

COMMENTS ON REPORTED STATISTICS

COMMENTAIRES SUR LES STATISTIQUES COMMUNIQUÉES

COMENTARIOS SOBRE LAS ESTADÍSTICAS DECLARADAS

COMMENTS ON REPORTED STATISTICS

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 91-222 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 111 substances listed in the four schedules of the 1971 Convention. With respect to psychotropic substances in Schedules II and III of the 1971 Convention, the information on the five-year period 1995-1999

is presented in the statistical tables. With respect to substances in Schedule IV, information on the three-year period 1997-1999 is included in the statistical tables. Since only a few Governments have reported manufacture of substances in Schedule I and since international trade in those substances has been very limited, no statistical tables are presented on substances in that schedule. For the same reasons, no statistical tables are presented for the substances mecloqualone and phencyclidine, both included in Schedule II, and for lefetamine, included in Schedule IV. Statistics reported on substances in Schedule I and on mecloqualone, phencyclidine and lefetamine are, however, reflected in the comments.

Substances listed in Schedule I

3. There are currently 27 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 which 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. 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 7.9 tons annually in the period 1995-1999. At the end of 1999, 1.2 tons of DMA were held in stocks in the United States. There is reportedly no substitute for DMA in the above-mentioned manufacturing process. The use of DMA in the United States for that purpose is therefore expected to continue.¹

5. In 1999, the United States reported for the first time the use of PMA for the manufacture of non-psychotropic substances to be used for medical and scientific purposes. Of the 31 kg of PMA manufactured, 29 kg were used for such manufacture and 2 kg were added to stocks.

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 Δ -8-tetrahydrocannabinol, have been manufactured in the United States and used in the manufacture of

Δ -9-tetrahydrocannabinol (Δ -9-THC), a psychotropic substance listed in Schedule II since 1991. In 1992, the United States reported the manufacture of 15 kg of isomers of THC included in Schedule I. 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, 61 kg were manufactured in 1998 and almost 147 kg were manufactured in 1999. Stocks held in the United States were reduced from 119 kg in 1998 to 101 kg in 1999.

7. In addition to DMA, PMA and THC, 14 other substances listed in Schedule I were manufactured in the United States in the period 1995-1999. The quantities manufactured usually amounted to a few grams. The substances were brolamfetamine, DMT, eticyclidine, *N*-ethyl-tenamfetamine (*N*-ethyl-MDA), (+)-lysergide, MDMA, mescaline, methcathinone, 4-methylaminorex, psilocine, rolicyclidine, STP or DOM, tenamfetamine (MDA) and tenocyclidine. Only five other countries have reported the manufacture of substances in Schedule I since 1995. A few grams of substances in Schedule I have been manufactured in Australia (brolamfetamine, DMA, MDA, MDMA and mescaline), Israel ((+)-lysergide, MDA, MDMA, tenocyclidine and THC), the Netherlands (*N*-ethyl-MDA and MDMA), Switzerland (DMT, mescaline, MDA and MDMA) and the United Kingdom of Great Britain and Northern Ireland ((+)-lysergide, MDMA and mescaline).

8. Quantities of substances in Schedule I, ranging from a few grams to several hundred grams, were held in stocks at the end of 1999, mainly in the United States. Those substances were brolamfetamine, cathinone, DET, DMT, DOET, *N*-ethyl-MDA, eticyclidine, etryptamine, *N*-hydroxy-tenamfetamine (*N*-hydroxy-MDA), (+)-lysergide, MDA, MDMA, mescaline, methcathinone, 4-methylaminorex, 3-methoxy-4,5-methylenedioxyamfetamine (MMDA), psilocine, psilocybine, rolicyclidine, STP or DOM, tenocyclidine and TMA. Stocks of most of those substances have been relatively stable in recent years. Stocks of DMA, PMA and THC are referred to in paragraphs 4-6 above.

¹See *Report of the International Narcotics Control Board for 1994* (United Nations publication, Sales No. E.95.XI.4), para. 75.

9. Other countries reporting stocks of a few grams of substances in Schedule I at the end of 1999 were Australia (brolamfetamine, DMA, *N*-ethyl-MDA, MDA, MDMA, mescaline, PMA and STP or DOM), Denmark (DMT, mescaline, STP or DOM, and THC), Israel (cathinone, (+)-lysergide, MDA, MDMA, PMA, tenocyclidine and THC), Italy (DMA), the Netherlands (mescaline), Switzerland (DMT, mescaline, MDA, MDMA and psilocybine) and the United Kingdom (mescaline).

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 1995-1999, in addition to the above-mentioned countries or areas, small imports or exports of some of those substances were reported by Austria, Colombia, Cuba, France, Germany, the Hong Kong Special Administrative Region of China, Ireland, Japan, New Zealand, Singapore, Spain and Turkey.

Substances listed in Schedule II

11. Listed in Schedule II are 15 substances whose liability to abuse constitutes a substantial risk to public health and which have little to moderate therapeutic usefulness. The substances belong to the following groups: central nervous system stimulants; hallucinogens; sedative-hypnotics; and antitussives. In addition to having various applications in human and/or veterinary medicine, some of those 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 (levamfetamine and dexamfetamine) and their racemic mixture (amfetamine), as well as both optical isomers of methamphetamine (levomethamphetamine and metamfetamine) and their racemic mixture (metamfetamine racemate), are listed in Schedule II. Statistical reports on amfetamine, dexamfetamine and metamfetamine have been received by INCB from Governments since the 1970s. Statistics for levamfetamine and levomethamphetamine have been available since 1986 and statistics for metamfetamine racemate since 1988, owing to the different dates on which those substances were brought under the control of the 1971 Convention.

13. Of the amphetamines in Schedule II that are manufactured worldwide, only a portion is used directly for medical purposes. Most of the quantities manufactured are first used in industry as intermediary products for the manufacture of other substances. These new substances may be divided into two groups: other psychotropic substances, including those that are optical isomers of the original substance; and substances not controlled under the 1971 Convention. The demand for the final products is the factor determining the changes in the level of manufacture of most amphetamines.

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 for the treatment of obesity has been discontinued or significantly reduced in most countries. Since the late 1970s,

the quantities of amphetamines used directly for medical purposes have been very low in almost all countries. The main exception is the United States, where the medical use of amfetamine and dexamfetamine significantly increased during the 1990s. An increase in the use of dexamfetamine also occurred during the same period in a few other countries, including Australia, Canada and the United Kingdom. The quantity of levomethamphetamine used in the United States for the manufacture of nasal inhalants applied as decongestants has remained relatively unchanged. In 1999, the quantity of amphetamines in Schedule II that were manufactured worldwide for direct medical use totalled around 10 tons (approximately 670 million defined daily doses (DDD)), of which more than 95 per cent was destined for use in the United States. The worldwide manufacture of amphetamines for direct medical use in 1999 was more than twice as high as in 1998 and was almost nine times higher than in 1991.

15. In the United States, the medical needs for dexamfetamine are covered by domestic manufacture. While the manufacture of dexamfetamine 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, increased to 2.4 tons in 1998 and rose significantly in 1999 to a record level of almost 7.3 tons. Of the dexamfetamine manufactured in 1999, almost 4.7 tons were used for the manufacture of pharmaceutical products and 2.5 tons were added to stocks. Thus, stocks of dexamfetamine rose from only 365 kg in 1998 to 2.9 tons in 1999. The United States reported the export of 55 kg of the substance in 1999. The very sharp increase in the use of dexamfetamine in the United States, in particular since 1998, is attributable to a significant rise in its prescription for the treatment of ADD (called attention-deficit/hyperactivity disorder (ADHD) in that country). The substance is also used, to a much lesser extent, for the treatment of obesity and narcolepsy.

16. In Australia and Canada, the medical needs for dexamfetamine are covered by imports. Dexamfetamine imports by Australia rose from only 6 kg in 1991 to 61 kg in 1995 and then continued to increase sharply to 149 kg in 1999. Dexamfetamine imports reported by Canada rose from 7 kg in 1991 to 85 kg in 1997 and reached 55 kg in 1999. Dexamfetamine is also imported into the United Kingdom. Those imports averaged about 40 kg annually in the period 1997-1999.

17. The United States is also the main user of amphetamine for medical purposes. The medical use of that substance has increased significantly since 1998, when products combining both amphetamine and dexamphetamine started to be used for the treatment of ADD. In 1999, around 2 tons of amphetamine were required for such use in the United States, while only about 20 kg of the substance were needed for medical use in 1996. The use of metamphetamine in the United States is significantly lower (around 35 kg annually). Both the amphetamine and the metamphetamine consumed in the United States are obtained almost exclusively from domestic manufacture. The other countries using those substances cover their needs mostly through imports. In 1999, the main importer of amphetamine was Germany (22 kg), followed by Switzerland (18 kg) and Belgium (10 kg). The main importer of metamphetamine in 1999 was Chile (17 kg).

18. In recent years, about 400 kg of levomethamphetamine have been used annually in the United States for the manufacture of nasal inhalants, which are exempted in that country from certain control measures in accordance with article 3 of the 1971 Convention. The preparations have been for domestic use only.

19. The countries with the highest levels of medical use of amphetamines, calculated on the basis of statistics provided for the period 1997-1999² and expressed in DDD per 1,000 inhabitants per day,³ are listed in table 1.

Table 1. Medical use of amphetamines, 1997-1999

Country	DDD per 1,000 inhabitants per day
United States of America	3.02
Australia	1.21
Chile	0.44
United Kingdom of Great Britain and Northern Ireland	0.34
Canada	0.33
Iceland	0.21
Belgium	0.18
Sweden	0.12
Norway	0.10
New Zealand	0.07

Use as intermediary products

20. Most amphetamines manufactured worldwide are used in industry as intermediary products, 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). The quantity of amphetamines converted into anorectics worldwide totalled about 7.5 tons in 1998 and increased to 13 tons in 1999. About 4.5 tons of ampheta-

mines were used for conversion into selegiline in 1998, and that figure rose to 5.5 tons in 1999. 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.

21. In the 1990s, bulk manufacture of amphetamines has 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.

22. In France, the manufacture of amphetamine averaged approximately 12 tons annually in the period 1991-1995. The manufacture of that substance dropped to less than 3.5 tons in 1996 and increased again to more than 12 tons annually in 1997 and 1998 before declining to 5.3 tons in 1999. Amphetamine has been used in France for conversion into either dexamphetamine or fenproporex. Dexamphetamine has been converted further into clobenzorex or has been exported. Levamphetamine obtained during the process of separating dexamphetamine from amphetamine has been used again for the manufacture of amphetamine by racemization.

23. 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 ton annually in the period 1995-1998. In 1999, however, almost 2 tons were used for that purpose.

24. The quantity of amphetamine used in France for the manufacture of dexamphetamine averaged about 9 tons annually in the period 1991-1995. That figure dropped to 3 tons in 1996 but rose again to almost 10 tons annually in 1997 and 1998. Only 4.7 tons of amphetamine were used for that purpose in 1999. The quantity of dexamphetamine obtained through that process averaged about 2.5 tons annually between 1991 and 1995. Dexamphetamine manufacture declined to about 1 ton in 1996 but increased to an annual average of 3.1 tons in the period 1997-1998. In 1999, less than 1.4 tons were manufactured. Until 1995, approximately 2 tons of dexamphetamine were used annually in France for conversion into clobenzorex. Only 800 kg of dexamphetamine were converted into clobenzorex in 1996, while the quantity of dexamphetamine used for that purpose averaged more than 2 tons annually in the period 1997-1999. Exports of dexamphetamine from France declined from an annual average of 875 kg in the period 1991-1993 to an annual average of about 180 kg in 1998 and 1999.

25. A total of 12.5 tons of metamphetamine racemate was manufactured in France in the period 1995-1999. 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 and amounting to 812 kg in 1999. The substance has mainly been exported (a total of more than 8 tons since 1995) or divided into levomethamphetamine and metamphetamine. Levomethamphetamine has mainly been used for export (a total of 1.4 tons in the period

²The method of calculating levels of consumption of psychotropic substances is explained in the explanatory note to table IV of the present publication.

³The list of defined daily doses (DDD) used in these calculations is presented in table III of the present publication.

1995-1997). In France, that substance has also been converted into selegiline. The amount of levomethamphetamine used for that purpose has varied (116 kg in 1995 and 90 kg in 1998). Metamphetamine obtained during the process of separating levomethamphetamine has been added to stocks, which amounted to 3 tons in 1996 and remained at that level in the period 1997-1999.

26. Germany started to manufacture levomethamphetamine 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 1995-1999 was 7.2 tons, of which 5.4 tons were converted into selegiline and the rest was added to stocks. 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 almost 1.9 tons of the substance were manufactured in 1998 and 2.6 tons were manufactured in 1999, all of which were converted into levopropylhexedrine.

27. Between 1991 and 1998, the annual manufacture of amfetamine 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 and 1.5 tons were manufactured in 1998. In 1999, however, the manufacture of amfetamine rose sharply, to a record level of 8.3 tons. Amfetamine was used almost entirely for conversion into fenproporex. 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.

28. In the 1990s, the trend in the manufacture of amfetamine in the United States mainly reflected changes in the demand for dexamfetamine, into which it was converted. Since 1998, however, amfetamine itself has also been directly used in large quantities for medical purposes (see paragraph 17 above). The manufacture of amfetamine averaged 6.8 tons annually in the period 1995-1997. In 1998, the manufacture of that substance increased sharply to a record level of 16 tons and declined to 9.4 tons in 1999. The stocks of amfetamine rose from only about 800 kg in 1997 to 6.3 tons in 1998 and were 4.2 tons in 1999. Dexamfetamine has been used almost entirely for medical purposes (see paragraph 15 above). In 1995, 100 kg of dexamfetamine and 152 kg of levamfetamine were converted into norselegiline. 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). The substance has been divided into levomethamphetamine and metamfetamine. Levomethamphetamine has mainly been used for medical purposes (see paragraph 18 above) or has been exported (800 kg in 1996). Metamphetamine has primarily been converted into benzfetamine (about 700 kg annually), in addition to being used, to a limited extent, directly for medical purposes (see paragraph 17 above).

29. In 1997, Hungary reported for the first time the manufacture of metamfetamine (2.3 tons) and used the substance for conversion into selegiline. The manufacture

of metamfetamine in Hungary increased to 4 tons in 1998 and to almost 6 tons in 1999. The quantity of the substance converted into selegiline totalled 3.5 tons in 1998 and 5.2 tons in 1999. In Ireland and Israel, selegiline has been manufactured from levomethamphetamine imported from other countries. Ireland imported a total of 1.4 tons of levomethamphetamine in the period 1995-1997 and used it for that purpose. Israel last reported the import of levomethamphetamine in 1996 (200 kg). Ireland imported 100 kg of amfetamine in 1997 for conversion into amfetaminil.

Fenetylline

30. 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 in Switzerland in 1991 and of 50 per cent of 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.⁴ Currently, Germany is the only country holding stocks of fenetylline (654 kg at the end of 1999). In recent years, Belgium, Germany and Israel 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. The amount of fenetylline imported each year by Belgium has been stable, averaging less than 45 kg in the period 1995-1999. The consumption of fenetylline in Germany is about 25 kg annually; the figure for Israel is about 15 kg annually.

