugal and the United States accounted for 55 per cent of total imports in 2002.

125. In 2002, total reported manufacture of midazolam amounted to 3.7 tons, which was little more than a third of the peak level of 10 tons that it had reached in 1999. The sharp drop in reported manufacture of midazolam was caused, for the most part, by the steep decline in manufacture of the substance in China, which fell from 6.9 tons in 1999 to 16 kg during the period 2000-2002. Since 2000, Switzerland has been the main manufacturer of midazolam, reporting the manufacture of 2.5 tons in 2002. The level of international trade in midazolam continued to increase in 2002. Switzerland and Israel were the main exporters of the substance in recent years.

126. After fluctuating between 6 and 11 tons during the period 1998-2000, total reported manufacture of flurazepam fell to 4.6 tons in 2002. That steep decline resulted from discontinuation of the manufacture of the substance in Brazil and Switzerland and its reduced manufacture in Italy. In 2002, manufacture in Italy of 4.6 tons accounted for more than 99 per cent of total manufacture for that year. The only other manufacturer of flurazepam in 2001 was China (10 kg). Similar fluctuations were observed in the volume of exports and imports. Canada, Switzerland and the United States were the main importers of flurazepam in the period 1998-2002, together accounting for 45 per cent of global imports in 2002.

127. Total reported manufacture of loprazolam amounted to 122 kg in 2002, with France the only manufacturer and the leading exporter of the substance. The United Kingdom (25 kg in 2000) was the only other manufacturer of loprazolam in recent years. The main importers of loprazolam in 2002 were Spain (16 kg), the United Kingdom (16 kg) and Portugal (12 kg), together accounting for 68 per cent of total imports.

Benzodiazepine-type anti-epileptics

Clonazepam

128. Clonazepam is the only benzodiazepine generally used as an anti-epileptic. Total reported manufacture of clonazepam fluctuated around its annual average of 3.8 tons during the five-year period 1998-2002. Those fluctuations are explained by the changing volumes of annual manufacture of the substance by the leading manufacturers, Italy and Switzerland, in 2002. Italy reported the manufacture of 1.8 tons and Switzerland the manufacture of 1.3 tons, which together accounted for 87 per cent of global manufacture in 2002. The only other manufacturers of clonazepam in the period 1998-2002 were Brazil, China, India, Israel, Poland and the United States. The levels of global trade in clonazepam gradually increased, from 1.5 tons in 1997 to about 4.8 tons in 2002. Since 1998, 90 countries have reported imports of the substance at least once. The United States (990 kg), Brazil (732 kg), Israel (420 kg), France (350 kg), Switzerland (296 kg), Italy (266 kg), Iran (Islamic Republic of) (230 kg), Mexico (230 kg), Argentina (198 kg), Canada (192 kg) and Japan (118 kg) imported more than 100 kg in 2002, their combined imports accounting for 81 per cent of the global imports. Global calculated consumption averaged more than 400 million S-DDD during the period 1998-2002, the United States being the main consumer.

Barbiturate-type sedative-hypnotics and anti-epileptics

Allobarbital, barbital, butobarbitol, methylphenobarbitol, phenobarbitol, secbutabarbitol and vinylbitol

129. The seven barbiturates listed in Schedule IV are pharmacologically related to those included in Schedule III. Five of those substances, namely, allobarbitol, barbital, butobarbitol, secbutabarbitol and vinylbitol, are intermediate-acting barbiturates and are mainly used as hypnotics (to induce sleep) in the treatment of intractable insomnia. They are no longer used as daytime sedatives. The two other substances, methylphenobarbitol and phenobarbitol, have additional properties and are also used as anti-epileptics (long-acting barbiturates). Barbital, methylphenobarbitol and phenobarbitol were listed under Schedule IV at the time the 1971 Convention was adopted, while the other four were included in that Schedule in 1987. The most widely used substance in the group of barbiturates is phenobarbitol, which has been described as a drug of choice for the treatment of epilepsy. The substance is also included in the WHO Model List of Essential Medicines.

