

## COMMENTS ON THE 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 101-232 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 115 substances listed in the four schedules of the 1971 Convention. Information is provided on substances reported to have been used for licit purposes. With respect to substances in Schedules II and III of the 1971 Convention, the information on the

five-year period 1997-2001 is presented in the statistical tables. With respect to substances in Schedule IV, information on the three-year period 1999-2001 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 28 substances listed in Schedule I. Pursuant to the provisions of article 7 of the 1971 Convention, the use of those substances should be prohibited except for scientific and very limited medical purposes by duly authorized persons in medical or scientific establishments 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. The substance 2,5-dimethoxyamphetamine (DMA), however, has been used for that purpose in the United States of America, where it is utilized in the manufacture of special photographic films. The manufacture of DMA in that country was stable, averaging 8 tons annually until 2001, when manufacture decreased by around 50 per cent. At the end of 2001, 2.6 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.<sup>1</sup>

5. The United States reported for the first time in 1999 the manufacture of *p*-methoxyamphetamine (PMA) for the manufacture of a non-psychotropic substance to be used for medical and scientific purposes. However, no manufacture was reported in 2000 and 2001 by that country. Israel and Switzerland reported the manufacture of very small quantities of PMA in 2001 (2 and 4 grams respectively).

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

manufacture of *delta*-9-tetrahydrocannabinol (*delta*-9-THC), a psychotropic substance listed in Schedule II since 1991. 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, manufacture shows an increasing trend since 1998. The quantity manufactured in 2001 (172 kg) represents an increase of more than 175 per cent of the quantity reported for 1998 and more than a 10-fold increase compared with 1992 levels. Stocks held in the United States, which have been decreasing regularly since 1998, amounted to 97 kg in 2001.

7. Seven other substances listed in Schedule I were manufactured in the United States in small quantities for scientific purposes in the period 1997-2001. Those substances were DMA, (+)-lysergide, MDMA, mescaline, methcathinone, psilocine and tenamfetamine (MDA). Manufacture of a few grams of substances in Schedule I in 2001 were reported by only four other countries, namely, Australia (DET, DMT, MDMA, methcathinone and THC), Hungary (MDMA), Israel (cathinone, (+)-lysergide, MDMA, MDA and PMA) and Switzerland ((+)-lysergide, MDA and PMA).

8. Quantities of some substances in Schedule I, ranging from a few grams to several hundred grams, were held in stocks at the end of 2001, mainly in the United States. Those substances were bromamfetamine, cathinone, DMT, *N*-ethyl-tenamfetamine (*N*-ethyl-MDA), *N*-hydroxy-tenamfetamine (*N*-hydroxy-MDA), (+)-lysergide, MDA, MDMA, mescaline, methcathinone, 4-methylaminorex, psilocine and psilocybine. Stocks of most of those substances have been relatively stable in recent years. Stocks of DMA and THC are referred to in paragraphs 4-6 above.

9. Other countries reporting stocks of a few grams of substances in Schedule I at the end of 2001 were Australia (bromamfetamine, DET, DMT, DMA, mescaline, MDMA, methcathinone, PMA and THC), Canada (THC), Hungary (MDMA), Israel (cathinone, (+)-lysergide, MDMA, MDA, PMA and THC), Italy (DMA), the Netherlands (THC), Switzerland (DMT, (+)-lysergide, mescaline, MDMA, MDA, *N*-ethyl MDA and PMA) and the United Kingdom of Great Britain and Northern Ireland (DMA, mescaline and 4-methylaminorex).

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

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 1997-2001, small imports or exports of some of those substances were reported by Australia, Austria, Belgium, Canada, Cuba, Denmark,

France, Germany, the Hong Kong Special Administrative Region of China, Ireland, Israel, the Netherlands, New Zealand, Norway, Singapore, Spain, Switzerland, the United Kingdom and the United States.

## Substances listed in Schedule II

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

### *Central nervous system stimulants*

#### *Amphetamines*

12. Both optical isomers of amphetamine (levamphetamine and dexamphetamine) and their racemic mixture (amphetamine), as well as both optical isomers of metamfetamine (levomethamphetamine and metamfetamine) and their racemic mixture (metamfetamine racemate), are listed in Schedule II. Statistical reports on amphetamine, dexamphetamine and metamfetamine have been received by INCB from Governments since the 1970s. Statistics for levamphetamine 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. Amphetamines in Schedule II are used not only directly for medical purposes but also in industry as intermediary products for the manufacture of other substances. Those new substances may be divided into two groups: other psychotropic substances, including those which are optical isomers of the original substance; and substances not controlled under the 1971 Convention.

#### *Direct medical use*

14. Amphetamines listed in Schedule II are used mainly for the treatment of attention deficit disorder (ADD) and narcolepsy. The extensive use of those substances for the treatment of obesity has been discontinued or significantly reduced in most countries. In 2001, the quantity of amphetamines listed in Schedule II that were manufactured worldwide for direct medical use totalled around 8.3 tons (approximately 555 million defined daily doses (DDD)), of which more than 95 per cent was destined for use in the United States. The level of manufacture in 2001 was the same as in 2000, nearly double the quantity of 1998 and eight times higher than in 1991.

15. The significant increase in the manufacture of amphetamines can be attributed almost exclusively to the rapid

increase in the medical use of amphetamine and dexamphetamine in the United States since 1998, when products containing both amphetamine and dexamphetamine started to be used mostly for the treatment of ADD (called attention-deficit/hyperactivity disorder (ADHD) in the United States). In 2001, about 2.7 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. At present such significant use of amphetamine for medical purposes has been reported only in the United States. The amphetamine consumed in the United States is obtained almost exclusively from domestic manufacture. The other countries using the substance cover their needs mostly through imports. In 2001, the main importer of amphetamine was Germany (37 kg), followed by Chile (15 kg) and Sweden (7 kg).

16. The United States is also the main consumer of dexamphetamine, but significant medical use of that substance has also been reported in a number of other countries, including Australia and Canada. In the United States, the medical needs for dexamphetamine are covered by domestic manufacture. While the manufacture of dexamphetamine during the 1980s was stable at a level of approximately 350 kg annually, it began to rise sharply after 1991 and amounted to almost 1.7 tons in 1995. The manufacture of that substance remained at that level in 1996 and 1997 and increased in 1999 to a record level of 7.3 tons. Of the 5 tons manufactured in 2001, more than 3 tons were used for the manufacture of pharmaceutical products and 1.6 tons were added to stocks, which rose from 3.3 tons in 2000 to 4.9 tons in 2001. Exports of dexamphetamine from the United States in 2001 were small (153 kg). Like amphetamine, dexamphetamine is prescribed in the United States for the treatment of ADD (called ADHD in that country). The substance is also used, to a much lesser extent, for the treatment of obesity and narcolepsy.

17. Australia and Canada import dexamphetamine to meet their medical needs. Dexamphetamine imports by Australia rose from only 6 kg in 1991 to 61 kg in 1995 and then continued to increase sharply to 158 kg in 2001. Dexamphetamine imports reported by Canada rose from 7 kg in 1991 to 152 kg in 2001. Dexamphetamine imports into the United Kingdom averaged about 43 kg annually in the period 1997-2001.

18. Most of the metamfetamine manufactured in the United States is used for industrial purposes (see paragraph 29 below). Metamfetamine consumed in the United States is obtained almost exclusively from domestic manufacture. The medical use of metamfetamine in that country is low (around 50 kg annually). All other countries using metamfetamine for medical purposes cover their needs mostly through imports. The main importer of metamfetamine in 2001 was Chile (4.7 kg).

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

20. The countries with the highest levels of medical use of amphetamines, calculated on the basis of statistics provided for the years 1997, 1999 and 2001<sup>2</sup> and expressed in DDD per 1,000 inhabitants per day,<sup>3</sup> are listed in table 1 according to their level of consumption for the year 2001.