Methylphenidate

31. The extent to which methylphenidate is used for medical purposes increased significantly in the 1990s. That was mainly a result of developments in the United States, where the substance is frequently prescribed for the treatment of ADD (called ADHD in that country), primarily in children. 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.

32. Global manufacture of methylphenidate rose very rapidly in the first half of the 1990s, from 2.8 tons in 1990 to 12.8 tons in 1995. It amounted to 15.3 tons in 1997, dropped to 13.5 tons in 1998, and reached a record level of 19.1 tons, or almost 640 million DDD, in 1999 (see figure 1). The United States has been the leading manufacturer of methylphenidate, increasing its manufacture of that substance from 1.8 tons in 1990 to 10 tons in 1995 and then gradually increasing it further to a record level of almost 15 tons in 1999. Almost all of the methylphenidate manufactured in the United States has been for domestic use; only 103 kg were exported in 1999. Stocks

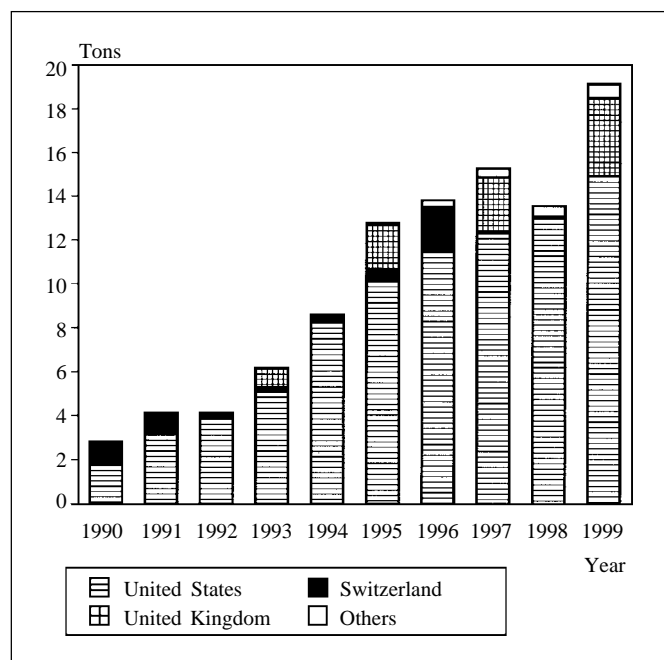
⁴See *Report of the International Narcotics Control Board for 1999* (United Nations publication, Sales No.E.00.XI.1), para. 85.

of methylphenidate in the United States increased significantly from 500 kg in 1992 to 10.1 tons in 1999. Serious concerns have been raised in the United States about the possible overdiagnosing of ADD and overprescribing of methylphenidate. Cases involving diversion of the substance for illicit use have been identified.⁵

33. The medical requirements for methylphenidate outside the United States are mainly covered by imports from Switzerland and, to a lesser extent, from Spain, 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, reached a record level of more than 1.7 tons in 1998 and decreased to a level slightly below that in 1999. Exports of the substance from Switzerland are drawn from local manufacture of the raw material and, since 1993, from occasional imports of methylphenidate raw material from the United Kingdom. In 1999, 3.6 tons of methylphenidate raw material were manufactured in the United Kingdom, of which 2.9 tons were exported to Switzerland. Exports of methylphenidate from Spain, which are based on local manufacture, increased significantly, from 26 kg in 1995 to an average of almost 300 kg annually in the period 1997-1999.

34. The number of countries and territories importing methylphenidate for domestic consumption has been growing. Since 1995, more than 100 Governments have reported such imports. Canada, the country with the second highest consumption of methylphenidate, increased its imports of that substance from 110 kg in 1990 to a record level of 874 kg in 1996. Methylphenidate imports in Canada then

Figure 1. Manufacture of methylphenidate 1990-1999



⁵See 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.

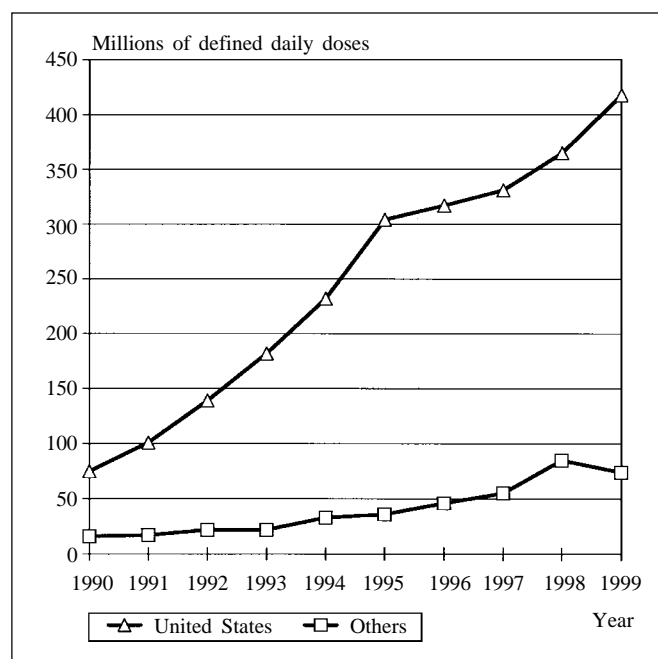
declined slightly to an average annual level of 732 kg in 1998 and 1999. From 1990 to 1999, methylphenidate imports rose in Australia from 12 kg to 159 kg, in Germany from 17 kg to 245 kg, in the Netherlands from 6 kg to 177 kg and in the United Kingdom from 3 kg to 188 kg. In Japan, where methylphenidate is used almost exclusively for the treatment of narcolepsy, imports of that substance increased from 69 kg in 1990 to an annual average of 156 kg in 1998 and 1999. In addition to the above-mentioned countries, 12 other countries imported more than 10 kg of methylphenidate in 1999.

35. The United States accounted for about 85 per cent of the worldwide medical use of methylphenidate in 1999 (see figure 2). The countries with the highest level of medical use of methylphenidate, calculated on the basis of statistics provided for the period 1997-1999² and expressed in DDD per 1,000 inhabitants per day,³ are listed in table 2.

Table 2. Medical use of methylphenidate, 1997-1999

Country or territory	DDD per 1,000 inhabitants per day
United States of America	3.80
Canada	2.03
New Zealand	1.08
Switzerland	1.04
Iceland	0.84
Australia	0.73
Netherlands	0.56
United Kingdom of Great Britain and Northern Ireland	0.45
Norway	0.43
Israel	0.38
Costa Rica	0.35
Belgium	0.30
Germany	0.20
Spain	0.15
Chile	0.12
Denmark	0.12

Figure 2. Calculated consumption of methylphenidate, 1990-1999



36. In 1998 and 1999, a total of 430 kg of methylphenidate was manufactured in Japan for conversion into a non-psychotropic substance. The substance is used in that country for research purposes by the pharmaceutical industry.

Phenmetrazine

37. 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.

Hallucinogens

Δ-9-tetrahydrocannabinol and its stereochemical variants

38. The substance Δ-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 Δ-9-THC in significant quantities. The annual manufacture of Δ-9-THC in that country was relatively stable, averaging 66 kg in the period 1995-1999. Israel and the United Kingdom have each reported the occasional manufacture of a few grams of the substance. Almost all of the Δ-9-THC manufactured in the United States was used domestically. Exports of the substance from the United States reached 1.5 kg in 1999. The largest imports of the substance were reported by Canada (976 grams) and Germany (446 grams).

Phencyclidine

39. Phencyclidine has been primarily used as an anaesthetic agent in veterinary medicine. Since 1995, its manufacture has been reported by France (135 grams in 1995), Israel (47 grams in 1995 and 17 grams in 1998), the United Kingdom (43 grams in 1996 and 22 grams in 1999) and the United States (a total of 183 grams in the period 1995-1998). The United States is the country holding the highest level of stocks of the substance (2.4 kg in 1999). International trade in phencyclidine has been limited to occasional transactions of only a few grams.

Sedative-hypnotics

Mecloqualone

40. Mecloqualone has not been manufactured since 1980. A few grams of the substance are held in stocks in the United States.

Methaqualone

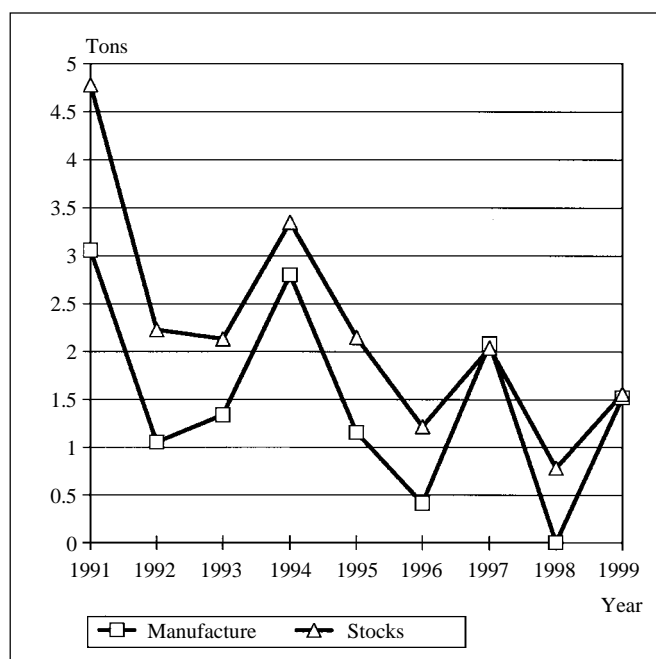
41. In the early 1980s, the manufacture of methaqualone peaked at a level of more than 50 tons annually. A significant portion of that was diverted for non-medical use. The

diversion of methaqualone has been gradually eliminated as a result of control measures adopted by Governments pursuant to recommendations by INCB and the close cooperation of national authorities with the Board in the identification of diversion attempts.⁴ The medical use of methaqualone has been discontinued in most countries. In recent years, Belgium and Switzerland have been the only countries using the substance in significant quantities for medical purposes. In Belgium, where more than 800 kg of methaqualone were used annually in 1991 and 1992, the consumption of the substance dropped to an annual average of about 13 kg in the period 1996-1999. In Switzerland, annual requirements for methaqualone are estimated by the authorities to be around 300 kg. In Belgium, the medical needs for methaqualone have been covered by imports from the Czech Republic, where the substance is occasionally manufactured (almost 43 kg in 1997). In Switzerland, 340 kg of methaqualone were manufactured in 1997, exclusively for domestic use. At the end of 1999, 1.6 tons of methaqualone were held in stocks in Switzerland. The only other country reporting stocks of more than 1 kg was Albania, where 33 kg of methaqualone were held at the end of 1999.

Secobarbital

42. 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 of the substance were manufactured in 1988; however, that figure dropped to 2.6 tons in 1990 and declined further to an annual average of 1.8 tons in the period 1993-1995. Since then, the quantity manufactured has been very irregular, ranging from 4 kg in 1998 to more than 2 tons in 1997 (see figure 3). In 1999, the manufacture of secobarbital reached 1.5 tons (15 million DDD).

Figure 3. Secobarbital: total reported stocks and manufacture, 1991-1999



43. Denmark has been the leading manufacturer of secobarbital, using the substance exclusively for exports. The manufacture of secobarbital in that country dropped from 7 tons in 1988 to 2.6 tons in 1990. In the period 1991-1995, the manufacture of that substance in Denmark averaged about 1.2 tons annually. No manufacture of secobarbital took place in Denmark in 1996 and 1998, whereas 1.6 tons were manufactured in 1997 and 729 kg were manufactured in 1999. In the 1990s, only two other countries, namely Japan and the United States, manufactured secobarbital regularly, almost exclusively for domestic use. The manufacture of the substance in Japan has been stable at around 3 kg annually. In the United States, secobarbital manufacture gradually declined from 1,100 kg in 1991 to 244 kg in 1995 but rose again to an annual average of around 400 kg in the period 1996-1999. In several other countries, the medical needs for secobarbital have been covered by imports. The major importers of the substance have been Belgium, Canada,

Ireland, the Netherlands, Spain, South Africa and the United Kingdom.

Antitussives

Zipeprol

44. Zipeprol was brought under international control in 1995. Statistics on the substance have been available only since that year. The manufacture of zipeprol has been reported by only France (1.3 tons in 1996) and the Republic of Korea (a total of almost 1.3 tons in the period 1996-1998). Switzerland holds the highest level of stocks of zipeprol (almost 1.5 tons in 1999), representing 75 per cent of the world's stocks of that substance. Switzerland was also the leading exporter of the substance in 1999 (1.3 tons). In 1999, the main importers of zipeprol were the Republic of Korea (770 kg), Mexico (398 kg), Bolivia (100 kg) and Greece (97 kg).

Substances listed in Schedule III

45. Nine substances are listed in Schedule III. One belongs to the group of central nervous system stimulants, six to the group of sedative-hypnotics and two to the group of analgesics.

Central nervous system stimulants

Cathine

46. Cathine, a substance used as an anorectic, was included in Schedule III in 1986. Between 1986 and 1990, the manufacture of cathine was reported only by the former German Democratic Republic (approximately 1 ton annually). After 1990, Germany started to report cathine manufacture, mainly for export. In the period 1995-1997, Germany manufactured an average of about 4.5 tons of cathine annually; in 1998, however, no manufacture of the substance was reported by that country. In 1999, Germany again reported cathine manufacture (almost 4.3 tons). Switzerland submitted statistics on cathine for the first time in 1997, reporting the manufacture of 475 kg of the substance; in 1998 and 1999, however, no manufacture of cathine took place in that country.

47. South Africa has been a regular importer of cathine, increasing sharply its imports of the substance from less than 700 kg in 1992 to about 1.7 tons in 1995. In the period 1996-1998, its cathine imports remained stable, averaging about 1.6 tons. In 1999, the cathine imports of that country increased to almost 2 tons. Italy has also been a significant importer of cathine, re-exporting most of its imports of the substance (983 kg in 1999). Switzerland imported 1.3 tons of cathine in 1997; however, its imports of the substance amounted to only 486 kg in 1998 and 405 kg in 1999. The cathine imports of Switzerland have been destined mainly for re-export. France also reported the import of 475 kg of cathine in 1999, part of which was for re-export.

Sedative-hypnotics

Barbiturates

48. Four barbiturates are listed in Schedule III: amobarbital (since 1971), butalbital (since 1987), cyclobarbital (since 1971) and pentobarbital (since 1971). In 1990, total reported manufacture of those substances, recalculated in DDD, amounted to 1.3 billion DDD. In 1991 and 1992, their total manufacture decreased to under 900 million DDD annually. Following a sharp increase in 1993 to 1.6 billion DDD, their total reported manufacture gradually decreased to about 1 billion DDD in 1997 but increased again to 1.4 billion DDD in 1998. In 1999, however, their total manufacture dropped to 1.1 billion DDD, of which approximately 567 million DDD were of butalbital, 324 million DDD were of pentobarbital, 208 million DDD were of amobarbital and 2.6 million DDD were of cyclobarbital (see figure 4).