130. Total reported manufacture of those barbiturates (for both direct medical use and the manufacture of non-psychotropic substances) has been gradually increasing, reaching 653 tons in 1998 (5.4 billion S-DDD); since then, total manufacture has stabilized at a lower level of about 4 billion S-DDD per year. Since 1997, in decreasing order, Hungary, Poland and Denmark had the highest calculated rates of use for the barbiturate-type sedative-hypnotics, averaging between 1 and 3 S-DDD per 1,000 inhabitants per day. With respect to the barbiturate-type anti-epileptics listed in Schedule IV, Bulgaria and Ukraine were among the countries with the highest rates of phenobarbitol use since 2000, consuming an average of 18 and 41 S-DDD per 1,000 inhabitants per day respectively, while Croatia (6.4) and Slovenia (1.06) had the highest rates of use of methylphenobarbitol. During the period 1998-2002, on average, phenobarbitol accounted for over 93 per cent of total manufacture of the barbiturates included in Schedule IV (in statistical defined daily doses). Barbital was second, accounting for 5 per cent of total manufacture, followed by methylphenobarbitol and allobarbitol. No manufacture of vinylbitol has been reported since 1996 and no manufacture of butobarbitol has been reported since 1999.

131. The distribution of total reported manufacture of Schedule IV barbiturates for 2002 among manufacturing countries is presented in figure 27.

132. Total reported manufacture of phenobarbitol averaged 376 tons annually in the period 1999-2002, having declined from its peak of 508 tons in 1998. China and Hungary were the major manufacturers of the substance, accounting for up to 97 per cent of total output in recent years (see figure 28). During the period 1998-2002, China contributed an average of 255 tons per year to total manufacture and accounted for 60.5 per cent of phenobarbitol manufacture in 2002. In 2002, Hungary exported most of the 81 tons of phenobarbitol it manufactured. Other countries that have manufactured phenobarbitol since 1997 include India, Japan, the Russian Federation and Switzerland. Manufacture of the substance in much smaller quantities has also been reported by Brazil, Germany, Iraq, Italy and Kazakhstan.

Figure 27. Barbiturates listed in Schedule IV: total reported manufacture, by country, 2002

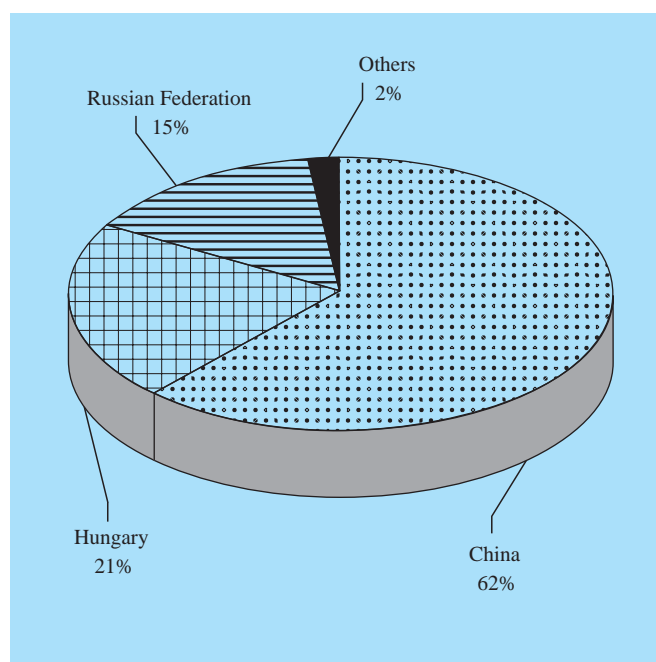
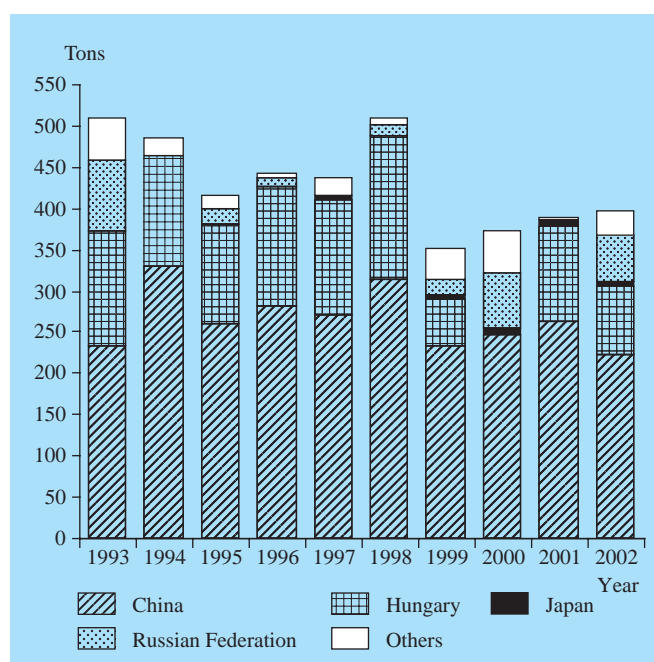