**Table 1. Medical use of amphetamines, 1997, 1999 and 2001**

Country <sup>a</sup>	DDD per 1,000 inhabitants per day		
	1997	1999	2001
United States of America	1.53	4.93	4.26
Australia	0.95	1.49	1.54
Iceland	0.26	0.00	0.78
Canada	0.53	0.45	0.45
Chile	0.43	0.36	0.28
Sweden	0.09	0.14	0.20
New Zealand	0.00	0.11	0.14
United Kingdom of Great Britain and Northern Ireland	0.76	0.20	0.11
Belgium	0.13	0.21	0.08
Germany	0.01	0.05	0.08
Norway	0.15	0.14	0.07
Bahamas	0.00	0.01	0.05
Netherlands	0.02	0.03	0.05

<sup>a</sup>Countries are listed according to their level of consumption of amphetamines in 2001.

#### Use as intermediary products

21. Most of the 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 (benzfetamine, clobenzorex, fenproporex and levopropylhexedrine) and antiparkinsonian drugs (selegiline). The quantity of amphetamines converted into anorectics worldwide totalled about 2.4 tons in 2001. Occasionally, small quantities of amphetamines are also converted into other substances, such as famprofazone (an analgesic) and amfetaminil (a psychostimulant). Benzfetamine and fenproporex are included in Schedule IV of the 1971 Convention, whereas amfetaminil, clobenzorex, famprofazone, levopropylhexedrine and selegiline are not under international control.

22. 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.

<sup>2</sup>The method of calculating levels of consumption of psychotropic substances is explained in table IV of the present publication.

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

23. In France, the manufacture of amphetamine averaged approximately 12 tons annually in the period 1991-1995. In 2001, 5.9 tons were manufactured. 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.

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

25. The quantity of amphetamine used in France for the manufacture of dexamphetamine averaged about 9 tons annually in the period 1991-1995. The quantity of dexamphetamine obtained through that process averaged about 2.5 tons annually. In 2001, 1.4 tons of dexamphetamine were manufactured. Until 1995, approximately 2 tons of dexamphetamine had been used annually in France for conversion into clobenzorex. In the period 1999-2001, the quantity of dexamphetamine used for that purpose averaged around 1.4 tons annually. Exports of dexamphetamine from France declined from an annual average of 875 kg in the period 1991-1993 to an annual average of about 200 kg in the period 1999-2001.

26. A total of 10.8 tons of metamfetamine racemate was manufactured in France in the period 1998-2001. The manufacture of that substance has been very irregular, reaching a record level of more than 6 tons in 1996, dropping to zero in 1997 and amounting to 3.3 tons in 2001. The substance has mainly been exported (a total of more than 10 tons since 1997) or divided into levomethamphetamine and metamfetamine. Levomethamphetamine has mainly been used for export (a total of 1 ton in the period 1997-2001) and has also been converted, in smaller quantities, into selegiline. Metamfetamine obtained during the process of separating levomethamphetamine has been added to stocks, which averaged 3 tons annually in the period 1996-1999, increased to 3.8 tons in 2000 and remained at the same level in 2001.

27. 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 1997-1998 was 7.7 tons, of which 4.3 tons were converted into selegiline and the rest was added to stocks. No manufacture of levomethamphetamine or selegiline was reported in the period 1999-2001. In 1995 and 1996, Germany reported the manufacture of substantial amounts of metamfetamine (a total of 6.6 tons). All of the metamfetamine manufactured was converted into levopropylhexedrine. No manufacture of metamfetamine took place in 1997, whereas a total of almost 4.5 tons of the substance was manufactured in the period 1998-1999 and 1.5 tons were manufactured in 2000, all of which was converted into levopropylhexedrine. No manufacture of metamfetamine was reported for 2001.

28. Between 1991 and 1998, the annual manufacture of amphetamine in Switzerland fluctuated between 1.4 tons (in 1993) and nearly 2.5 tons (in 1996). No manufacture of that

substance took place in 1997. Manufacture of that substance then increased sharply from 1.6 tons in 1998 to 8.3 tons in 1999. Since 2000, no manufacture of amphetamine was reported in Switzerland. Amphetamine was used almost entirely for conversion into fenproporex. Until 1994, fenproporex was also manufactured from dexamphetamine imported from France (400 kg in 1994). Occasionally, metamphetamine was used for conversion into fenproporex. In 1995, 1.2 tons of metamphetamine were manufactured and converted into fenproporex. Also in 1995, 200 kg of metamphetamine racemate were imported and used for the manufacture of fampromazone.

29. In the 1990s, the trend in the manufacture of amphetamine in the United States mainly reflected changes in the demand for dexamphetamine, into which it was converted. The manufacture of amphetamine, which during the 1980s was stable at a level below 50 kg annually, began to rise sharply after 1994, amounting to around 6.8 tons annually during the period 1995-1997. During the period 1998-1999, the manufacture of amphetamine increased to an annual level of around 13 tons. After having reached a record level of nearly 19 tons in 2000, manufacture dropped to 9.6 tons in 2001. Of this quantity more than 7 tons were used for conversion into dexamphetamine. Since 1992, metamphetamine racemate has been imported by the United States from France in large quantities (an annual average of 1.4 tons in the period 1995-1999 and 3.2 tons in 2001). The substance has been divided into levomethamphetamine and metamphetamine. Before 1998, about 700 kg of metamphetamine had been converted into benzphetamine each year. In 2001, 1.2 tons of metamphetamine was used in the manufacture of non-psychotropic substances.

30. In 1997, Hungary reported for the first time the manufacture of metamphetamine (2.3 tons) and used the substance for conversion into selegiline. In 1999, Hungary reported the manufacture of almost 6 tons of metamphetamine. No manufacture of the substance was reported for 1998, 2000 and 2001. 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. In 2000, 480 kg of levomethamphetamine were imported for conversion into selegiline. Israel last reported a significant import of levomethamphetamine in 1996 (200 kg). Ireland imported 100 kg of amphetamine in 1997 for conversion into amfetaminil.

### *Fenetylline*

31. Fenetylline was brought under international control in 1986. The manufacture of the substance was last reported in 1987. Worldwide stocks of fenetylline, which amounted to nearly 4 tons in 1987, were significantly reduced as a result of the voluntary destruction of all stocks of the substance in Switzerland in 1991 and 50 per cent of the stocks in Germany in 1992. Those stocks were destroyed in order to put an end to attempts by drug traffickers to divert fenetylline into illicit channels by using falsified import authorizations.<sup>4</sup>

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

In the period 1997-2001, Germany and the Netherlands were the main exporters of fenetylline. In 2001, Germany exported all of its remaining stocks to the Netherlands. 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 1996-2001. The consumption of fenetylline in Germany was about 25 kg annually during the period 1996-1999 but increased to an average of 52 kg in the period 2000-2001.

### *Methylphenidate*

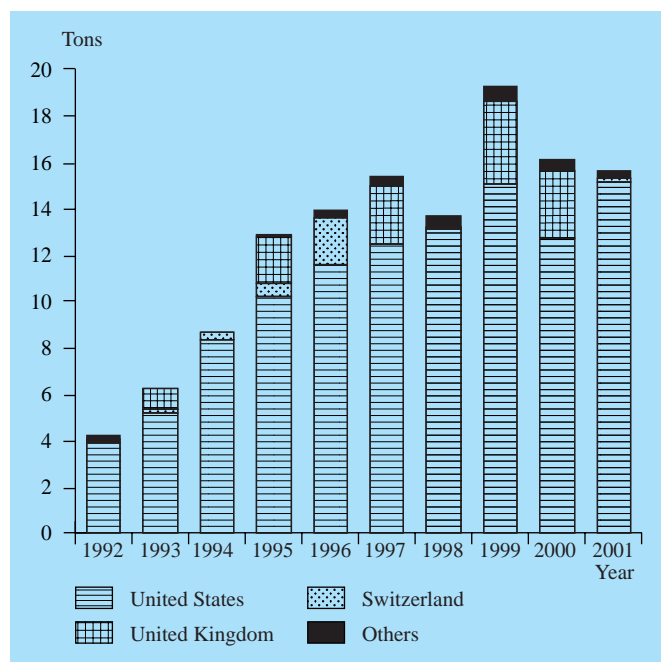
32. The use of methylphenidate for medical purposes increased significantly in the 1990s. That large increase was mainly a result of developments in the United States, where the substance is heavily advertised, including direct advertisement to potential consumers, which is prohibited in almost all countries in line with article 10, paragraph 2, of the 1971 Convention. It 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. Although methylphenidate is primarily used for the treatment of ADD, the substance is also prescribed for the treatment of narcolepsy.