49. Only three countries, Brazil, Denmark and the United States, have reported the manufacture of butalbital (see figure 5). The leading butalbital manufacturer, the United States, reported fluctuations in its manufacture of the substance that ranged from 21 tons in 1990 to about 30 tons in 1991 and to over 47 tons in 1993. After 1994, the manufacture of the substance in that country stabilized at an average level of about 30 tons annually, increased to 37 tons in 1997 and then decreased gradually to 26.8 tons in 1999. 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. Denmark decreased its average annual manufacture of butalbital from approximately 18 tons in the period 1989-1990 to 7 tons in the period 1994-1995. Since 1996, Denmark has gradually increased its manufacture of that substance, which reached 15.6 tons in 1999. Brazil last reported the manufacture of butalbital in 1990 (5 tons).

Figure 4. Barbiturates listed in Schedule III: total reported manufacture, 1992-1999

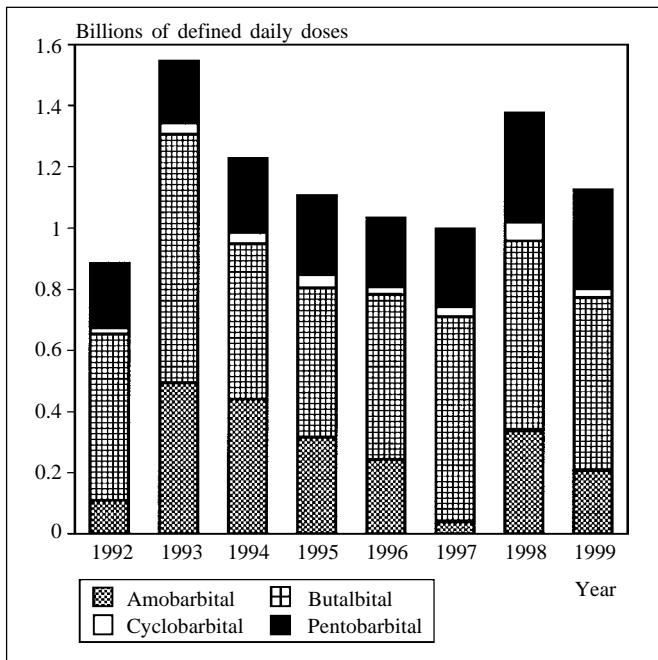
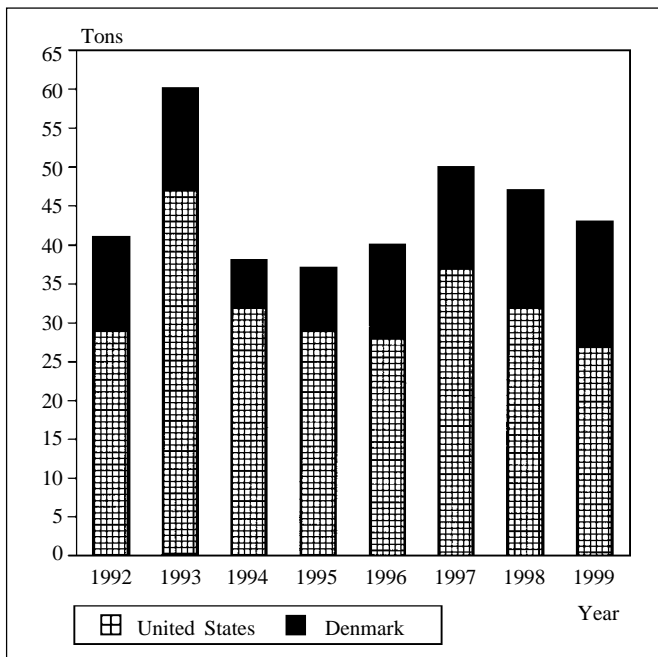


Figure 5. Butalbital: total reported manufacture, 1992-1999



50. Denmark has been the leading exporter of butalbital. Exports of that substance from Denmark, which amounted to about 20 tons in 1990, dropped to an annual average of 12 tons in the period 1991-1992 and decreased gradually to an annual average of 7.6 tons in 1995. In the period 1996-1998, Danish exports of the substance increased, averaging again about 12 tons annually. In 1999, butalbital exports of Denmark increased sharply to 18.5 tons. Exports of butalbital from the United States, which reached 5 tons in 1992, were negligible in the years 1993 and 1994, but averaged about 1.5 tons annually in the period 1995-1997. Since then,

exports of the substance in that country have decreased, amounting to 125 kg in 1998 and to only 50 kg in 1999.

51. Twenty countries and territories have reported imports of butalbital since 1993. Imports of butalbital by the United States have fluctuated sharply from year to year: in 1995, the country reported imports of the substance amounting to 3.8 tons; in 1996, that figure almost doubled to 7 tons; and in 1997, no imports of butalbital were reported. After that, however, butalbital imports in the United States amounted to more than 9 tons in 1998 and increased further to 11.5 tons in 1999. Annual imports of butalbital reported by Italy rose from 3 tons in 1995 to double that amount, 6 tons, in 1996 and increased further to 6.5 tons in 1997. Since then, annual butalbital imports into Italy have gradually declined, amounting to 5.3 tons in 1998 and 4.3 tons in 1999. Similarly, annual imports of butalbital reported by Canada rose gradually from 1.2 tons in 1995 to 2 tons in 1997 and then declined to about 1.5 tons in 1999. Denmark last reported the importation of a large quantity of butalbital in 1995 (1.6 tons).

52. The manufacture of pentobarbital has steadily increased in recent years, averaging almost 25 tons annually in the period 1995-1997 and increasing further to an annual average of 33.8 tons in the period 1998-1999 (see figure 6). The substance has been used in many developed and developing countries, in human and in veterinary medicine. The leading manufacturer of pentobarbital has been the United States, increasing its manufacture of the substance from just over 18 tons in 1998 to 20.5 tons in 1999. The amount of pentobarbital manufactured in Denmark averaged about 5 tons annually until 1997, when no manufacture of the substance was reported by that country. In the period 1998-1999, Denmark's manufacture of pentobarbital again averaged 5 tons annually. Switzerland submitted statistics on pentobarbital for the first time in 1997, when it reported the manufacture of 7.2 tons of the substance, mainly for export. Its manufacture of pentobarbital increased sharply to 10.7 tons in 1998 and then decreased to about 7 tons in 1999. In Japan, the manufacture of pentobarbital, mainly for domestic use, was stable at an average level of about 420 kg annually in the period 1995-1999. In 1998, Latvia reported for the first time the manufacture of 91 kg of pentobarbital, all of which was exported. No manufacture of the substance was reported by Latvia for 1999.

53. Switzerland has been the leading exporter of pentobarbital since 1997, exporting more than 10 tons annually. Pentobarbital exports by the United States have remained stable at about 5 tons annually in recent years. Between 1990 and 1995, Denmark exported large quantities of pentobarbital, averaging more than 4.7 tons annually. In the period 1996-1997, Denmark's average annual exports of the substance declined to 2.8 tons before increasing again to 4.3 tons in 1998 and 4.8 tons in 1999. Exports of pentobarbital by Canada have remained stable at an annual average of about 3.4 tons in recent years, except in 1997, when its exports amounted to 4.4 tons. In 1999, the only other country exporting more than 500 kg of pentobarbital was France; that country sharply increased its exports of the substance from 792 kg in 1998 to 2 tons in 1999.

Figure 6. Pentobarbital: total reported manufacture, 1990-1999

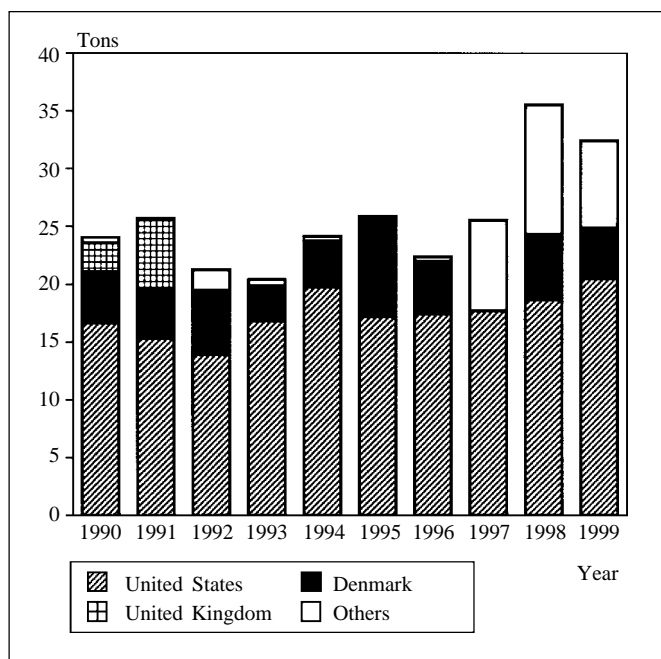
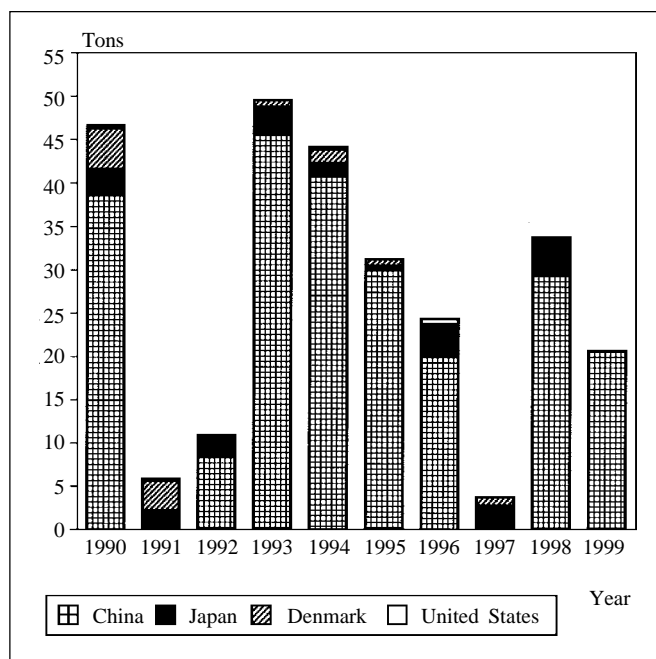


Figure 7. Amobarbital: total reported manufacture, 1990-1999



54. Since 1990, imports of pentobarbital in quantities of more than 1 kg have been reported by almost 60 countries and territories. The following countries imported the largest quantities of pentobarbital in 1999: Canada (5 tons), France (3.3 tons), United Kingdom (3.3 tons), United States (2.6 tons), Australia (1.7 tons), Germany (1.3 tons) and Switzerland (1 ton).

55. In recent years, the manufacture of amobarbital has occurred only in China, Denmark, Japan and the United States. Amobarbital manufacture in China gradually declined from a record level of more than 45 tons in 1993 to 20 tons in 1996. No manufacture of amobarbital was reported by China in 1997; however, the manufacture of that substance amounted to about 29 tons in 1998 and 20.7 tons in 1999 (see figure 7). The amobarbital manufactured in China has been destined for domestic use and for export. In Denmark, the manufacture of amobarbital was gradually reduced from more than 30 tons in the late 1970s to an annual average of approximately 4 tons in the years 1990 and 1991. After that, the manufacture of amobarbital in Denmark was only sporadic: a total of 4 tons of the substance was manufactured in that country in the period 1993-1997. No manufacture of the substance was reported by Denmark in 1998 and 1999. The manufacture of amobarbital in Japan has been destined exclusively for domestic use, averaging about 2.3 tons annually in the period 1992-1996. Japan's manufacture of the substance then increased sharply from about 2.8 tons in 1997 to 4.4 tons in 1998. In 1999, however, the amount of amobarbital manufactured in Japan dropped to only 60 kg. The manufacture of the substance in the United States has been sporadic (253 kg in 1994 and 634 kg in 1996).

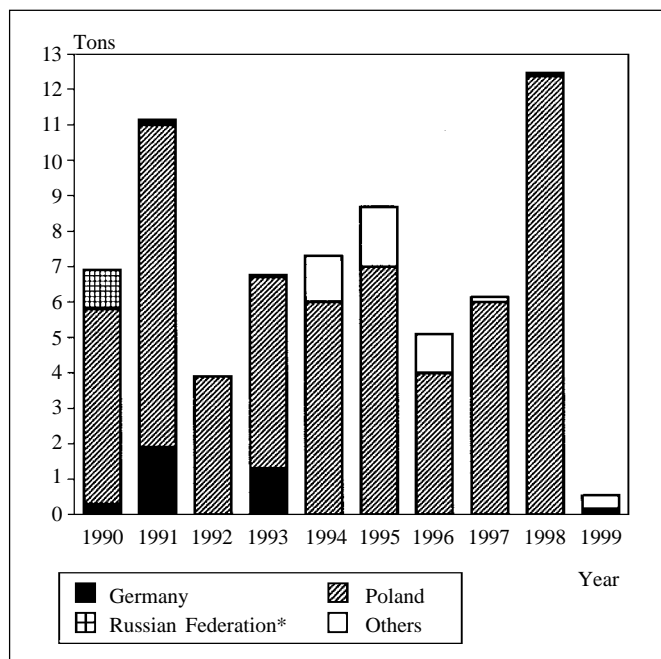
56. The Netherlands has been the major exporter of amobarbital in recent years. It reported having exported 4 tons of that substance in 1995. Whereas no exports of amobarbital were reported by the Netherlands in 1996, its exports of that substance amounted to 4 tons again in 1997, decreased to 2.3 tons in 1998 and increased more than twofold to 5 tons in 1999. Exports of amobarbital from China have fluctuated

considerably. China reported the export of about 4.7 tons of amobarbital in 1995 and no exports of that substance in 1996. From 1997 to 1999, however, China's amobarbital exports increased sharply from 850 kg to 5 tons.

57. The Netherlands has been a major importer of amobarbital in recent years, re-exporting almost all of its imports of the substance. It reported having imported 4 tons of amobarbital in 1995. In 1996, however, its imports of the substance were negligible. In 1997, it again imported 4 tons of amobarbital. Its imports of that substance declined sharply to 2.3 tons in 1998. In 1999, the Netherlands reported the import of 5 tons of amobarbital. Romania has also been a major importer of amobarbital in recent years, importing 10 tons of the substance for domestic use in 1994 and 5 tons of the substance in 1995. Though Romania reported no imports of amobarbital in 1996, it imported 4 tons of the substance in 1997 and 2.4 tons of the substance in 1998. For 1999, no statistical report has been submitted by Romania. The other main importers of amobarbital in 1999 were Hungary (400 kg), Ireland (284 kg) and the United Kingdom (282 kg). In 1999, eight other countries reported imports of amobarbital in quantities of more than 1 kg.