Figure 28. Phenobarbitol: total reported manufacture, 1993-2002



133. Fifty-two countries have reported exports of phenobarbitol since 1997 and total exports have fluctuated between 264 and 366 tons, with up to 70 per cent of export flows accounted for by China and Hungary. Hungary, the main exporter of phenobarbitol since the 1970s, supplied the market with a relatively stable volume, averaging 120 tons annually during the period 1996-2001, with a peak of 143 tons in 1997 and a sharp decrease in 2002 (78 tons). Phenobarbitol exports from China, however, were highly unstable,

fluctuating between 25 and 185 tons in the period 1993-2002. China supplied 117 tons of the substance (41 per cent of total) to the world markets in 2002. Other important exporters of the substance in 2002 were Denmark, Germany, Switzerland and the United Kingdom.

134. Phenobarbital continues to be one of the most widely traded psychotropic substances. During the period 1998-2002, 167 countries and territories reported having imported the substance at least once. Total reported imports amounted to 266 tons in 2002, the main importers being Brazil (35 tons), Switzerland (20 tons, mainly for re-export), Germany (19 tons, mostly for re-export) and Ukraine (17 tons). In recent years, Denmark, Japan, the Netherlands, the Russian Federation, the United Kingdom and the United States have also reported notable imports of phenobarbital.

135. In addition to its medical use as a sedative-hypnotic, barbital is also used in industry for the manufacture of non-psychotropic substances or products. The calculated global use, including medical and industrial use, of barbital decreased from 144 tons in 1998 to 88 tons in 2002. Bulgaria, China, Denmark and Japan were among the countries with the highest per capita rates of usage of that substance. Total reported manufacture of barbital declined steeply in the period 1993-2002, the 87 tons reported for 2002 representing just a third of total output in 1992. Despite lower outputs, China remained the main manufacturer of the substance, accounting for 95 per cent of total manufacture in 2002. Japan was the other main manufacturer, averaging 2 tons of output in the period 1998-2002. Other manufacturers included Denmark, the United Kingdom and the United States.

136. After 1997, manufacture and trade volumes of barbital fell sharply, from 72 tons in 1998 to 17 tons in 2002. In 2002, three countries reported exports of the substance in quantities of more than 200 kg, the largest exporters being Germany and China. Fifty-two countries imported barbital at least once during the period 1998-2002. Germany was the leading importer of the substance until 2001, with almost all of its imports destined for re-export. In 2002, Denmark, France, Japan and the United States were the main importers, accounting for 7.4 tons of the global imports of 9.9 tons in 2002.

137. Almost 8 tons of methylphenobarbital were manufactured in Germany in 1990. Since then, Switzerland has been the only manufacturer of the substance; its output fluctuated but followed a downward trend, dropping from 9.5 tons in 1997 to 3 tons in 2002, of which about half was re-exported. In 2002, the only two other manufacturers were India and the United States, which reported having manufactured 1.1 tons and 749 kg of the substance, respectively. The highest rates of use of methylphenobarbital in recent years were calculated for Croatia and Slovenia.

138. International trade in methylphenobarbital followed the decline in manufacture. Of the nine countries that reported exports of methylphenobarbital in the five-year period 1998-2002, Switzerland was by far the largest exporter, accounting for about 83 per cent of total exports of the substance. The other big exporters of the substance in 2002 were India and Germany both (1.2 ton). Nineteen countries

imported the substance at least once in that period. Croatia, Italy and Slovenia were the main regular importers of methylphenobarbital, more than half of total imports going to Croatia. Argentina, Australia, Germany and the Netherlands were among the other importers of the substance in recent years. Since 1998, when it reported the import of one ton, the United States has not reported any trade in the substance.