33. 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 reached a record level of 19.1 tons in 1999 and dropped to 15 tons in 2001 (see figure 1). That decrease does however not reflect any decrease in consumption levels, which grew from 11.6 tons to 15.4 during the period 1997-2001. 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 more than 15 tons in 2001. Almost all of the methylphenidate manufactured in the United States has been for domestic use; only 329 kg were exported in 2001. Stocks of methylphenidate in the United States increased significantly from 500 kg in 1992 to 12.1 tons in 2001. Cases involving diversion of the substance for illicit use have been identified.<sup>5</sup>

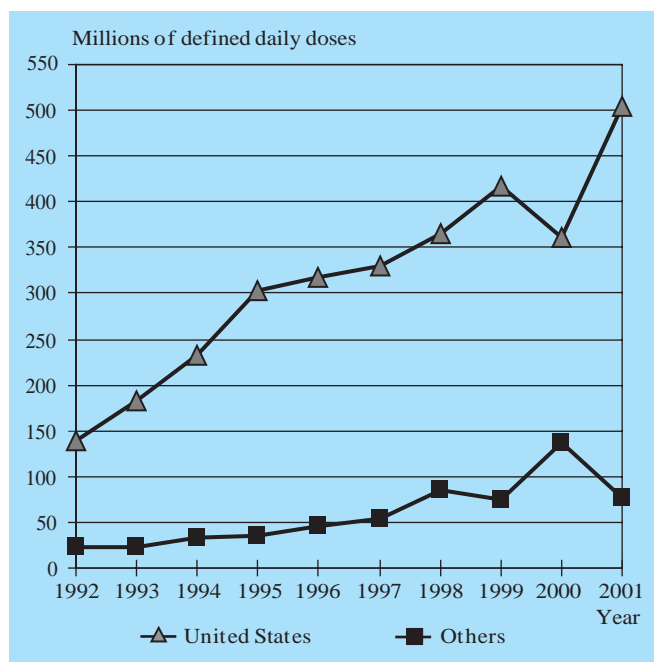
34. The medical requirements for methylphenidate outside the United States are mainly covered by imports from Switzerland and, to a lesser extent, Canada and Spain, the main countries supplying that substance on the world market. In the 1980s, methylphenidate exports from Switzerland stagnated at a level of less than 400 kg annually. After 1991, Swiss exports of methylphenidate gradually increased to 1.4 tons in 1996 and reached a record level of more than 3.3 tons in 2001. Until 1996, exports of the substance from

<sup>5</sup>See *Report of the International Narcotics Control Board for 1996* (United Nations publication, Sales No. E.97.XI.3), paras. 90-95; *Report of the International Narcotics Control Board for 1997* (United Nations publication, Sales No. E.98.XI.1), paras. 151-154; and *Report of the International Narcotics Control Board for 1998* (United Nations publication, Sales No. E.99.XI.1), paras. 148-151.

**Figure 1. Manufacture of methylphenidate, 1992-2001**



**Figure 2. Calculated consumption of methylphenidate, 1992-2002**



Switzerland were drawn from local manufacture of the raw material. Since 1997, imports of methylphenidate, mainly from the United Kingdom, have supplied the raw material for the manufacture of preparations. In 2001, the methylphenidate raw material manufactured in the United Kingdom amounted to 1.8 tons. The quantity of manufactured in the United Kingdom, together with part of the stocks of methylphenidate in that country (0.9 ton), were exported to Switzerland.

35. The number of countries and territories importing methylphenidate for domestic consumption has been growing. Since 1995, 115 Governments have reported such imports. Switzerland, the country with the second highest consumption of methylphenidate, increased its internal use of the substance from 35 kg in 1997 to 219 kg in 2001. Canada, which for many years had been the second highest consumer, reduced its imports from 1.3 tons in 2000, the highest level ever imported, to 849 kg in 2001. In Australia, methylphenidate imports rose from 12 kg in 1990 to 204 kg in 2000 and then dropped in 2001 to 183 kg. From 1990 to 2001, methylphenidate imports increased in Germany from 17 kg to 611 kg, in the Netherlands from 6 kg to 201 kg and in Mexico from nil to 108 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 209 kg in 2001. In addition to the above-mentioned countries, 14 other countries imported more than 10 kg of methylphenidate in 2001.

36. The United States accounted for more than 80 per cent of the worldwide medical use of methylphenidate in 2001 (see figure 2). The countries and territories with the highest level of medical use of methylphenidate, calculated on the basis of statistics provided for the years 1997, 1999 and 2001<sup>2</sup> and expressed in DDD per 1,000 inhabitants per day,<sup>3</sup> are listed in table 2 according to their level of consumption for the year 2001.

**Table 2. Medical use of methylphenidate, 1997, 1999 and 2001**

Country <sup>a</sup>	DDD per 1,000 inhabitants per day		
	1997	1999	2001
United States of America	3.38	4.32	5.11
Switzerland	0.45	0.76	2.82
Iceland	0.51	1.21	2.35
New Zealand	0.99	1.27	1.29
Netherlands	0.31	0.91	1.11
Australia	0.62	0.79	0.89
Norway	0.41	0.31	0.78
Israel	0.31	0.46	0.72
Germany	0.14	0.27	0.67
Costa Rica	0.00	0.29	0.62
Cayman Islands	0.63	0.35	0.56
Belgium	0.20	0.40	0.51
Canada	1.75	1.73	0.29
Chile	0.07	0.14	0.24
Barbados	0.14	0.14	0.22
Denmark	0.10	0.14	0.22

<sup>a</sup>Countries and territories are listed according to their level of consumption of methylphenidate in 2001.

37. In 2001, a total of 56 kg of methylphenidate was manufactured in Japan for conversion into a non-psychoactive substance, used for research purposes by the pharmaceutical industry.

### Phenmetrazine

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

## Anti-emetics

### Delta-9-tetrahydrocannabinol and its stereochemical variants

39. The substance *delta*-9-THC was originally included in Schedule I but was transferred to Schedule II in 1991 in view of the use of one of its stereochemical variants (dronabinol) for the relief of nausea associated with cancer chemotherapy. The substance is also used to stimulate appetite in patients with acquired immunodeficiency syndrome (AIDS). The United States is the only country that has reported the manufacture of *delta*-9-THC in significant quantities. The manufacture of *delta*-9-THC in that country was relatively stable, averaging 66 kg in the period 1995-1999. However, the quantity manufactured increased considerably in 2000 (to 145 kg) and increased further in 2001 (to 313 kg). The quantity manufactured in 2001 in the United States represents almost five times the quantity manufactured on an annual average during the period 1995-1999 in that country. Two other countries have reported manufacture of the substance in smaller quantities in 2001, namely, Germany (1.1 kg) and the United Kingdom (3.7 kg). Almost all of the *delta*-9-THC manufactured in the United States was used domestically. Exports of the substance from the United States reached 2.7 kg in 2001. The largest imports of the substance were reported by Germany (853 grams), followed by Canada (749 grams) and Denmark (207 grams). The United States reported 185 kg as stocks of *delta*-9-THC held in 2001.

## Hallucinogens

### Phencyclidine

40. Phencyclidine has been primarily used as an anaesthetic agent in veterinary medicine. The manufacture of small quantities of the substance has been reported in the past by France, Israel, the United Kingdom and the United States (a total of 264 grams in the period 1995-2001). In the United States, the country that has held the highest level of stocks of the substance, stocks have been rapidly decreasing. In 2001, stocks of phencyclidine in the United States amounted to 91 grams. Other countries holding stocks of that substance were Switzerland (993 grams) and France (210 grams), followed by (in decreasing order) the United Kingdom, Denmark, Israel and Sweden. International trade in phencyclidine has been limited to occasional transactions of only a few grams.