58. Cyclobarbital is a substance used mainly in some countries in central and eastern Europe. Poland has been the leading manufacturer of cyclobarbital in recent years. Between 1993 and 1997, cyclobarbital manufacture in Poland averaged 5.7 tons annually and increased sharply to 12.4 tons in 1998. For 1999, however, Poland reported no manufacture of the substance (see figure 8). The cyclobarbital manufactured in that country has been for domestic use and for export. In addition, 4.5 tons of the substance were added to stocks in Poland in 1998. The manufacture of cyclobarbital in Belgium, which averaged 750 kg annually in the period 1993-1996, has not been reported since 1997. Latvia, which reported manufacturing on average more than 500 kg of cyclobarbital annually in the period 1994-1996, decreased its manufacture of that substance to 139 kg in 1997 and to only 93 kg in 1998. In 1999, however, its cyclobarbital

Figure 8. Cyclobarbital: total reported manufacture, 1990-1999



*Data before 1992 relate to the former Union of Soviet Socialist Republics.

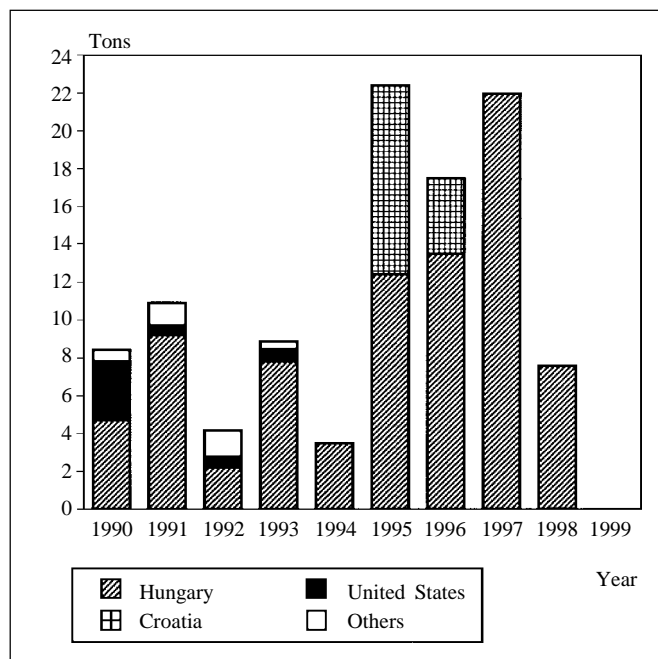
manufacture increased to 372 kg. In Latvia, the substance has been used for export and domestic use. In 1999, Germany started to report the manufacture of cyclobarbital (162 kg).

59. The main exporter of cyclobarbital has been Poland. The cyclobarbital exports of Poland remained stable at 2.4 tons annually in the period 1995-1998, except in 1997, when they reached 5 tons. In 1999, exports of the substance from Poland dropped sharply to only 1 ton. Switzerland increased its exports of cyclobarbital from 167 kg in 1998 to almost 600 kg in 1999. The only other countries reporting cyclobarbital exports exceeding 100 kg in 1999 were Latvia (276 kg) and Germany (254 kg). The Russian Federation has been the main importer of cyclobarbital since 1993. It imported an average of 2 tons of cyclobarbital annually in the period 1994-1996. Its imports of the substance then doubled, amounting to 4 tons annually in 1997 and 1998. In 1999, however, cyclobarbital imports by the Russian Federation decreased sharply to about 1.2 tons. The other major importers were Switzerland (600 kg) and Bulgaria (232 kg).

Glutethimide

60. In the early 1980s, world manufacture of glutethimide peaked, reaching record levels of more than 90 tons annually. The manufacture of that substance then gradually decreased to 8.4 tons in 1990 and to less than 4 tons in 1994. From 1995 to 1997, the manufacture of glutethimide remained stable at an average level of 20 tons annually. That figure dropped to 7.6 tons in 1998. In 1999, however, no manufacture of the substance was reported worldwide (see figure 9). The only manufacturers of significant amounts of glutethimide in recent years were Croatia (until 1996) and Hungary (until 1998). The manufacture of the substance in Hungary increased from an average level of 5.3 tons annually in the period 1990-1993 to 22 tons in 1997 and then decreased sharply to 7.6 tons in 1998. Croatia reported the manufacture of a total of 14 tons of glutethimide in 1995 and 1996. In 1993, Romania and the United States reported glutethimide

Figure 9. Gutethimide: total reported manufacture, 1990-1999



manufacture amounting to 393 kg and 649 kg, respectively, but then discontinued its manufacture.

61. Croatia and Hungary have also been the leading exporters of glutethimide in recent years, exporting large quantities of the substance to Switzerland, where it has been converted into aminoglutethimide, a non-psychotropic substance used as an antineoplastic agent. Since 1997, however, Croatia has discontinued its exports. In 1997 and 1998, Hungary was the main exporter of the glutethimide (14 tons). In 1999, however, Hungary exported only 650 kg of the substance. Imports of glutethimide for medical purposes have been reported regularly by Bulgaria (650 kg in 1999).

Flunitrazepam

62. Flunitrazepam was transferred from Schedule IV to Schedule III in 1995 (see also paragraphs 108-111 below). In 1998, the manufacture of flunitrazepam was reported only by Switzerland (428 kg) and Italy (146 kg). In 1999, Italy was the only country reporting the manufacture of the substance (480 kg). Other countries reporting flunitrazepam manufacture in recent years have been Brazil (223 kg in 1995 and 130 kg in 1996) and the Czech Republic (68 kg in 1994).

63. Switzerland has been the leading exporter of flunitrazepam in recent years. Stocks accumulated in Switzerland in previous years have been used for export (856 kg in 1999). Other countries reporting significant exports of the substance in 1999 were Italy (289 kg), Germany (36 kg), Ireland (31 kg) and the Czech Republic (24 kg). Japan, the main importer of flunitrazepam, steadily increased its imports of the substance from 220 kg in 1993 to 414 kg in 1999. The flunitrazepam imports of France averaged 230 kg annually in the period 1993-1995 and less than 170 kg annually in the period 1996-1998. In 1999, imports of the substance into France dropped to only 88 kg. Other main importers of the substance in 1999 were Germany (88 kg), the Czech Republic (72 kg), South Africa (68 kg) and Argentina (65 kg). Imports of flunitrazepam by Mexico, which

gradually decreased from 149 kg in 1994 to 15 kg in 1998, amounted to 21 kg in 1999. Fewer than 20 other countries in all regions of the world imported flunitrazepam in 1999 in quantities exceeding 1 kg.

64. 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 Governments, including major manufacturers and importers of the substance, have adopted strict control policies for flunitrazepam, in close cooperation with the pharmaceutical industry.

Analgesics

Buprenorphine

65. Buprenorphine was included in Schedule III in 1989. In addition to its use as an analgesic, the substance is also used in the detoxification and substitution treatment of heroin addicts in some countries. Total reported manufacture of the substance increased substantially, from 35 kg in 1989 to 460 kg in 1998, and then rose sharply to 980 kg in 1999. The United Kingdom has been the main manufacturer and user of buprenorphine. In the period 1994-1995, its manufacture of that substance was relatively stable, averaging more than 60 kg annually. After that, buprenorphine manufacture in the United Kingdom increased gradually from 274 kg in 1996 to 433 kg in 1998 and reached a record level of 922 kg in 1999. Seven other countries have reported the manufacture of buprenorphine since 1993. The substance has been regularly manufactured in Australia (34 kg in 1999) and India (22 kg in 1999). Other countries reporting the manufacture of buprenorphine are China, the Czech Republic, Hungary, the Netherlands and Poland.

Substances listed in Schedule IV

69. Sixty substances with various applications in medicine are listed in Schedule IV. Substances included in this 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 (3 substances); and analgesics (1 substance).

Central nervous system stimulants

70. There are 14 stimulants listed in Schedule IV: amfepramone, aminorex, benzfetamine, etilamfetamine, fencamfamin, fenproporex, mazindol, mefenorex, mesocarb, pemoline, phendimetrazine, phentermine, pipradrol and pyrovalerone. Only amfepramone and pipradrol were originally included in Schedule IV. All the other stimulants were added to it at later stages. The stimulants in Schedule IV are mainly used as anorectics or for the treatment of ADD.

66. The United Kingdom has been the main exporter of buprenorphine in recent years, exporting 207 kg of the substance in 1999. France has been a major importer of buprenorphine, increasing its imports of that substance gradually from 5 kg in 1994 to 201 kg in 1999. Imports of buprenorphine exceeding 1 kg were reported in 1999 by the United States (5 kg), Denmark (3 kg), Germany (2 kg) and Japan (2 kg). Reports of the abuse of buprenorphine preparations that had been diverted from licit sources have been received from several countries in Asia, in particular India, and from some countries in Africa and Europe.

Pentazocine

67. Pentazocine was included in Schedule III in 1984. Total reported manufacture of that substance fell gradually from more than 10 tons in 1984 to 1.3 tons in 1996 but then rose steadily to 5 tons in 1999. Italy has been a major manufacturer of pentazocine, reporting for 1999 the manufacture of almost 2.4 tons of that substance. Though India had not reported pentazocine manufacture during the period 1996-1998, it became the leading manufacturer of that substance in 1999, when it reported the manufacture of almost 2.5 tons of the substance. The United Kingdom, having manufactured 2.2 tons of pentazocine in 1998, reported no manufacture of the substance in 1999. The only other country manufacturing pentazocine in 1999 was the United States (about 200 kg). Slovenia reported the manufacture of pentazocine only in 1998 (103 kg).

68. Almost all of the pentazocine manufactured in Italy has been for export (about 2.5 tons in 1999). Other main exporters of pentazocine in 1999 were the United Kingdom (about 900 kg), Slovenia (370 kg) and the United States (242 kg). Major importers of the substance in 1999 were the United States (1.2 tons), Slovenia (470 kg), Japan (268 kg), Canada (215 kg) and Portugal (153 kg). Imports of more than 1 kg of pentazocine were reported for 1999 by about 30 other countries.

71. The total reported manufacture of the stimulants listed in Schedule IV, recalculated in DDD was 744 million DDD in 1999, more than twice the figure for 1998 (356 million DDD) but significantly less than the record figures reported for 1997 (2.7 billion DDD) and 1996 (3.9 billion DDD). The figure for 1999 was also below the annual average for total reported manufacture in the period 1991-1995 (1.2 billion DDD), when the level of manufacture was relatively stable (see figure 10).

72. The fluctuations in total world manufacture and use of stimulants were mainly a reflection of developments in the use of phentermine in the United States (see figure 11). The sharp increase in the consumption of that substance in the United States in 1996 and 1997 was attributed to its use for the treatment of obesity in a combination treatment involving phentermine and fenfluramine, commonly referred to as "phen/fen". Fenfluramine, an anorectic not under international control, was, however, withdrawn from the United States market in September 1997, following reports of serious adverse effects of that substance on health. After that, the consumption of phentermine dropped sharply in the United States (see also paragraph 76 below).

Figure 10. Central nervous system stimulants listed in Schedule IV: total reported manufacture, 1990-1999

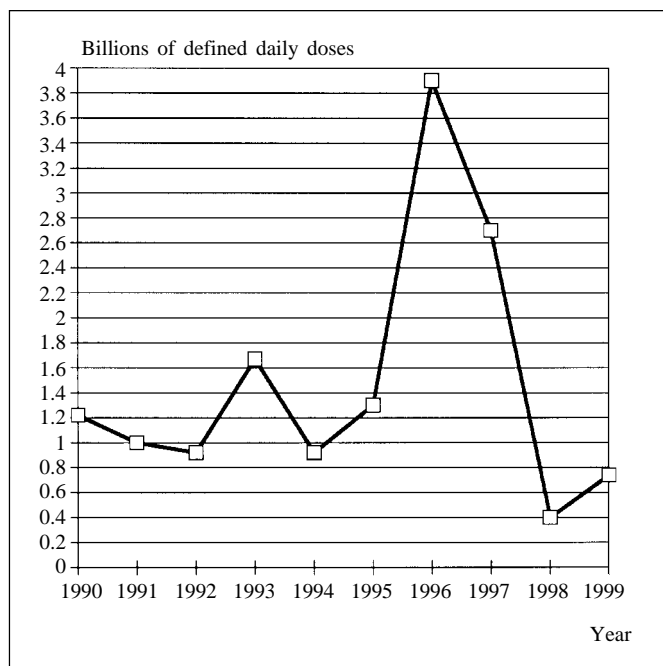
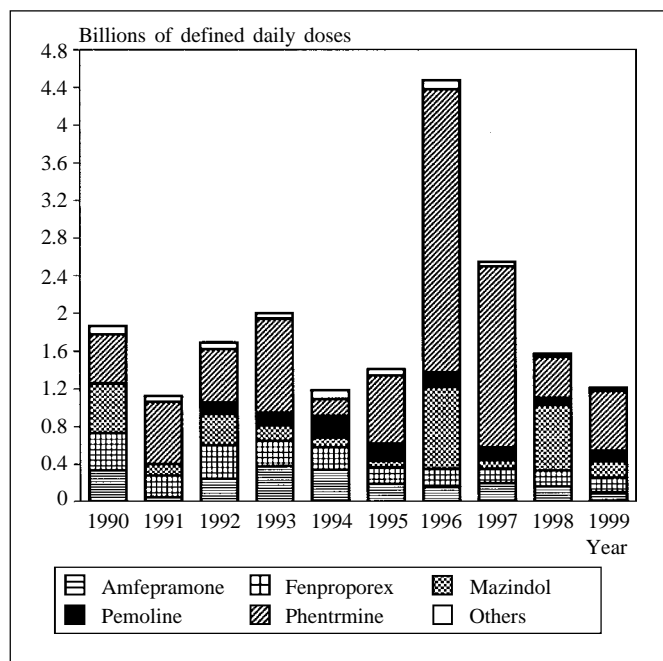


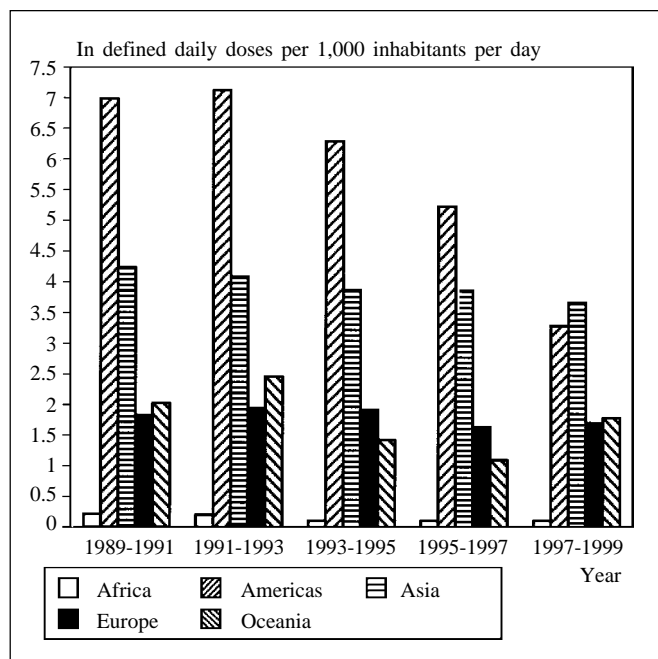
Figure 11. Central nervous system stimulants listed in Schedule IV: calculated global consumption,* 1990-1999



*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.