139. Germany has been the only country reporting the manufacture of allobarbital in recent years, since Denmark discontinued manufacture of that substance in 1994 and Poland did so in 1995. Manufacture by Germany of allobarbital increased significantly from 393 kg in 1998, when the country resumed its manufacture of that substance, to 1.6 tons in 2002. Prior to 1998, Germany had last reported the manufacture of allobarbital (4.5 tons) in 1993. Total exports of the substance fluctuated around a five-year annual average of 2.7 tons during the period 1998-2002. Germany was the largest exporter, accounting for almost three quarters of the world total during that period. Denmark and Switzerland were the other main exporters of allobarbital in recent years. Hungary has reported for the first time since 1998 an export of 700 kg of the substance. Sixteen countries imported the substance at least once during the period 1998-2002. In 2002, the major importers of the substance were Hungary (mostly for re-export), Germany, Poland, Turkey and Switzerland. Global consumption of allobarbital was calculated at 1 ton in 2002, which was a 60 per cent decrease from the level of 2000. The reduction is explained by less use of the substance in Hungary and Poland, the two countries that have had the highest rates of calculated per capita use in recent years.

140. Since 1991, only Germany has reported having manufactured secbutabarbital. Germany's manufacture of that substance in 2001 (22 kg) was less than 3 per cent of the amount manufactured (750 kg) in 1999. This can be partially explained by lower trade volumes and a build-up of global stocks. However, in 2002, German manufacture increased to 144 kg. The United States, for the first time since 1989, reported manufacture of secbutabarbital in 2002 (509 kg), which accounted for about 78 per cent of the global total. Germany, Lebanon, Switzerland and the United States are the only countries that have reported trade in the substance in recent years; in 2002 they were joined for the first time by the United Kingdom. In 2002, the United States reported about 50 per cent of the global imports of secbutabarbital (95 kg). In recent years, Lebanon has had the highest calculated usage rates, with 0.2 S-DDD per 1,000 inhabitants since 2000.

141. Only two countries have reported manufacture of butobarbital in recent years: Denmark and Germany. Denmark last reported the manufacture of 1.3 tons of butobarbital in 1998. Although Germany and Hungary occasionally imported very large quantities of the substance prior to 1999, France was the main regular importer of butobarbital, its imports averaging 124 kg per year between 1997 and 2001. The volume of international trade in butobarbital decreased by some 98 per cent between 1998 and 2002, mainly due to a very sharp reduction of imports and exports by Denmark, Hungary, Thailand and the United Kingdom. In 2002, only a small total of 100 kg was imported by Belgium, the Czech

Figure 29. Barbiturates listed in Schedules II, III and IV: total reported manufacture, by substance, 2002