## Sedative-hypnotics

### Mecloqualone

41. Mecloqualone has not been manufactured since 1980. However, some trade in mecloqualone was reported as recently as 2001, mainly between Belgium and the United Kingdom.

### Methaqualone

42. In recent years, manufacture of methaqualone has decreased dramatically from its peak period of over 50 tons annually in the 1980s. The last significant manufacture of the substance was reported in 1997 by Switzerland (340 kg)

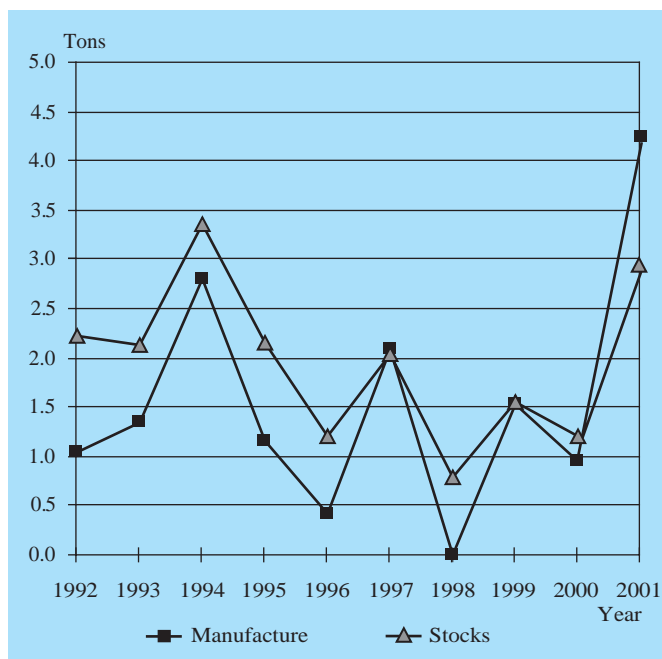
and the Czech Republic (43 kg). Global medical use of methaqualone, after falling from over 3 million DDDs in 1998 to 1.1 million DDDs in 1999, has been gradually increasing, reaching 1.5 million DDDs (300 kg) in 2001. In the period 1997-1998, Albania, Belgium, the Czech Republic and Switzerland reported the use of the substance in significant quantities for medical purposes. Since then, Switzerland has been by far the main consumer, accounting for 99.8 per cent of global consumption (299 kg) in 2001. The volume of trade in methaqualone decreased from over 40 kg in 1997 to about 376 grams in 2001, Belgium and Germany being the main importers and the Czech Republic and Switzerland the main exporters.

## Secobarbital

43. 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. In 1989, manufacture of 35.5 tons of the substance was reported by the Federal Republic of Germany.<sup>6</sup> The total manufacture dropped to 2.6 tons in 1990 and declined further to an annual average of 1.8 tons in the period 1997-2001 (see figure 3). In 2001, total manufacture of secobarbital amounted to 4.2 tons; it was accounted for by only two countries: Germany (2.2 tons) and the United States (1.9 tons). Global stocks of secobarbital averaged 1.7 tons during the period 1997-2001.

44. Denmark was the leading manufacturer of secobarbital until 2000, using the substance exclusively for exports. No

Figure 3. Secobarbital: total reported manufacture and stocks, 1992-2001



<sup>6</sup>Through accession of the German Democratic Republic to the Federal Republic of Germany with effect from 3 October 1990, the two German States have united to form one sovereign State. As from the date of unification, the Federal Republic of Germany acts in the United Nations under the designation "Germany".

manufacture was reported by Denmark in 2001. In the 1990s, only two other countries, namely Japan and the United States, manufactured secobarbital regularly, almost exclusively for domestic use. In 2000, Germany also reported the manufacture of secobarbital (679 kg) for domestic use and exports. The manufacture of secobarbital in Japan was stable at around 3 kg annually until 2000; then, in 2001, no manufacture of the substance was reported by that country. The manufacture of secobarbital in the United States averaged around 1.8 tons annually in the period 1997-2001. Stocks of secobarbital in the United States, which had been irregular, increased six-fold between 2000 and 2001. The substance is used in that country mostly for domestic consumption. The main importers of secobarbital in recent years, Ireland, Sweden and the United Kingdom, re-export significant quantities of their imports of the substance. Other major importers include Belgium, Canada, the Netherlands, Spain and Switzerland.

## **Antitussives**

### *Zipeprol*

45. Zipeprol was brought under international control in 1995. Statistics on the substance have been available only since that year. The manufacture of zipeprol in recent years has been reported by only France (1.9 tons in the period 1996-2001) and the Republic of Korea (almost 1.3 tons in the period 1996-2001). Mexico held the highest level of stocks of zipeprol in 2001 (almost 420 kg); it was followed by France (166 kg), Colombia (75 kg), Chile (53 kg) and Switzerland (2 kg). Switzerland continues to be the leading exporter of zipeprol, exporting 1.3 tons in 1999, 812 kg in 2000 and 846 kg in 2001. All exports of zipeprol reported by France in 2001 (420 kg) were imported by Switzerland to be re-exported. France and Mexico are the main users of the substance.

## **Substances listed in Schedule III**

46. 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*

47. Cathine, a substance used as an anorectic, has been listed in Schedule III since 1986. In recent years, the total quantity of cathine manufactured has been strongly fluctuating, reflecting the manufacturing levels of the only cathine manufacturer, Germany. In 2001, Germany reported the manufacture of 6.4 tons of cathine, the largest quantity of that substance ever manufactured.

48. Total imports of cathine increased from 3.5 tons in 1996 to 5.4 tons in 2001. The world's biggest importers of the substance during the period 1997-2001 were South Africa, Mexico and Italy. South Africa reported that its imports of cathine increased from an annual average of 1.6 tons per year during the period 1996-1998 to 2.4 tons in 2001. Mexico reported that its imports of the substance increased from zero in 1996 to 1.2 tons in 2001. Italy imported an average of 960 kg of cathine annually during the period 1996-2001, most of which was for re-export. Similarly, cathine imports by Switzerland, which averaged 390 kg annually in the three-year period 1999-2001, were almost entirely for re-export. Germany, the world's biggest exporter of cathine, supplemented its domestic manufacture of the substance by importing an average of almost 510 kg annually during the period 1997-2001. Germany's exports of the substance averaged 3.2 tons annually during that five-year period, ranging from a low of 2.5 tons in 1998 to a high of 3.9 tons in 2000.

### **Sedative-hypnotics**

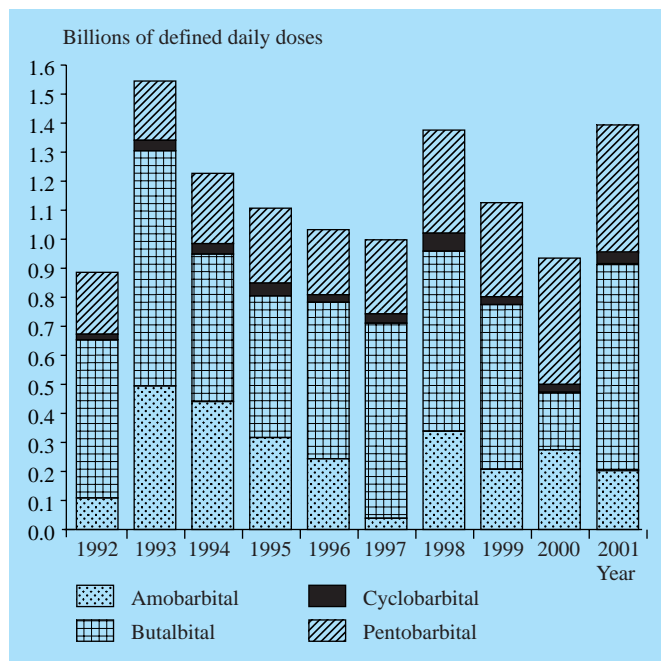
49. Four barbiturates are listed in Schedule III: amobarbital (since 1971), butalbital (since 1987), cyclobarbital (since

1971) and pentobarbital (since 1971). In the period 1997-2001, total reported manufacture of those substances, recalculated in DDD, averaged 1 billion DDD (see figure 4). Total manufacture of those substances then gradually decreased from 1.6 billion DDD in 1993 to less than 1 billion in 1997. In the years that followed, total manufacture increased, reaching approximately 1.4 billion DDD in 2001, of which 712 million DDD were of butalbital, 458 million DDD of pentobarbital, 202 million DDD of amobarbital and 26 million DDD of cyclobarbital.