73. The highest per capita consumption of stimulants in Schedule IV has traditionally been in the Americas. The decline in the use of phentermine in the United States and measures against inappropriate use of certain stimulants in some countries in Latin America (e.g. Argentina and Chile) have led to a decrease in consumption levels. The consumption levels in the Americas, however, have remained high compared with those of other regions, with the exception of some countries in Asia (see figure 12). Of all the countries in the world, Singapore reported the highest calculated per

Figure 12. Central nervous system stimulants listed in Schedule IV: average national consumption in selected countries, by region,* 1989-1999



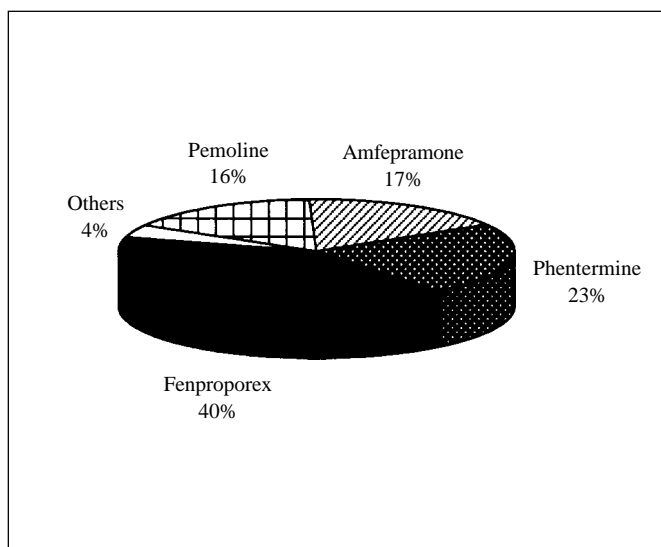
*Statistical data submitted by Governments are used to calculate the average annual consumption for a three-year period. Data from the five countries with the highest consumption were included in the calculation for each region.

capita use of stimulants in Schedule IV (7.5 DDD per 1,000 inhabitants per day) in the period 1997-1999. Reports of diversion and abuse of anorectics have been received from several countries in all regions of the world in recent years.

74. In 1999, of the total reported manufacture of the stimulants in Schedule IV, the reported manufacture of fenproporex (295 million DDD) accounted for 40 per cent, the reported manufacture of phentermine accounted for 23 per cent (or 174 million DDD), that of amfepramone accounted for 17 per cent (or 126 million DDD) and that of pemoline accounted for 14 per cent (or 119 million DDD). The total reported manufacture of the other stimulants in Schedule IV (benz-fetamine, phendimetrazine and pipradrol) amounted to less than 30 million DDD in 1999 (see figure 13).

75. Fenproporex, a substance mainly used as an anorectic, was brought under international control in 1986. Since then, only Brazil, France and Switzerland have reported its manufacture. 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. In 1997, Switzerland reported for the first time the manufacture of fenproporex (747 kg). The manufacture of that substance in Switzerland increased to 1.8 tons in 1998 and 3.8 tons in 1999. The manufacture of fenproporex in Brazil has been relatively stable in recent years, averaging less than 900 kg annually in the period 1995-1998 (no report was submitted for 1999). While Brazil has manufactured the substance almost exclusively for domestic consumption, its manufacture in France and Switzerland has been mainly for export. The leading importer of the substance was Brazil (averaging more than 1.1 tons annually in recent years), followed by Mexico (714 kg in 1999). Since 1995, 16 other countries, mainly in Latin America and southern Europe, have reported having imported the substance in quantities of more than 1 kg.

Figure 13. Central nervous system stimulants listed in Schedule IV: substances' share in total reported manufacture, 1999



76. Phentermine used to be the main substance in the group of stimulants in Schedule IV, its share of total stimulant manufacture fluctuating between one quarter and two thirds. In the period 1991-1995, the average annual manufacture of phentermine was about 9.5 tons; and in 1996, its total manufacture amounted to 50 tons, the highest level ever reported. In 1997, that figure decreased to 30 tons, and no manufacture of phentermine took place in 1998 (see paragraph 72 above). The United Kingdom and the United States together accounted for almost all phentermine manufacture in 1996 and 1997. In 1999, the United Kingdom resumed its manufacture of phentermine (2.6 tons) and no other country reported having manufactured the substance.

77. The United Kingdom has been the main exporter of phentermine in recent years (more than 3 tons in 1999). Imports of phentermine in quantities of more than 1 kg were reported in 1999 by almost 30 countries and territories. Several major importers of the substance, including Australia, the Netherlands and Switzerland, re-exported a significant share of their imports. In 1999, Thailand reported having imported the largest quantity of the substance (almost 1.3 tons), destined for domestic consumption. Phentermine continues to be consumed in large quantities in the United States, where stocks of that substance were reduced from 17 tons at the end of 1997 to less than 6.3 tons at the end of 1999.

78. In 1999, the total reported manufacture of amfepramone, a substance mainly used as an anorectic, amounted to about 9.4 tons, having significantly decreased from 18.9 tons in 1997. Only two countries reported having manufactured amfepramone in 1999: Switzerland (9.1 tons) and Italy (266 kg). Brazil, which reported the manufacture of 4.7 tons of the substance annually on average in the period 1995-1998, submitted no report for 1999. Switzerland was also the main exporter of amfepramone, having reported exports of more than 8 tons of the substance annually on average in the period 1997-1999. In Brazil, the amfepramone manufactured was almost exclusively for domestic use. In 1999, the largest imports of amfepramone were reported by Belgium (1.8 tons), Germany (1.4 tons) and Mexico (900 kg). Germany re-exported the imported amfepramone, whereas

Belgium and Mexico used its imports mostly for domestic consumption. Nineteen other countries reported imports of amfepramone in quantities of more than 1 kg in 1999. 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.

79. The manufacture of pemoline, a substance under international control since 1989, amounted to 8.7 tons in 1995. The manufacture of pemoline then declined sharply to 4.6 tons in 1997 and no manufacture of the substance was reported in 1998. In 1999, the manufacture of pemoline was resumed in three countries: Netherlands (1 ton), Switzerland (1 ton) and United States (2.8 tons). In the Netherlands and Switzerland, the substance is manufactured exclusively for export. In the United States, pemoline is mainly for domestic use, for the treatment of ADD. The substance is also imported into that country (1.1 tons in 1999). Stocks of pemoline in the United States amounted to 3.4 tons at the end of 1999.

80. In the 1980s and early 1990s, some of the international trade in pemoline was attributed to 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. In addition to the United States, Argentina has regularly been one of the main importers of pemoline, having gradually increased its imports of the substance from 1.4 tons in 1989 to a peak of 3.5 tons in 1993. The pemoline imports of Argentina decreased sharply to 600 kg in 1997 and dropped further to 423 kg in 1999. Pemoline is used in Argentina mainly as an anorectic and "energizer". The reduction in pemoline imports in Argentina appears to be a result of the introduction of stricter national control measures for the prescription of the substance. In 1999, 10 other countries reported imports of pemoline in quantities of more than 1 kg.

81. In 1998 and 1999, the manufacture of mazindol, a stimulant with a high potency (DDD of 1 mg), was reported only by Poland (a total of 26 kg, mainly for domestic use). Brazil last reported the manufacture of the substance in 1996 (115 kg). Significant stocks of mazindol are held in the United States (116 kg in 1999), Switzerland (104 kg in 1999) and Brazil (87 kg in 1998). Switzerland reported the largest exports of mazindol in 1998 and 1999 (a total of 98 kg), using imports and stocks accumulated in previous years. The largest imports of the substance were reported in 1999 by Switzerland (72 kg, to be re-exported or added to stocks) and by Mexico (47 kg, for domestic consumption). Fourteen other countries reported imports of the substance in quantities of more than 1 kg in the period 1995-1999.

82. Italy was the only manufacturer of phendimetrazine in the period 1993-1998. The manufacture of phendimetrazine in that country amounted to 4.1 tons in 1996, but it declined to 1.2 tons in 1998. In 1999, Italy manufactured 1.4 tons of the substance, but its manufacture was also reported by the United States (560 kg). The phendimetrazine manufactured in Italy was mainly for export (2 tons in 1999). The United States has been the main importer of the substance (1.5 tons in 1999). Since 1995, six other countries have reported imports of phendimetrazine in quantities of more than 1 kg.

83. Reports on the manufacture of and trade in the other stimulants included in Schedule IV have been sporadic. In

the period 1995-1999, the manufacture of benzphetamine was reported only by the United States (a total of 1.7 tons) and by Japan (6 kg in 1997), the manufacture of etilamfetamine was reported by Switzerland (7 kg in 1997) and the manufacture of pipradrol was reported by France (20 kg in 1999). No manufacture of aminorex, fencamfamin, mefenorex, mesocarb or pyrovalerone was reported during that period.

Benzodiazepine-type anxiolytics

84. 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.

85. 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. Some countries, such as Canada, have not yet started to report on benzodiazepines to INCB. Data from Austria on benzodiazepines have been made available only since 1998; such data from Belgium were provided for the first time in 1999.

86. Twenty-two benzodiazepines are generally classified as anxiolytics. The total reported manufacture of this group of substances, expressed in DDD, had previously reached its peak level of 20.8 billion DDD in 1994. That level was surpassed in 1999, which saw the highest level of manufacture of benzodiazepine-type anxiolytics ever reported (21.6 billion DDD).

87. Approximate consumption levels, calculated by INCB, follow the trends in manufacture (see figures 14 and 15). The year 1999 was also the year with the highest consumption level ever reported. The calculated average national consumption of benzodiazepine-type anxiolytics, expressed in defined daily doses per 1,000 inhabitants per day, is higher in Europe than in the other regions (see figure 16).

Figure 14. Benzodiazepine-type anxiolytics: total reported manufacture, by substance, 1990-1999

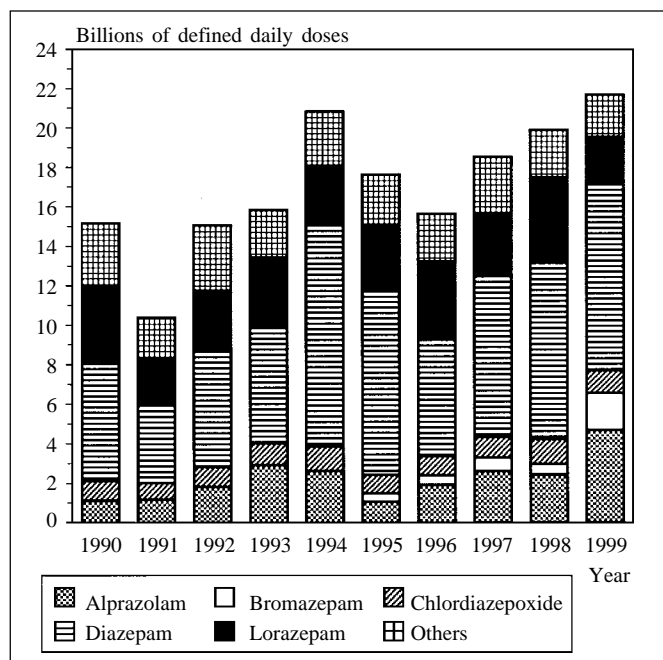
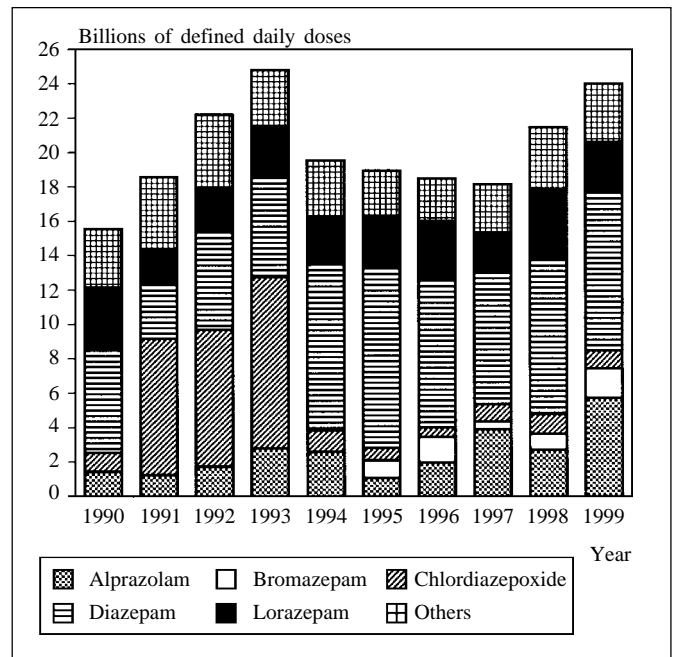
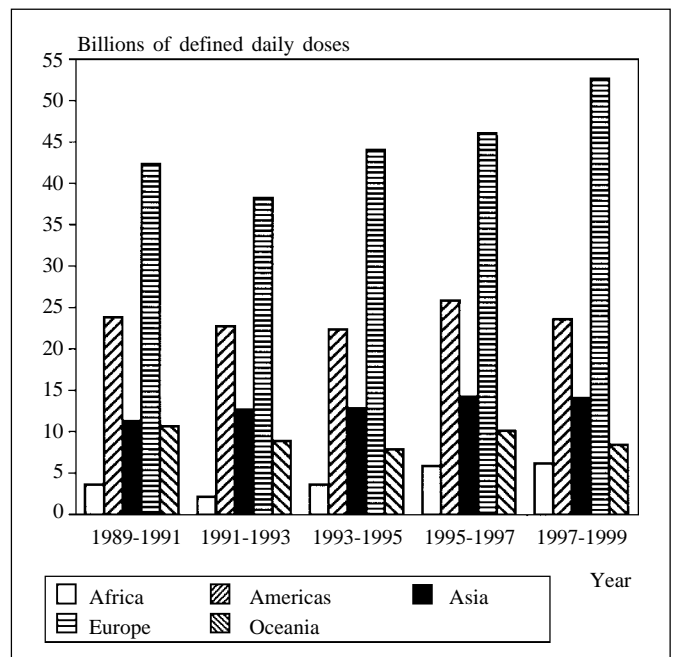


Figure 15. Benzodiazepine-type anxiolytics: calculated global consumption,* by substance, 1990-1999



*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.

Figure 16. Benzodiazepine-type anxiolytics: average national consumption, in selected countries, by region,* 1989-1999



*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.

88. 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.⁶

⁶See *Report of the International Narcotics Control Board for 1997* (United Nations publication, Sales No. E.98.XI.1), para 180; and *Report of the International Narcotics Control Board for 1998* (United Nations publication, Sales No. E.99.XI.1), para. 114.

89. 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. Until 1987, diazepam had always accounted for more than one half of the total manufacture of all benzodiazepine-type anxiolytics. Since the beginning of the 1990s, its share has fluctuated between one half and one third.