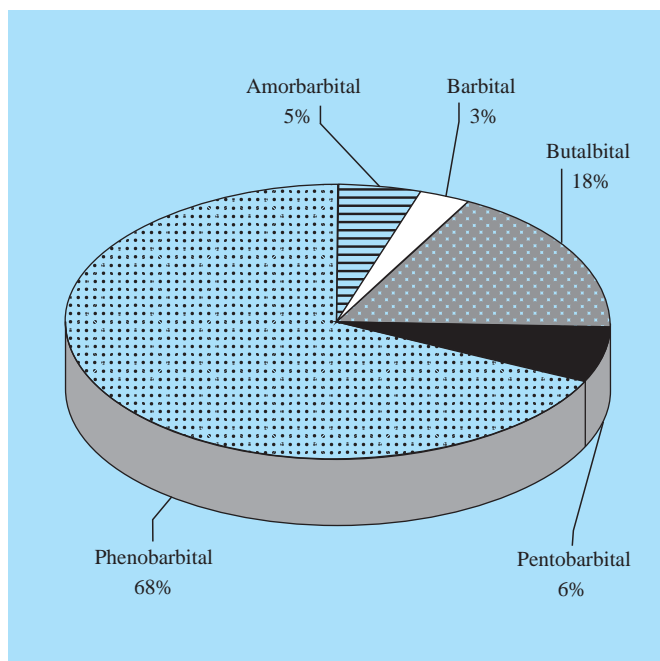
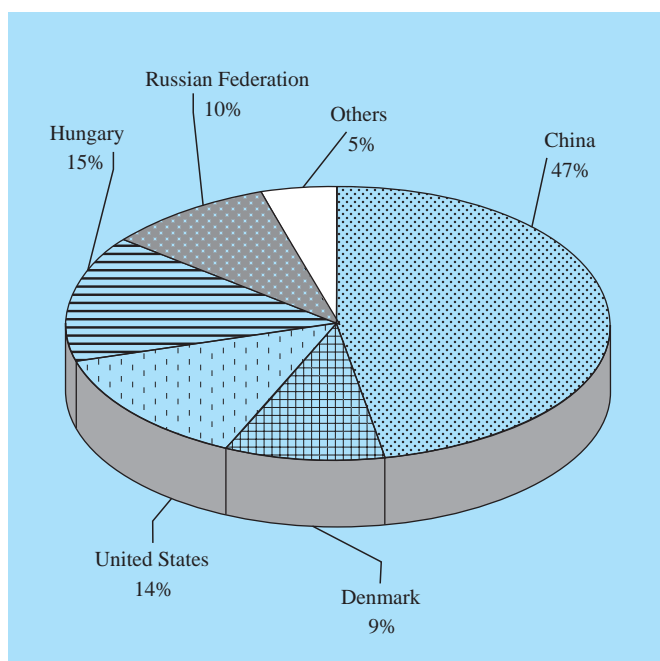


Figure 30. Barbiturates listed in Schedules II, III and IV: total reported manufacture, by country, 2002



Republic, Germany, Jordan, the Netherlands and Slovakia. The downward trend could also be observed in the calculated usage rates, as the per capita use in the Czech Republic and

Hungary fell from 0.8 S-DDD during the period 1997-1999 to 0.06 S-DDD during the period 2000-2002.

142. Of the 12 barbiturates listed in Schedules II, III and IV of the 1971 Convention on Psychotropic Substances, three substances, namely, phenobarbital, butalbital and pentobarbital accounted for 92 per cent of the total reported manufacture for 2002 (see figure 29). In 2002, in decreasing order of volume of manufacture, China, Hungary, the United States, the Russian Federation and Denmark accounted for most of the manufacture of the entire group of barbiturates (95 per cent) (see figure 30).

Other sedative-hypnotics

143. Three substances from the group of sedative-hypnotics in Schedule IV, ethchlorvynol, ethinamate and methyprylon, are neither barbiturates nor benzodiazepines. All three substances have been listed in Schedule IV since the adoption of the 1971 Convention.

144. The manufacture and export of ethchlorvynol have been reported, sporadically, only by the United States, which manufactured 857 kg of the substance in 1991, a total of 9 tons (18 million S-DDD) in the period 1994-1996, and 1.3 tons in 1999. Most of the Ethchlorvynol manufactured in the United States was for domestic use. Calculated global consumption (solely in the United States) has declined rapidly, from a peak of 2.2 millions S-DDD in 1998 to zero since 2001. The manufacture of ethinamate was last reported by Germany in 1988 (500 kg), and the manufacture of methyprylon was last reported by the United States in 1990 (2.1 tons). There have been no reports on international trade in either ethinamate or methyprylon since 1991.

145. In 2001, two more substances were added to the group of sedative-hypnotics in Schedule IV: *gamma*-hydroxybutyric acid (GHB) and zolpidem. The data that have been supplied on GHB are not yet comprehensive enough to allow statistical interpretation. Data on zolpidem are available for 2001 and 2002 for a number of countries. The main manufacturer is France, which accounts for 96 per cent of global output (51 tons). Other countries manufacturing zolpidem are the Czech Republic, Argentina, Germany, Slovakia, China and Hungary. The main exporter of zolpidem is also France, which accounts for 93 per cent of global output (35.5 tons).

Analgesics

146. Lefetamine is the only analgesic included in Schedule IV. No manufacture of and no trade in the substance have been reported since 1996. One kg of the substance is currently held in stock by Italy.