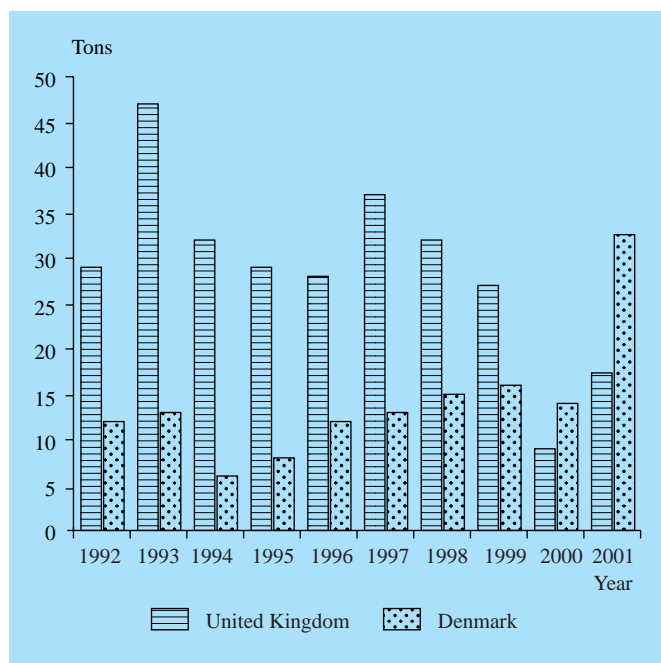
50. Global manufacture of butalbital averaged about 43 tons per year during the period 1997-2001 (see figure 5), the lowest amount having been recorded in 2000 (25 tons). In the period 1996-1999, the United States was the main manufacturer of the substance, averaging 69 per cent of global output; the manufacture of butalbital in that country gradually declined from 37.4 tons in 1997 to 9.4 tons in 2000 but increased again to 18.6 tons in 2001. 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. The only other country manufacturing butalbital regularly during the period 1997-2001 was Denmark; the amount manufactured in that country steadily increasing from 13 tons in 1997 to 33.5 tons in 2001, the year in which it was the world's leading manufacturer, accounting for about 64 per cent of global manufacture. In 2000, Germany reported for the first time the manufacture of butalbital (410 kg); in 2001, Germany increased its manufacture of that substance to 1.3 tons.

51. Although 10 countries reported exports of butalbital during the five-year period 1997-2001 Denmark accounted for as much as 98 per cent (in 1999) of global exports of the substance. In 2001, Denmark remained the biggest exporter (30 tons). The exports of butalbital by the United States almost doubled from 1996 (1.1 tons) to 1997 (2 tons) before collapsing to an average of 87 kg during the period 1998-1999; no exports of that substance were reported by the United States for 2000 and 2001. Italy and Switzerland were among the smaller exporters of butalbital during the period 1997-2001, when their combined annual average was 233 kg.

**Figure 4. Barbiturates listed in Schedule III: total reported manufacture, 1992-2001**



**Figure 5. Butalbital: total reported manufacture, 1992-2001**



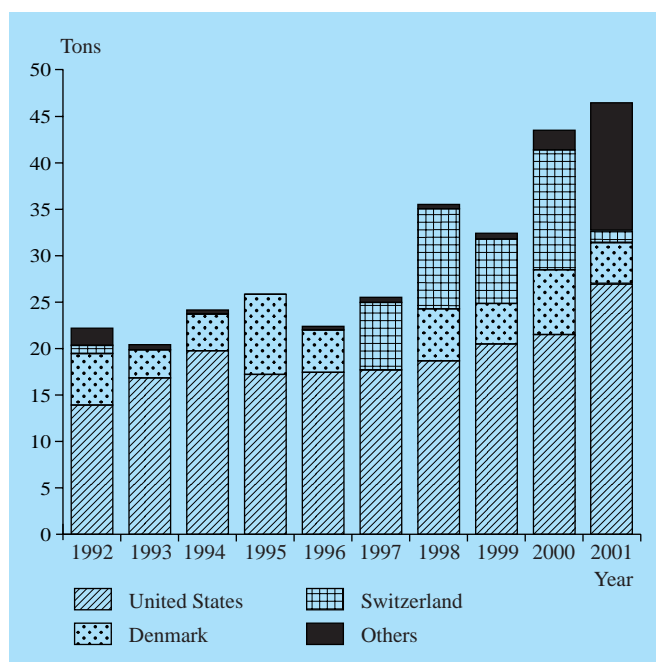
52. The United States, Italy and Canada remain the main importers of butalbital. While no imports of butalbital were reported for 1997, imports of the substance by the United States increased gradually from 7 tons in 1996 to 11.5 tons in 1999 before falling to 4.3 tons in 2000; they then increased sharply to 27 tons in 2001. Imports of the substance by Italy averaged around 5 tons per year during the period 1997-2001, the lowest level being 3.6 tons in 2000. Similarly, imports of butalbital by Canada averaged 1.6 tons per year in the period 1997-2001, decreasing slightly to 1.1 tons in 2000. Imports of the substance by Switzerland, however,

have picked up in recent years, increasing from 88 kg in 1998 to 245 kg in 2001 and averaging 223 kg per year in the period 1997-2001.

53. Total reported manufacture of pentobarbital increased steadily from about 25 tons in 1997 to 45.8 tons in 2001 (see figure 6). The United States, Switzerland, Denmark and Germany are the leading manufacturers of the substance. In 2001, the output of the United States represented 60 per cent of global manufacture of the substance. Of the 27 tons manufactured in the United States in 2001, about 17 tons were destined for domestic use. Since 1997, the output of Switzerland has been fluctuating significantly, averaging 9.5 tons per year; it has ranged from 6.9 tons in 1999 to 12.9 tons in 2000 before decreasing considerably to 901 kg in 2001. In Denmark the average annual manufacture of pentobarbital during the period 1996-1999 (excluding the year 1997, for which no manufacture was reported) amounted to 4.8 tons; that figure increased sharply to almost 7 tons in 2000 and then decreased to 3.5 tons in 2001. The pentobarbital manufactured in Denmark was mainly destined for export. The manufacture of pentobarbital in Germany increased sharply from 259 kg in 1999 to 939 kg in 2000 and 14,176 kg in 2001. Japan has not reported the manufacture of pentobarbital since 1999.

54. The biggest exporters of pentobarbital during the period 1997-2001 were, in decreasing order, Switzerland, the United States, Canada, Denmark, Germany and France. Together they accounted for over 98 per cent of global exports of the substance in that period. In 2001, Germany was the leading exporter, having exported 10.3 tons of pentobarbital, accounting for about 30 per cent of global exports of the substance. The annual exports of the substance by Switzerland averaged almost 9 tons during the period 1997-2001. On average, the United States exported a little over 5 tons of pentobarbital per year during that period. Both Canada and Denmark exported an average of 4 tons of pentobarbital annually during that period. France reported the export of 2.7 tons of the substance in 2001.

**Figure 6. Pentobarbital: total reported manufacture, 1992-2001**



55. According to the reported statistics, 63 countries imported pentobarbital during the period 1996-2001. Total imports of the substance increased steadily from nearly 17 tons in 1996 to over 27 tons in 2001. Canada (6.1 tons) and France (5.3 tons) were the biggest importers of the substance in 2001; they were followed by the United States, Germany and the Netherlands.