90. In 1999, the reported manufacture of diazepam accounted for 44 per cent of the total reported manufacture of benzodiazepine-type anxiolytics (or 9.5 billion DDD). The manufacture of alprazolam accounted for 22 per cent (or 4.7 billion DDD) and the manufacture of lorazepam accounted for 11 per cent (or 2.3 billion DDD) of the total. Bromazepam (1.9 billion DDD) chlordiazepoxide (1.1 billion DDD), oxazepam (588 million DDD) and clorazepate (461 million DDD) each accounted for between 2 and 9 per cent of the total reported manufacture in 1998 (see figure 17). The manufacture of clotiazepam and nordazepam was reported each to be 219 million DDD. The manufacture of tetrazepam, medazepam, clobazam and ethyl loflazepate was reported to be, respectively, 186 million DDD, 129 million DDD, 113 million DDD and 102 million DDD. The manufacture of less than 100 million DDD was reported for cloxazolam, halazepam, ketazolam and prazepam. No manufacture of camazepam, delorazepam, fludiazepam, oxazolam and pinzapem was reported for 1999.

91. Diazepam, the most traded substance in the group of benzodiazepine-type anxiolytics, is consumed in all regions of the world. During the period 1995-1998, global manufacture of diazepam averaged more than 83 tons annually. In 1999, its manufacture was reported by nine countries, and the total quantity manufactured amounted to 95 tons. China has traditionally been the major manufacturer and exporter of the substance. That country and the three other main manufacturers and exporters of diazepam, Italy, India and Switzerland, account for more than 99 per cent of world manufacture of that substance (see figures 18 and 19).

Figure 17. Benzodiazepine-type anxiolytics: substances' share in total reported manufacture, 1999

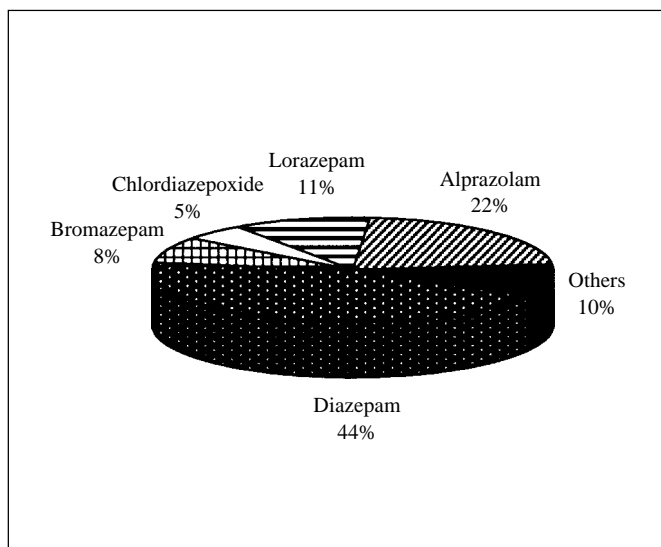


Figure 18. Benzodiazepine-type anxiolytics: countries' share in total reported manufacture, 1999

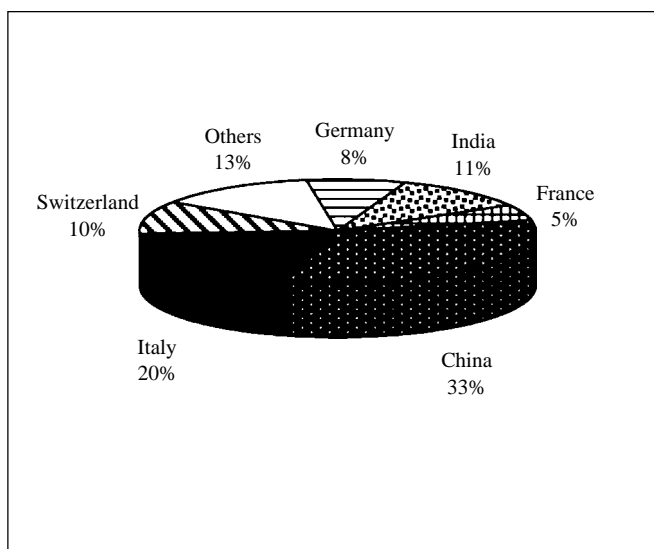
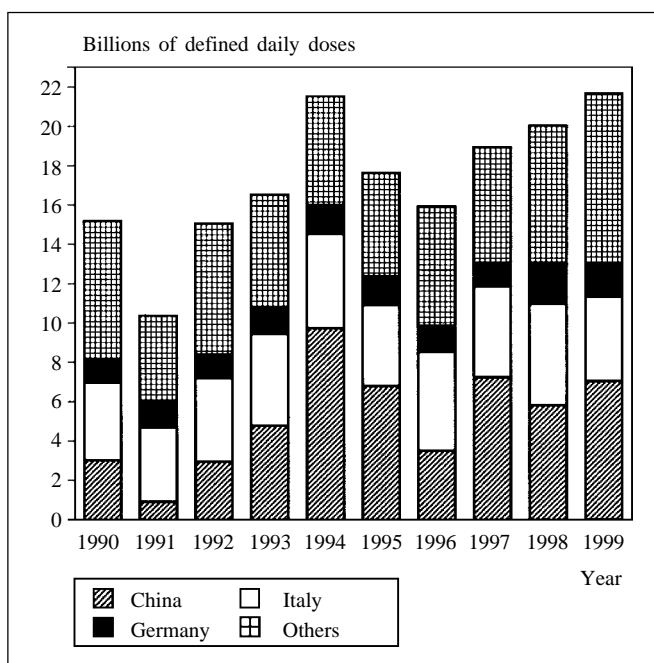


Figure 19. Benzodiazepine-type anxiolytics: reported manufacture, selected countries, 1990-1999



92. In China, the manufacture of diazepam reached a peak of 92 tons in 1994. Manufacturing levels in the following years only reached between one third and two thirds of the 1994 level. In 1999, 64 tons of diazepam were reported to have been manufactured (accounting for almost 70 per cent of the world total). China was also the main exporter of diazepam in 1999, exporting 19 tons of the substance. That was far below the level of diazepam exports reported by China for 1994 (67 tons) and also below the average level reported by that country for the years 1995-1998 (around 29 tons).

93. Italy, the second largest manufacturer and exporter of diazepam in 1999, reported the manufacture of 13 tons and the export of 14 tons of the substance, using its stocks. India, the third largest manufacturer of diazepam, reported the

manufacture of 10 tons of the substance in 1999, mainly for domestic use. Switzerland reported having manufactured 7 tons and exported 8.6 tons of diazepam, using its stocks and imports of the substance. Three countries reported having manufactured only small quantities of the substance in 1999: Iraq (58 kg), Poland (7 kg) and Russian Federation (100 kg). Iraq and the Russian Federation manufactured the substance for domestic use. Brazil, which had regularly reported diazepam manufacture (on average more than 3 tons per year during the period 1995-1998), did not submit any statistical report for 1999.

94. One hundred and six countries and territories reported having imported diazepam in 1999 in quantities of more than 1 kg. The largest importers of the substance in that year were Denmark (5.3 tons), Switzerland (4.7 tons), Thailand (3.4 tons), Germany (2.8 tons) and the United Kingdom (2.4 tons). Denmark and Switzerland re-exported most of their imports of diazepam; and Thailand, Germany and the United Kingdom imported diazepam mainly for domestic use. Spain, formerly the main importer of diazepam, reduced its imports from the peak import year of 1989 (28.7 tons, used mainly for veterinary purposes) to 10 tons in 1997 and to only 1.6 tons in 1999.

95. The manufacture of alprazolam, which had fluctuated from 2.9 tons in 1993 to 1.1 tons in 1995, gradually increased to 4.7 tons in 1999, the highest level of manufacture ever reported for that substance. In the past, fluctuations in world manufacture of the substance reflected to a large extent its manufacturing levels in the United States. Before 1995, the United States accounted for on average 60 per cent of total reported manufacture of that substance. The record level of manufacture in 1999 is only partly related to the high level of manufacture in the United States (1.5 tons); it is also related to an increase in manufacture in India (1.1 tons in 1999) and Italy (883 kg in 1999).

96. In 1999, 57 countries and territories in all regions of the world declared imports of alprazolam in quantities of more than 1 kg. Alprazolam imports, after a drop in 1998 to 1.6 tons, reached in 1999 a peak of 4.1 tons. In 1999, Belgium reported the largest quantity of alprazolam imports, 1.2 tons, one half of which was destined to be re-exported. Other major imports of alprazolam in 1999 were reported by the United States (993 kg), Slovenia (417 kg), Japan (267 kg), Italy (146 kg) and Switzerland (120 kg). The United States, Japan and Slovenia imported alprazolam mostly for domestic consumption, while in Italy and Switzerland the substance was imported mainly to be re-exported.

97. The manufacture of lorazepam amounted to 5.8 tons in 1999, considerably lower than the annual average of the previous four years (9.1 tons). That drop was attributable to a decrease in the manufacture of lorazepam in Italy, from an annual average of nearly 5 tons during the period 1995-1998 to 1.5 tons in 1999. The main manufacturer of lorazepam in 1999 was Germany, which manufactured 4 tons, accounting for 70 per cent of global manufacture of the substance. Germany and Italy exported most of the lorazepam that they manufactured. The only other countries that reported having manufactured lorazepam in 1999 were India (255 kg, slightly more than one half of which was subsequently exported) and Poland (98 kg for domestic use).

98. Since 1995, 76 countries and territories throughout the world have reported having imported more than 1 kg of

lorazepam at least once. In 1999, the largest amounts of imported lorazepam were reported by Ireland (2.8 tons, mainly for re-export) and the United States (2 tons for domestic use). Other major importers were Argentina (434 kg), France (748 kg), Spain (588 kg), Switzerland (408 kg) and the United Kingdom (563 kg). While Argentina, France and Spain imported lorazepam mostly for domestic consumption, Switzerland and the United Kingdom re-exported most of their imports of the substance.

99. Global manufacture of bromazepam reached an unprecedented level of 18.7 tons in 1999, an increase of more than 170 per cent compared with the former record level of 6.9 tons in 1997. In 1999, the manufacture of bromazepam was reported only by Switzerland (14.9 tons) and Italy (3.8 tons); those countries were also the main exporters of the substance. Brazil, which had regularly reported bromazepam manufacture (an average of 1.7 tons annually during the period 1995-1998), did not submit any statistical report for 1999.

100. In 1999, global imports of bromazepam, which have been gradually increasing, reached a total of 13 tons. For 1999, 73 countries reported imports of bromazepam in quantities of more than 1 kg. The main importers of the substance were France (3.5 tons), Switzerland (1.6 tons) and Germany (1.3 tons). Switzerland imported the substance mainly for re-export. Most of the bromazepam imported by France and Germany was for domestic consumption.

101. In 1994, total reported manufacture of chlordiazepoxide reached a peak of 37 tons. After having dropped to an average level of 29 tons annually during the period 1995-1997, global manufacture of the substance increased, reaching 34 tons in 1999. Those fluctuations reflect changes in the quantity of chlordiazepoxide manufactured in China and Italy. China was the main manufacturer of chlordiazepoxide in 1999, having reported the manufacture of 14.7 tons of the substance, a little less than three quarters of which was destined for domestic consumption. Italy exported most of the chlordiazepoxide that it manufactured (14.2 tons).

102. Imports of chlordiazepoxide in quantities of more than 1 kg have been reported at least once by 101 countries and territories since 1993. Those imports, which had peaked at more than 25 tons in 1994, amounted to more than 20 tons in 1999. The major importers of the substance in 1999 were the United States (3.8 tons, for domestic use), the Islamic Republic of Iran (3.6 tons, for domestic use) and Switzerland (2.8 tons, all of which was re-exported).

103. World oxazepam manufacture and trade have been fairly stable in the last few years, amounting to 29 tons in 1999. The main manufacturers of oxazepam in 1999 were France and Italy, which together accounted for more than 85 per cent of global manufacture of the substance. In 1999, 40 countries reported oxazepam imports in quantities of more than 1 kg.

104. The world manufacture of clorazepate in 1999 was 9.2 tons, slightly below the annual average of 10 tons of that substance manufactured during the period 1995-1998. France accounted for two thirds of total reported manufacture of clorazepate in 1999. International trade in clorazepate increased by around 50 per cent from 1998 to 1999.

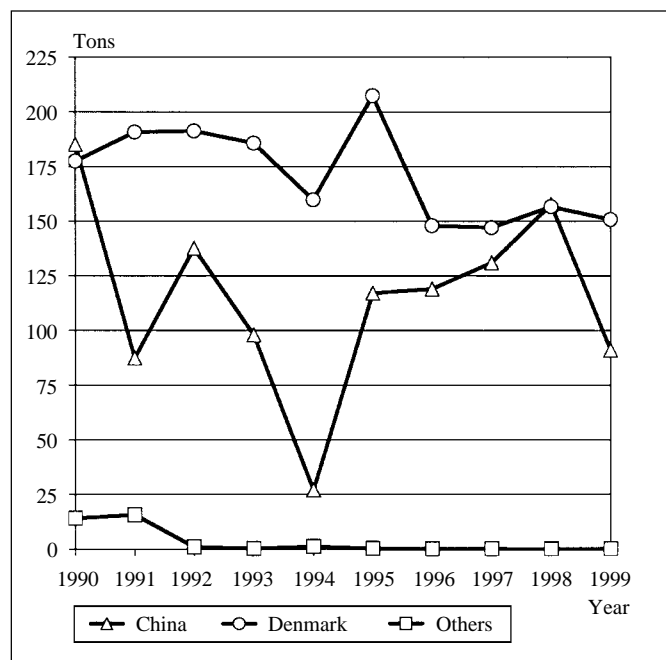
105. The manufacture of halazepam, ketazolam, medazepam and nordazepam increased from 1998 to 1999. For each of those substances, the increase in manufacture was accompanied by a decrease in international trade. The manufacture of clobazam, clonazepam, cloxazolam, ethyl loflazepate, prazepam and tetrazepam declined in 1999. Clobazam was the only one of those substances for which the decrease in manufacture was accompanied by a decline in international trade in the substance.

Other anxiolytics

106. 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 one quarter of that amount in the period 1993-1999 (see figure 20). China and Denmark are the only manufacturers of the substance. In China, following a steady decline to 27 tons in 1994, meprobamate manufacture increased, reaching 158 tons in 1998, but dropped again in 1999 to 91 tons, all of which was exported. In Denmark, meprobamate manufacture in 1999 reached 151 tons, slightly more than the lowest level ever reported (147 tons, in 1997).

107. The level of meprobamate manufactured in Denmark has reflected fluctuations in exports of the substance from that country. Whereas, prior to 1984, annual exports of meprobamate in Denmark had ranged from 400 to 520 tons, its annual exports of that substance averaged 184 tons in the period 1997-1999. Imports of meprobamate have been reported by 86 countries and territories throughout the world since 1990. The number of countries reporting imports of the substance in quantities of more than 1 kg has steadily declined, reaching 49 in 1999. France reported the major share of total global imports of the substance (96 tons), re-exporting a small part of it. The second largest importer of meprobamate in 1999 was South Africa (39 tons), followed by the

Figure 20. Meprobamate: total reported manufacture, 1990-1999



United States (37 tons) and Denmark (26 tons, all of which was re-exported). South Africa and the United States imported the substance for domestic use.