56. The main countries manufacturing amobarbital in recent years were China, Denmark, Japan and the United States (see figure 7). China is by far the dominant manufacturer of the substance, averaging 26 tons during the period 1998-2001. About 80 per cent of the amobarbital manufactured in China is destined for domestic use. Denmark manufactured amobarbital in 1997 (1.1 tons), 2000 (473 kg) and 2001 (1 ton) and reported no manufacture of the substance in 1998 and 1999. Japan reported having manufactured around 3 tons of amobarbital on average during the period 1997-2001 and reported no manufacture of the substance in 1999. Since 1997, the amobarbital manufactured in Japan has been destined for domestic use. Amobarbital was reported to have been manufactured in the United States only in 1996 (634 kg).

57. The main exporter of amobarbital in the period 1997-2001 was China, followed by the Netherlands, Denmark, Germany and Ireland. Since 1997, the Netherlands has exported an average of 4 tons of amobarbital per year; its exports of the substance have ranged from 2.3 tons in 1998 to 5 tons in 1999. Exports of amobarbital in the Netherlands decreased to 1.2 tons in 2001. China's exports of amobarbital followed a clear upward trend in recent years: its reported exports of the substance increased from zero in 1996 to 850 kg in 1997, 2.6 tons in 1998 and 5 tons in 1999. That upward trend in China continued in 2000, when over 5.8 tons of amobarbital were exported, but those exports decreased to approximately 2.4 tons in 2001. The amobarbital exports

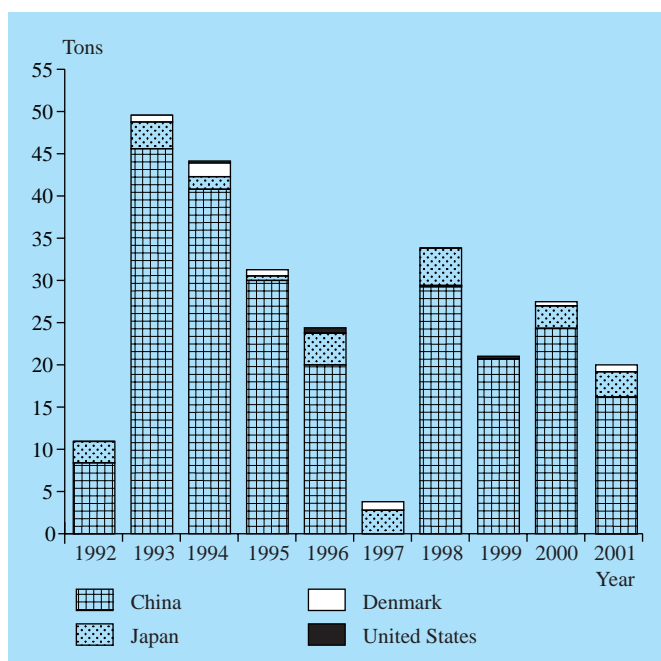
of Denmark decreased from 1 ton in 1997 to an average of 548 kg during the period 1998-2000 and increased to 1.3 tons in 2001. While Germany's exports of amobarbital fell by 50 per cent from 1998 (955 kg) to 2001 (468 kg), Ireland increased its exports of the substance in recent years, averaging 413 kg during the period 1997-2001.

58. The Netherlands, Romania, Ireland and Hungary were the world's biggest importers of amobarbital in recent years. In the Netherlands, the imports of amobarbital increased drastically from a negligible amount in 1996 to an average of 3.4 tons per year during the period 1997-2001, ranging from 2.3 tons in 1998 to 5 tons in 1999 and 1.2 tons in 2001. All of the amobarbital imports in the Netherlands were re-exported. Romania accounted for over 35 per cent of total reported imports of amobarbital in 1997 (4 tons), 1998 (2.4 tons) and 2001 (1.2 tons); however, no trade transactions involving the substance were reported by Romania in 1996, 1999 and 2000. Ireland imported an average of 413 kg of amobarbital per year in the period 1997-2001; its imports of the substance increased gradually from 155 kg in 1996 to 1,101 kg in 2001. Imports of amobarbital by Hungary, though fluctuating, have followed a slightly upward trend: average annual imports of the substance increased from 166 kg during the period 1996-1998 to 350 kg during the period 1999-2000, but then decreased to 100 kg in 2001. Global imports of amobarbital decreased significantly in 2001, to 3.9 tons, compared with the annual average of 7.5 tons for the period 1997-2000. Total reported use of the substance also decreased gradually, from 35.6 tons in 1998 to 18.4 tons in 2001.

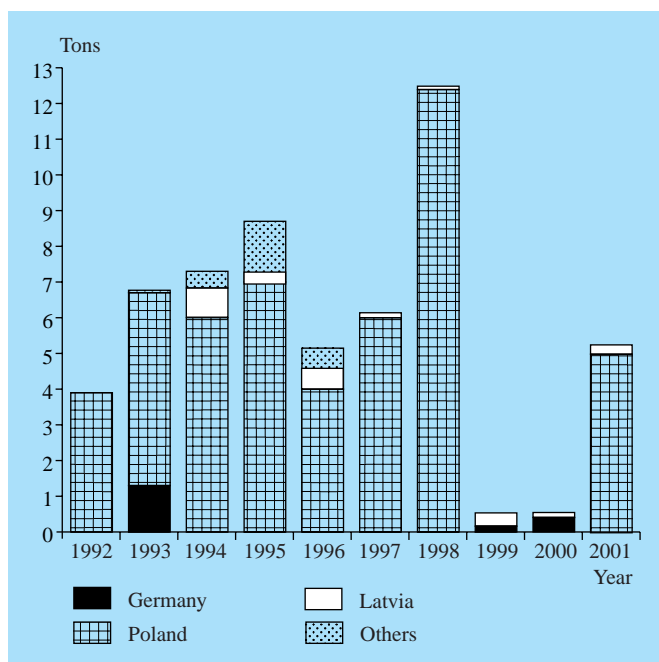
59. Cyclobarbital is mainly used in some Central European and Eastern European countries. Until 1998, Poland was the leading manufacturer of cyclobarbital, accounting for up to 99 per cent of the world total (see figure 8). The amount of cyclobarbital manufactured in Poland increased from 4 tons in 1996 to 6.3 tons in 1997 and 12.4 tons in 1998, most of which was destined for export. Poland did not report any manufacture of cyclobarbital during the period 1999-2000; however, in 2001, its manufacture of the substance amounted to nearly 5 tons. During the period 1997-2001, Latvia reported having manufactured an average of 204 kg of cyclobarbital per year. Germany, which increased its output of cyclobarbital from 162 kg in 1999 to 406 kg in 2000, reported the manufacture of only 7 kg of the substance in 2001. Japan manufactured 1 kg of cyclobarbital in 1998 and has not reported any manufacture of the substance since then.

60. Poland is the main exporter of cyclobarbital, its exports of the substance averaging 2.3 tons during the period 1997-2001. Poland accounted for, on average, 70 per cent of total annual exports of cyclobarbital during that period. The other main exporters of cyclobarbital are Germany and Latvia, their exports of the substance fluctuating around their combined average level of 184 kg per year during the period 1997-2001. The Russian Federation, having no domestic manufacture of cyclobarbital, has been the biggest importer of cyclobarbital, its imports of the substance averaging 2.6 tons per year during the period 1997-2000. Bulgaria was a significant importer of cyclobarbital from 1998 to 2000, but its imports of the substance reported for 2001 amounted to only 6 kg.

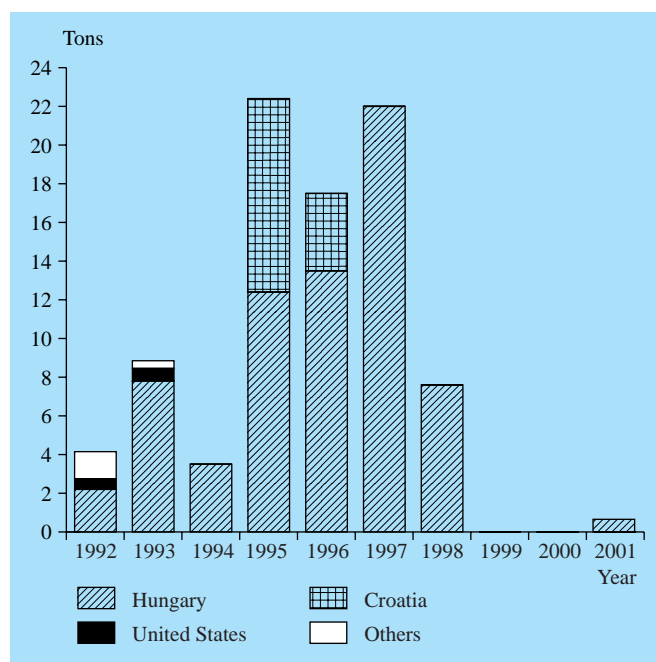
**Figure 7. Amobarbital: total reported manufacture, 1992-2001**



**Figure 8. Cyclobarbital: total reported manufacture, 1992-2001**



**Figure 9. Glutethimide: total reported manufacture, 1992-2001**



### Glutethimide

61. Total reported manufacture of glutethimide fluctuated considerably during the 10-year period 1992-2001 (see figure 9). After peaking at over 90 tons annually in the early 1980s, global manufacture of the substance fell sharply to 3.5 tons in 1994, only to increase to the annual average of 21 tons during the period 1995-1997. Since then, global manufacture of glutethimide has declined, reaching a new low of 732 kg in 2001. No manufacture of the substance was reported for 1999 and 2000. Hungary accounted for, on average, 84 per cent of global manufacture of glutethimide during the period 1992-2001 and has been the sole manufacturer of that substance since 1997.

62. With little reported manufacture of glutethimide, the volume of international trade in the substance decreased 10-fold, from an annual average of 14.6 tons during the period 1995-1998 to an annual average of 1.4 tons during the period 1999-2001. Although Croatia had supplied between one half and two thirds of the export market for glutethimide during the period 1994-1996, in recent years Hungary became the main trader in the substance, accounting for about 97 per cent of the 14 tons exported in the period 1997-1998. Since then, Hungary has accounted for an average of 58 per cent of total exports of glutethimide. Switzerland was the only other exporter of glutethimide in the period 1999-2001, its exports of that substance averaging 600 kg annually. The Netherlands and the United States reported some exports of the substance in the mid-1990s.

63. Switzerland and Bulgaria have been the main importers of glutethimide in recent years, a significant share of Swiss imports of the substance being destined for re-export. In Switzerland, large quantities of the substance have been converted into aminoglutethimide, a non-psychotropic substance used as an antineoplastic agent. Bulgaria has imported 650 kg of glutethimide annually since 1998. Other

importers of glutethimide in the period 1996-2001 were Romania (600 kg in 2001), the Netherlands (450 kg in 1996, all of which was re-exported), Hungary (200 kg in 1997) and the United Kingdom (5 kg in 1998). Since 1994, Bulgaria, Hungary, Switzerland and the United States have been the only countries reporting the domestic use of glutethimide.

### Flunitrazepam

64. Flunitrazepam was transferred from Schedule IV to Schedule III in 1995. Information and figures on the share of flunitrazepam in global manufacture and calculated consumption of benzodiazepines are included in the section on benzodiazepine-type sedative-hypnotics in Schedule IV (see paragraphs 110-126 below). Since 1997, only Italy and Switzerland have reported the manufacture of the substance. In 2001, Italy was the only country to report manufacture of flunitrazepam (207 kg); in the past its manufacture of the substance had ranged from 146 kg to 480 kg, and its annual average for the six-year period 1996-2001 was 295 kg. Switzerland manufactured 1.2 tons of flunitrazepam in 2000, making the substance the most manufactured benzodiazepine-type sedative-hypnotic; Switzerland accounted for 86 per cent of total reported manufacture of flunitrazepam (1.4 tons) that year. Argentina, Brazil, the Czech Republic and Denmark were the only other countries reporting the manufacture of flunitrazepam in the 10-year period 1992-2001.

65. International trade in flunitrazepam was relatively stable during the period 1992-2001, fluctuating around a 10-year average of 1.2 tons, though in recent years there has been a downward trend. Italy, Ireland, the United Kingdom, the Czech Republic and Germany have traditionally been the main exporters of flunitrazepam, supplying an average of 90 per cent of global exports during the period 1992-1996.

Although those countries still account for over 25 per cent of global exports of flunitrazepam, in recent years Switzerland has become the leading exporter of the substance, accounting for over 70 per cent of total exports during the period 1997-2001. While the annual average of global imports of the substance during the period 1997-2001 was 15 per cent lower than the average during the period 1992-1996, Japan remained the leading importer of flunitrazepam. Imports of flunitrazepam by Japan increased from 305 kg in 1996 to 472 kg in 2001, its share of total imports increasing sharply from 23 per cent to 48 per cent. The other main importers of flunitrazepam in the period 1997-2001 were, in decreasing order, France, Germany, the Czech Republic and Argentina, their annual trade volume averaging more than 50 kg per year during that period. Twenty-two other countries in all regions of the world imported flunitrazepam in 2001 in quantities exceeding 1 kg.

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

### **Analgesics**

#### *Buprenorphine*

67. Buprenorphine, listed in Schedule III since 1989, is used as an analgesic and, in some countries, in the detoxification and substitution treatment of heroin addicts. Total reported manufacture of the substance increased steadily from 303 kg in 1996 to a peak 1,056 kg in 2000. In 2001, it decreased to 470 kg. The United Kingdom continues to be the main manufacturer of buprenorphine, accounting for 91 per cent of the world total, on average, during the period 1997-2001; its manufacture of the substance increased from 274 kg in 1996 to an annual average of 950 kg in the period 1999-2000. In 2001, the United Kingdom reported the manufacture of only 337 kg of buprenorphine. The level of manufacture of buprenorphine in India averaged 13.8 kg per year during the period 1997-2001, ranging from 8 kg in 1997 to 22 kg in 1999, but INCB has not yet received that country's data on manufacture for 2001. The other manufacturers of buprenorphine included Australia, which had reported little manufacture of that substance in the past; it reported having manufactured 134 kg of the substance in 2001. The Netherlands manufactured an average of 9.2 kg of buprenorphine during the period 1997-2001.

68. Nine countries have reported exports of buprenorphine in recent years. Total exports of the substance rose gradually from 100 kg in 1996 to 403 kg in 2001, increasing by an average of 47 per cent per year. That trend was driven by the rise in buprenorphine exports from the United Kingdom, the main exporter of the substance. From 1996 to 2001, the level

of annual exports of buprenorphine from the United Kingdom increased from 84 kg to 286 kg. In 2001, non-trivial amounts of buprenorphine were also exported by Australia (87 kg), Germany (14 kg), the Netherlands (9 kg) and France (5 kg).

69. France was the dominant importer among the 22 countries that reported imports of buprenorphine in the period 1997-2001. France's imports of the substance grew steadily from 68 kg in 1996 to 239 kg in 2001; those imports were mainly destined for domestic use. The other two major importers of buprenorphine in 2001 were Germany (89 kg) and the United States (18 kg). Average annual imports of the substance during the period 1996-2000 amounted to 12.8 kg for Germany and 6.4 kg for the United States. Italy increased its imports of buprenorphine from an annual average of 1 kg during the period 1997-1999 to 20 kg in 2001. In the year 2001, the import of buprenorphine was reported for the first time by Brazil (28 kg) and the Netherlands (4 kg). The increasing use of buprenorphine in France and Germany is mostly the result of it being used for medical purposes, in the detoxification and substitution treatment of heroin addicts.

#### *Pentazocine*

70. Pentazocine was included in Schedule III in 1984. Total reported manufacture of that substance rose steadily from 1.3 tons in 1996 to 5.4 tons in 2000 before decreasing to 2.9 tons in 2001. Italy, the United Kingdom and India were the main manufacturers of pentazocine in recent years. In 2001, Italy accounted for nearly 90 per cent of total annual manufacture of the substance, averaging 2.27 tons per year during the period 1997-2001. The manufacture of pentazocine in the United Kingdom has fluctuated around 1.3 tons per year; no manufacture of the substance was reported by the United Kingdom in 1999 and 2001. India, which had not reported pentazocine manufacture during the period 1996-1998, became one of the leading manufacturers of the substance, manufacturing 2.5 tons in 1999 and 1.4 tons in 2000, mainly for domestic use. INCB has not yet received data from India on manufacture for 2001. The other manufacturers of the substance included the United States, which manufactured a total of 439 kg in the period 1997-2001 and Slovenia, with a reported manufacture of 103 kg in 1998. In 2001, Hungary reported for the first time the manufacture of pentazocine (136 kg).