Benzodiazepine-type sedative-hypnotics

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

109. In 1999, the total reported manufacture of all 12 substances in the group was 6.4 billion DDD, the largest quantity ever reported for the group. Until 1996, approximate consumption levels, calculated by INCB, had in most years been about 50 per cent higher than levels of reported manufacture. That was because calculated consumption also included quantities imported from countries such as Belgium, Canada and Switzerland that had not yet begun reporting to INCB on their manufacture of benzodiazepines. Since 1997, the year in which statistics from Switzerland became available, this difference has gradually disappeared (see figures 21 and 22).

110. 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). Overall consumption of sedative-hypnotics over the years has been fairly steady in all regions of the world.

111. In 1999, seven substances accounted for more than 90 per cent of total reported manufacture of benzodiazepine-type sedative-hypnotics: nitrazepam (1.9 billion DDD), temazepam (1.1 billion DDD), estazolam (768 million DDD), lormetazepam (654 million DDD), midazolam (501 million DDD), flunitrazepam (480 million DDD) and triazolam (416 million DDD) (see figure 24). Flurazepam (355 million

Figure 21. Benzodiazepine-type sedative-hypnotics: total reported manufacture, by substance, 1990-1999

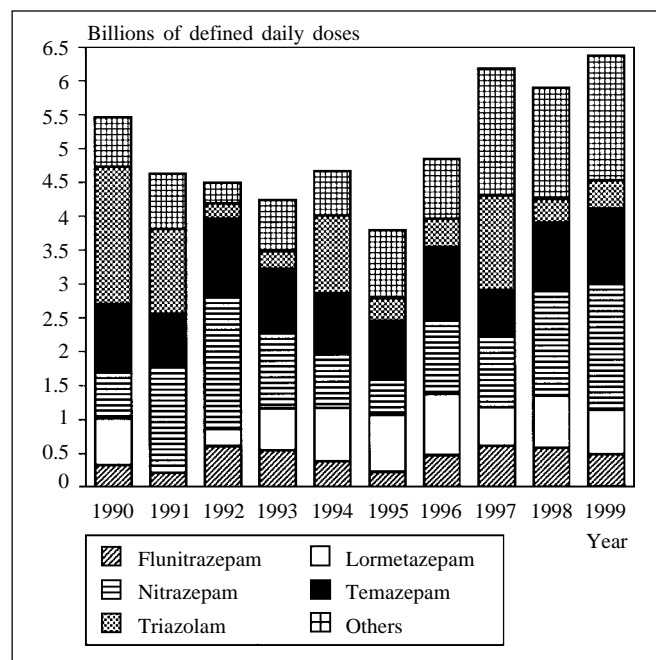
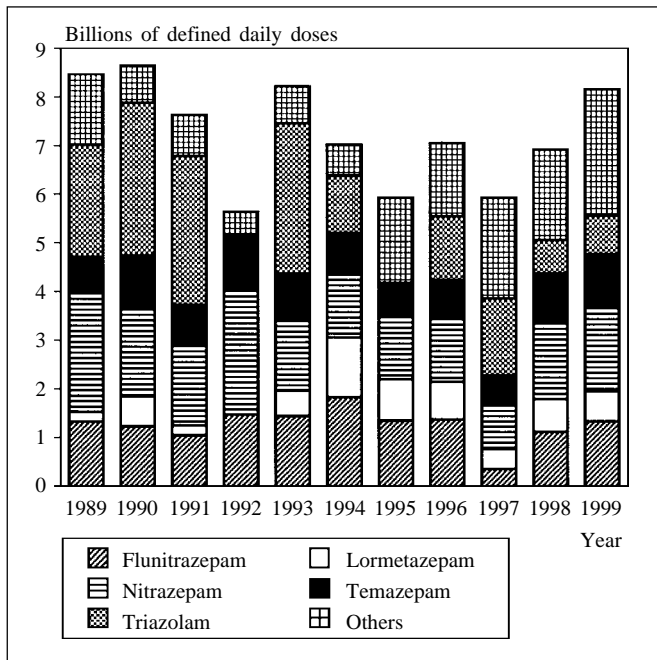
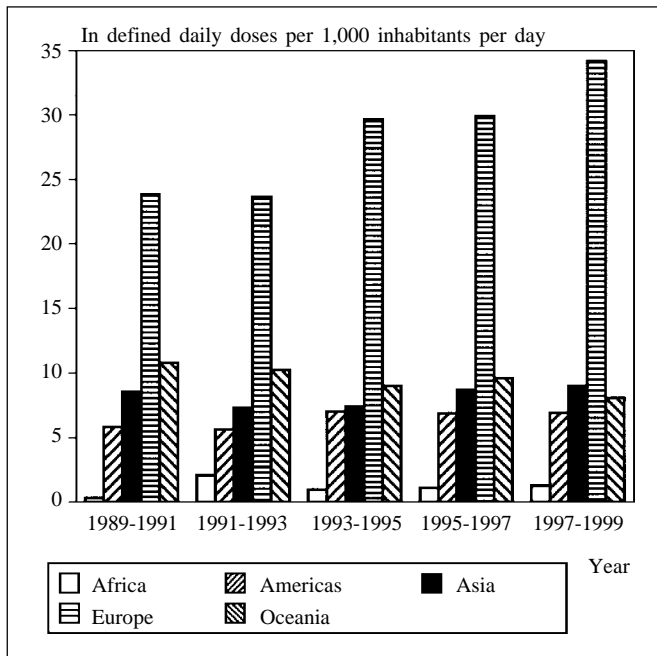


Figure 22. Benzodiazepine-type sedative-hypnotics: calculated global consumption,* by substance, 1989-1999



*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.

Figure 23. Benzodiazepine-type sedative-hypnotics: average national consumption,* by region, 1989-1999



*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.

DDD), brotizolam (148 million DDD), loprazolam (62 million DDD), and haloxazolam (9.7 million DDD) accounted for between 0.1 and 6 per cent of total reported manufacture. No manufacture of nimetazepam was reported during 1999. China, Germany, Italy and Switzerland were the major manufacturers of this group of substances (see figures 25 and 26).

Figure 24. Benzodiazepine-type sedative-hypnotics: substances' share in total reported manufacture, 1999

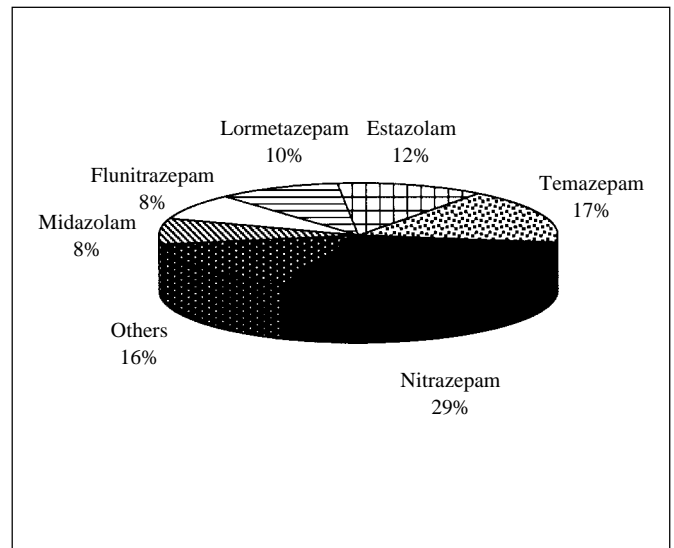
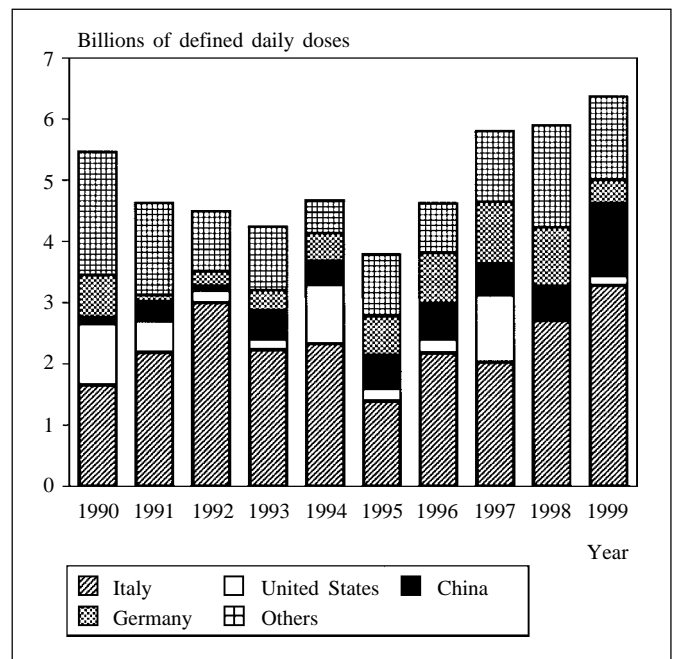
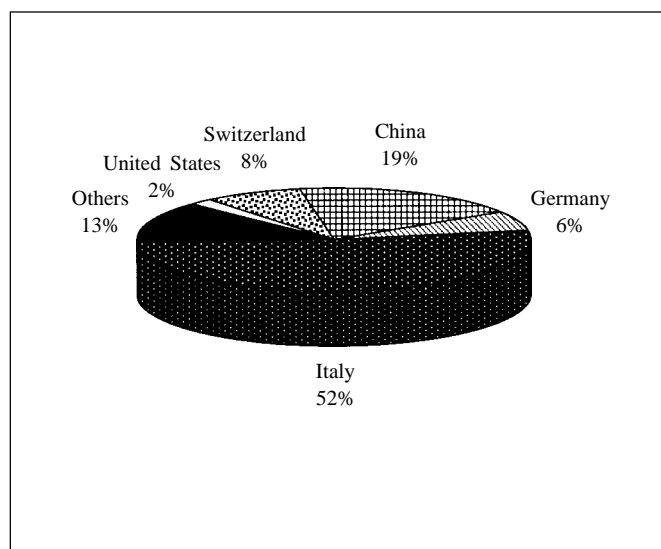


Figure 25. Benzodiazepine-type sedative-hypnotics: total reported manufacture, by country, 1990-1999



112. In the 1990s, nitrazepam manufacture fluctuated between its peak level of 9.7 tons in 1992 and the lowest level of 2.7 tons in 1995. Since 1996, nitrazepam manufacture has gradually increased, reaching 9.4 tons in 1999. The fluctuations in world manufacture of the substance have mainly reflected developments in manufacturing levels in Italy, the leading manufacturer and exporter of nitrazepam. Italy manufactured 5.8 tons of nitrazepam in 1999, of which approximately 4.5 tons were used for export. The only other countries reporting manufacture of nitrazepam in 1999 were India (1.6 tons), Switzerland (1.5 tons) and China (500 kg). Italy, those three countries and Ireland were the main exporters of the substance.

Figure 26. Benzodiazepine-type sedative-hypnotics: countries' share in total reported manufacture, 1999



113. In the period 1995-1999, global imports of nitrazepam were stable, averaging 6.5 tons annually. The main importers of the substance in 1999 were Japan (1.6 tons), the United Kingdom (1.2 tons), Ireland (602 kg) and Hungary (570 kg). Of the other 38 countries throughout the world that reported having imported nitrazepam in 1999 in quantities of more than 1 kg, nine had imported more than 100 kg of the substance: Australia (126 kg), Cuba (125 kg), Denmark (146 kg), France (269 kg), Germany (263 kg), Italy (284 kg), Netherlands (307 kg), Poland (210 kg) and Switzerland (149 kg).

114. After reaching its peak level of 23 tons in 1992, world manufacture of temazepam declined to its lowest level in 1997 (13.4 tons). Since 1998, the manufacture of that substance has been increasing again. In 1999, 22 tons of temazepam were reported to have been manufactured, exclusively by Italy (18.4 tons), the United States (2.9 tons) and Poland (595 kg). Italy accounted for more than 60 per cent of world temazepam exports in 1999, having exported 11 tons of the substance. Other important exporters of the substance were the United Kingdom (2 tons), Germany (921 kg) and Finland (883 kg).

115. Temazepam imports in quantities of more than 1 kg were reported by 38 countries and territories in all regions of the world in the period 1995-1999. The United Kingdom had been the largest temazepam importer for a number of years, re-exporting part of its imports of that substance. In 1995, 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.⁷ Imports of the substance by the United Kingdom decreased considerably, from a peak level of 6.3 tons in 1994 to 1.3 tons in 1996. Then, however, temazepam imports in the United Kingdom began to increase and the country again became the largest importer of the substance (4.1 tons in 1999). Other major importers of temazepam in 1999 were the United States (3.3 tons), Ireland (2.2 tons), Germany (1.7 tons), the

Netherlands (1.5 tons) and Australia (1.2 tons). The United Kingdom and Germany re-exported approximately half of their imports of temazepam; in all of the other countries, the substance was imported mainly for domestic consumption or to be added to stocks.

116. Lormetazepam manufacture steadily increased after 1991 and reached 899 kg in 1996, its highest level ever reported. After 1996, the manufacture of the substance fluctuated from 572 kg in 1997 to 767 kg in 1998 and 654 kg in 1999. Those fluctuations reflect changes in manufacturing levels in Italy, which reported having manufactured 261 kg of lormetazepam in 1999. Germany, traditionally the major manufacturer and exporter of lormetazepam, reported in 1999 the manufacture of 383 kg; using some of its stocks and imports of lormetazepam, it also exported 724 kg of the substance in 1999. Lormetazepam exports were also reported in 1999 by Ireland (191 kg) and Italy (205 kg). In 1999, the main importers of lormetazepam were France (225 kg), Spain (199 kg), Belgium (151 kg) and Ireland (129 kg). The lormetazepam imports of those countries, together with those of Germany (91 kg), accounted for more than 80 per cent of the world total. Thirteen other countries reported having imported smaller amounts of the substance.

117. World manufacture of estazolam reached a new peak in 1999, 2.3 tons, manufactured by China for domestic use (1.7 tons), Japan (386 kg) for domestic use and exports and Poland (174 kg) mainly for domestic consumption. Eleven countries reported imports of estazolam in quantities of more than 1 kg in 1999 (a total of 198 kg). The main importers were Portugal and the United States (both 50 kg, for domestic use), Italy (21 kg) and the Netherlands (20 kg, mainly to be re-exported).

118. In 1999, midazolam manufacture reached 10 tons, its highest level ever reported, doubling the amount manufactured in 1997, the previous peak year. The increase in 1999 was attributable to the fact that midazolam manufacture started in China, which reported having manufactured 6.9 tons of the substance, thereby replacing Switzerland (2.6 tons in 1999) as the world's largest manufacturer of the substance. The only other countries reporting the manufacture of midazolam were the Czech Republic (2 kg), India (75 kg), Israel (176 kg), Italy (132 kg), Japan (96 kg) and the Netherlands (19 kg); the majority of those countries have recently started manufacturing the substance. Trade in midazolam also increased in 1999. Imports of the substance in 1999 rose from 2.7 tons in 1998 to 3.9 tons. In 1999, 65 countries and territories throughout the world reported having imported midazolam in quantities of more than 1 kg. The largest imports of midazolam in 1999 were reported by the Islamic Republic of Iran (787 kg), Germany (437 kg) and the United States (428 kg); all three countries imported the substance for domestic consumption.

119. Comments on flunitrazepam, a substance that was transferred from Schedule IV to Schedule III in 1995, are included in paragraphs 62-64 above.

120. Triazolam is a potent hypnotic, having, together with brotizolam, the lowest defined daily dose of all psychotropic substances. Total reported manufacture of triazolam reached a record level of 539 kg in 1988. Discussions at the beginning of the 1990s on the medical use of triazolam had major repercussions on the market for the substance. The manufacture of triazolam decreased considerably to 55 kg in 1992.

⁷See *Report of the International Narcotics Control Board for 1995* (United Nations publication, Sales No. E.96.XI.1), para. 113.

The manufacture of the substance increased to 351 kg in 1997 and dropped again sharply to 104 kg in 1999. The above-mentioned fluctuations mainly reflected developments in the United States, the leading manufacturer and exporter of the substance.

121. The manufacturers of triazolam in 1999 were China (40 kg), France (37 kg), Italy (20 kg) and Japan (7 kg). The United States, which reported having manufactured 271 kg of triazolam in 1997 (mainly for stocks), has not reported any manufacture of the substance since 1998. France added all of its triazolam to stocks, while China used the substance for domestic consumption. Significant exports of triazolam were reported by the United States (90 kg), Belgium (46 kg), Italy (20 kg) and Spain (15 kg). The largest imports of triazolam in 1998 were reported by Japan (204 kg), Italy (26 kg) and Belgium (15 kg). Ten other countries reported imports of the substance in quantities of more than 1 kg.

122. The manufacture of flurazepam increased in 1999 to 10.6 tons, a level close to the highest level ever reported (11 tons in 1997). That was attributed to the growth in flurazepam manufacture in Italy (7 tons in 1999) and Switzerland (3.7 tons in 1999). Brazil, the only other country to have reported major manufacture of flurazepam in the past (on average more than 4 tons per year during the period 1995-1998), did not submit any statistical data for 1999. Imports and exports of the substance also rose to unprecedented high levels. From 1998 to 1999, total imports of flurazepam more than tripled, reaching 18 tons, the largest imports being reported by Switzerland (7.4 tons), Italy (5.3 tons), the United States (1.6 tons) and Germany (1.1 tons). The main exporters of the substance in 1999 were Switzerland (7.8 tons) and Italy (6.8 tons).

123. In 1995, brotizolam, a potent hypnotic with the same defined daily dose as triazolam (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 ever in 1997. In 1999, total manufacture of brotizolam was reported to be 37 kg, considerably below the average level of 165 kg of the two previous years. That was because of the fact that Germany, formerly the main manufacturer of the substance, did not report any manufacture of brotizolam for 1999. The only country reporting manufacture of the substance in 1999 was Italy (37 kg, mostly for export). Germany made use of its stocks of brotizolam and became the largest exporter of the substance in 1999 (97 kg). Brotizolam imports were reported by nine countries in 1999, the largest imports of the substance being reported by Japan (93 kg), Mexico (72 kg) and Colombia (18 kg).

124. The manufacture of loprazolam decreased from 143 kg in 1998 to 62 kg in 1999, all of which was reported by France. France was also the main exporter of loprazolam (65 kg); it accounted for more than 90 per cent of total exports of the substance. Eight countries reported imports of loprazolam in quantities of more than 1 kg in 1999.

Benzodiazepine-type anti-epileptics

125. Clonazepam is the only benzodiazepine generally used as an anti-epileptic. Total reported manufacture of clonazepam, after reaching its highest level in 1998 (5.5 tons, or 690 million DDD), dropped to 3 tons (377 million DDD) in

1999. That was attributed to a decrease in reported manufacture in Switzerland from more than 3 tons in 1998 to 1.4 tons in 1999. Reductions were also reported by Italy, the other main manufacturer of the substance (1.1 tons in 1999). Switzerland and Italy accounted for nearly 75 per cent of total exports of the substance (3.1 tons). Smaller amounts of clonazepam manufacture were reported by China (188 kg, for domestic consumption), India (340 kg, mainly for export) and Poland (109 kg, mainly for domestic use). The United States, once a major manufacturer of clonazepam, has reported no manufacture of the substance since 1995. In 1999, nine countries (Argentina, France, Islamic Republic of Iran, Israel, Italy, Japan, Mexico, Switzerland and United States) reported clonazepam imports of over 100 kg and 46 countries and territories reported imports in quantities of more than 1 kg.

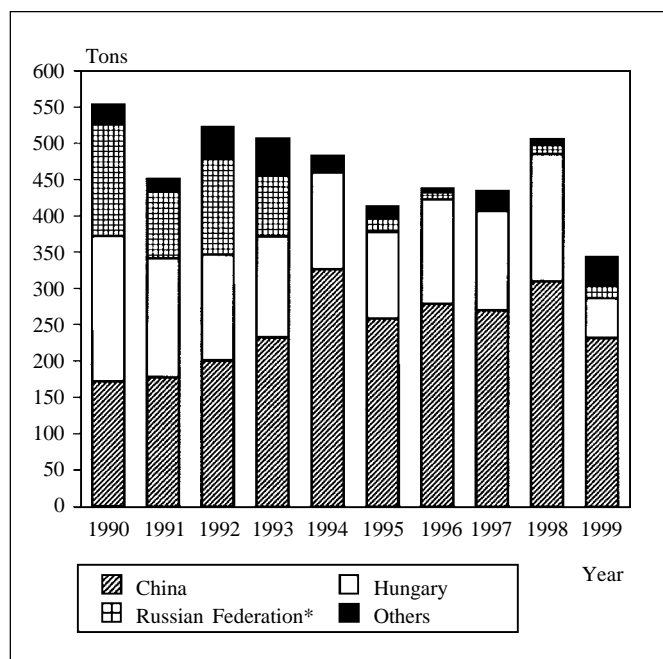
Barbiturate-type sedative-hypnotics and anti-epileptics

126. Seven barbiturates are listed in Schedule IV: allobarbitol, barbital, butobarbital, methylphenobarbital, phenobarbital, secbutobarbital and vinylbital. In the past, total reported manufacture of those barbiturates, recalculated in defined daily doses, tended to fluctuate (6.2 billion DDD in 1990, 4.2 billion DDD in 1995 and about 5.4 billion DDD in 1998). In 1999, however, total reported manufacture of those substances dropped sharply to 3.8 billion DDD. The manufacture of phenobarbital accounted for 3.5 billion DDD (about 95 per cent of the total manufacture of barbiturates included in Schedule IV). The manufacture of barbital amounted to 256 million DDD, that of methylphenobarbital accounted for almost 39 million DDD, that of allobarbitol amounted to almost 24 million DDD and that of secbutobarbital accounted for almost 10 million DDD. Whereas total manufacture of butobarbital amounted to 8.6 million DDD in 1998, no manufacture of the substance was reported in 1999. The manufacture of vinylbital has not been reported in recent years.

127. Total reported manufacture of phenobarbital, a substance used as a hypnotic and as an anti-epileptic, reached a peak of 663 tons in 1986. Between 1990 and 1998, it fluctuated between 450 and 550 tons annually. It then dropped from almost 508 tons in 1998 to about 345 tons in 1999 (see figure 27). China has been the leading manufacturer of phenobarbital since 1991, when it reported the manufacture of about 180 tons of the substance. China increased its phenobarbital manufacture to an annual average of 270 tons in the period 1995-1997; that was followed by a sharp increase to almost 312 tons in 1998. In 1999, however, China reported the manufacture of 233 tons of phenobarbital, a sharp decrease compared with the figures in recent years. Hungary, the second largest manufacturer of phenobarbital, having manufactured on average 133 tons annually in the period 1994-1997, reported the manufacture of more than 175 tons of the substance in 1998; its manufacture of the substance then decreased to about 55 tons in 1999. The only other countries reporting the manufacture of phenobarbital in 1999 were India (32 tons), the Russian Federation (17.1 tons), Japan (5.4 tons), Switzerland (5.4 tons), Iraq (165 kg) and Italy (115 kg).

128. Phenobarbital exports of Hungary, the major exporter of that substance since the 1970s, have been relatively stable, averaging 110 tons annually in the period 1995-1999, except

Figure 27. Phenobarbital: total reported manufacture, 1990-1999



*Data before 1992 relate to the former Union of Soviet Socialist Republics.

in 1997, when its exports reached 143 tons. Phenobarbital exports from China increased steadily from 25 tons in 1990 to 185 tons in 1994 and then decreased sharply to only 79 tons in 1995. China's exports of the substance were stable, averaging almost 130 tons annually in the period 1996-1998, however, in 1999, they dropped to 76 tons. Other major exporters of the substance in 1999 were Switzerland (20 tons), Germany (16 tons) and Denmark (13 tons).

129. Several countries importing phenobarbital in 1999 re-exported large quantities of the substance. Germany imported 17 tons of phenobarbital and exported 16 tons of the substance. Switzerland reported having imported 13.4 tons of phenobarbital and having exported 19.6 tons of the substance. The Netherlands imported 12 tons of phenobarbital and exported almost 8 tons of the substance, Denmark imported 10 tons of phenobarbital and exported 13 tons of the substance and the United Kingdom reported phenobarbital imports of 7.2 tons and exports of almost 9 tons.

130. In 1999, international trade in phenobarbital decreased sharply. Nevertheless, phenobarbital continues to be the most widely imported psychotropic substance. Between 1990 and 1999, more than 130 countries and territories reported the import of phenobarbital at least once in quantities of more than 1 kg. In 1999, the leading phenobarbital importer was the United States (33.6 tons). In addition to Denmark, Germany, the Netherlands, Switzerland and the United Kingdom, the other major importers of the substance in 1999 were France (15.6 tons), Japan (11.3 tons), the Islamic Republic of Iran (10 tons) and Italy (9.6 tons).

131. Barbital, in addition to its medical use as a sedative-hypnotic, is also used in industry for the manufacture of non-psychotropic substances or products. World manufacture of barbital declined sharply from nearly 259 tons in 1992 to 83.7 tons in 1995, then gradually increased to 141 tons in 1998 before decreasing to 128 tons in 1999. China has been the main manufacturer of barbital, reporting the manufacture

of about 140 tons of the substance in 1998 and 125 tons in 1999, mainly for domestic use and export. Japan was the only other country manufacturing barbital in 1999, increasing its manufacture of the substance from 567 kg in 1998 to almost 2.8 tons. The Russian Federation, previously a major barbital manufacturer, has reported no manufacture of the substance since 1993.

132. Exports of barbital from China, which had reached an annual average of 45 tons between 1993 and 1995 and amounted to 50 tons in 1996, gradually decreased to 31.5 tons in 1999. Germany, the leading importer of barbital, decreased its imports of the substance gradually from more than 51 tons in 1996 to 20 tons in 1999, re-exporting almost all of those imports. India imported 20 tons of barbital for domestic use in 1994 and reduced its imports of the substance to 14.2 tons in 1999. Japan decreased its barbital imports from 10.6 tons in 1996 to an annual average of 8.1 tons in the period 1997-1999. Japan has been using barbital for the manufacture of exempted preparations (almost 5.4 tons in 1999) and for the manufacture of non-psychotropic substances (504 kg in 1999). The Republic of Korea reduced its imports of barbital from 9.8 tons in 1996 to 3.9 tons in 1997, also using barbital for the manufacture of non-psychotropic substances. Whereas no imports of barbital were reported by the Republic of Korea in 1998, the country reported the import of 2 tons of the substance in 1999, exclusively for domestic use. Since 1990, more than 50 other countries and territories have reported imports of barbital in quantities exceeding 1 kg.

133. Almost 8 tons of methylphenobarbital were manufactured in Germany in 1990. After that, no country reported the manufacture of methylphenobarbital until 1997, when Switzerland manufactured almost 9.5 tons of the substance. Switzerland reported having manufactured only 2.3 tons of methylphenobarbital in 1998 and 3.9 tons of the substance in 1999.

134. Germany has been the only country reporting the manufacture of allobarbital in recent years. Its manufacture of allobarbital increased sharply from 393 kg in 1998, when the country first started to report its manufacture of the substance, to almost 2.4 tons in 1999. Germany has also been the major exporter of allobarbital; its exports of the substance decreased from 4.2 tons in 1998 to about 2.3 tons in 1999. Poland last reported the manufacture of allobarbital in 1995 (228 kg). Similarly, Denmark discontinued its manufacture after 1994 (11 kg). Denmark reported allobarbital imports in 1999 amounting to 525 kg, all of which was re-exported. Major importers of allobarbital in 1999 were Hungary (800 kg), Poland (780 kg) and Turkey (700 kg). Since 1992, imports of the substance in quantities of more than 1 kg have been reported by about 20 countries.

135. Denmark and Germany have been the only countries reporting the manufacture of the other three barbiturates included in Schedule IV since 1991. In Germany, the manufacture of secbutabarbital decreased from 251 kg in 1996 to 67 kg in 1997, increased to 204 kg in 1998 and then increased sharply to almost 750 kg in 1999. Germany reported the export of 811 kg of secbutabarbital in 1999. The manufacture of butobarbital has been irregular. In 1998, only Denmark manufactured the substance (1.3 tons). For 1999, however, no manufacture of the substance has been reported. In 1999, the major butobarbital exporting countries

were Denmark (400 kg) and Hungary (325 kg). The manufacture of vinylbital in Germany averaged 1.2 tons annually between 1991 and 1993. No manufacture of vinylbital has been reported in recent years. Occasional imports of those barbiturates have been reported by countries in all regions.

Other sedative-hypnotics

136. 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.

137. The manufacture and export of ethchlorvynol have been reported only by the United States, whose manufacture of the substance amounted to 857 kg (1.7 million DDD) in 1991. In that country, there was no ethchlorvynol manufacture in 1992 and 1993, but the manufacture of that substance (a total of almost 9 tons, mainly for domestic use) was reported in the period 1994-1996. No manufacture of

ethchlorvynol took place in the United States in 1997 and 1998; however, in 1999, that country reported the manufacture of 1.3 tons of the substance, mainly for domestic use. Ethchlorvynol exports from the United States were last reported in 1997 (301 kg). 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). No international trade in ethinamate and methyprylon has been reported since 1991.

Analgesics

138. Lefetamine is the only analgesic included in Schedule IV. Japan has been the only country reporting the manufacture and export of the substance. The manufacture of lefetamine was last reported in 1984 (391 kg). In 1990, Japan exported and Italy imported 21 kg of lefetamine. After that, no trade in lefetamine was reported until 1994, when Japan exported and Italy imported 6 kg of the substance. In 1996, Japan reported the export of 8 kg of lefetamine. No trade in the substance has been reported since 1997.