71. Of the 19 countries that reported exports of pentazocine in recent years, Italy was the leader (accounting for about 50 per cent of global exports); it was followed by the United Kingdom, Switzerland, Slovenia, the United States, India and Portugal. Exports of pentazocine reported by the United Kingdom in 2001 were about one half of the exports of that substance reported by the United Kingdom in 1997. Since 1997, exports of pentazocine from Slovenia have been stable, averaging 334 kg. Exports of that substance from the United States fell gradually from 908 kg in 1996 to 221 kg in 2001. Major importers of the substance in 2001 were Romania (480 kg), Japan (370 kg), Switzerland (338 kg, mainly for re-export), Portugal (255 kg), the United States (223 kg) and Canada (219 kg). Slovenia did not report any imports of pentazocine in 2001.

## Substances listed in Schedule IV

72. Sixty-two 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 (5 substances); and analgesics (1 substance).

### Central nervous system stimulants

73. 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.

74. Reported manufacture of central nervous system stimulants in Schedule IV showed extreme fluctuations during the period 1996-2001 (see figure 10). The level of manufacture was relatively stable, with an annual average of 1.2 billion DDD for total reported manufacture in the period 1991-1995. In 1996, a record high of 3.9 billion DDD was reached as a result of the increasing use of stimulants as anorectics. As a consequence of medical controversy on the use of those substances for the treatment of obesity, total manufacture started to decrease in 1997 and reached a record low level in 1998 (356 million DDD). After 1998, manufacture increased again and reached a level of total reported manufacture of 2.2 billion DDD in 2001.

75. The fluctuations between 1996 and 1998 were mainly a reflection of developments in the use of phentermine in the United States (see figure 11) for the treatment of obesity in combination with another anorectic (fenfluramine). After the withdrawal of fenfluramine from the market in the United States and a number of other markets in September 1997, the use of phentermine also declined significantly. During the last two years, manufacture and consumption picked up again and phentermine has become once again the most used anorectic in the United States.

76. The highest per capita consumption of stimulants in Schedule IV during the 1990s has traditionally been in the Americas. Those high consumption levels have been successfully reduced in a number of countries in South America (such as Argentina and Chile) through measures introduced against their inappropriate use. The temporary decrease in the consumption of phentermine in the United States has also contributed to that development. For two years, the consumption of phentermine in the United States has again been on the increase, but at a level lower than that of 1996. At the same time, the consumption of anorectics has increased significantly in some countries in Asia and Europe (see figure 12), which is where the highest regional per capita consumption has been recorded. Very divergent trends in per capita consumption have been recorded in European countries. While the consumption of anorectics has decreased significantly in some European countries, others have

Figure 10. Central nervous system stimulants listed in Schedule IV: total reported manufacture, 1992-2001

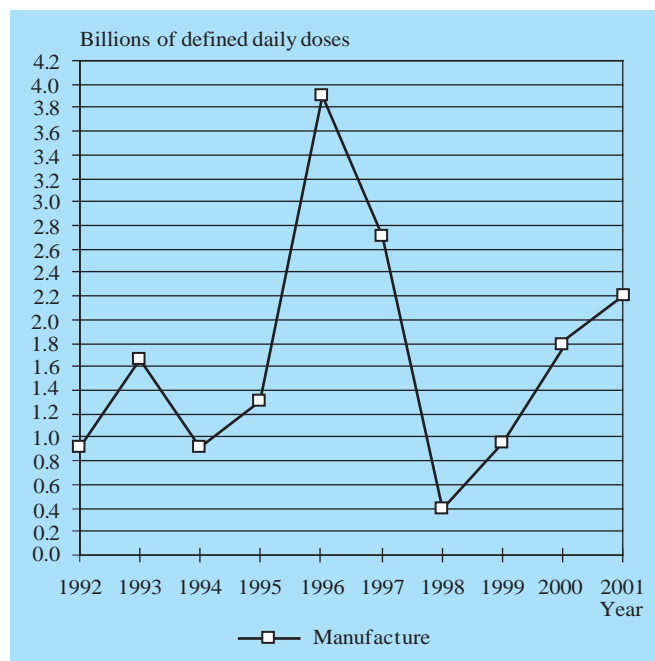
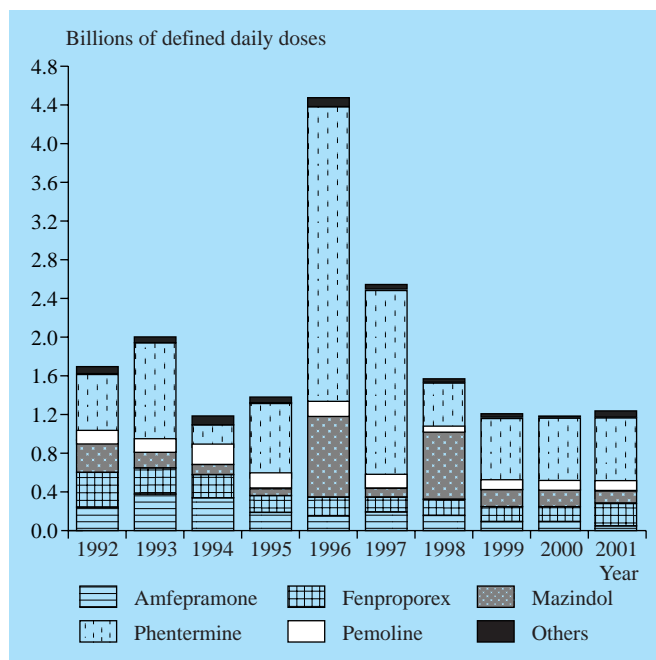


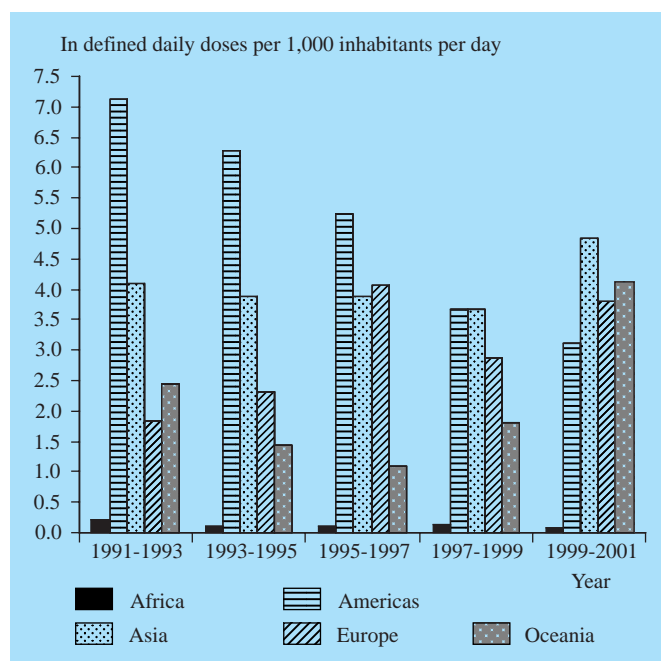
Figure 11. Central nervous system stimulants listed in Schedule IV: calculated global consumption,\* 1992-2001



\*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 (DDD).

recorded remarkable increases. Of all the countries in the world, the United Kingdom (14.85 DDD per thousand inhabitants per day), Australia (9.68 DDD) and Singapore (8.77 DDD) reported the highest calculated per capita use of stimulants in Schedule IV in the period 1999-2001. Reports of diversion and abuse of anorectics have been received from several countries in all regions of the world in recent years.

**Figure 12. Central nervous system stimulants listed in Schedule IV: average national consumption in selected countries, by region,\* 1991-2001**



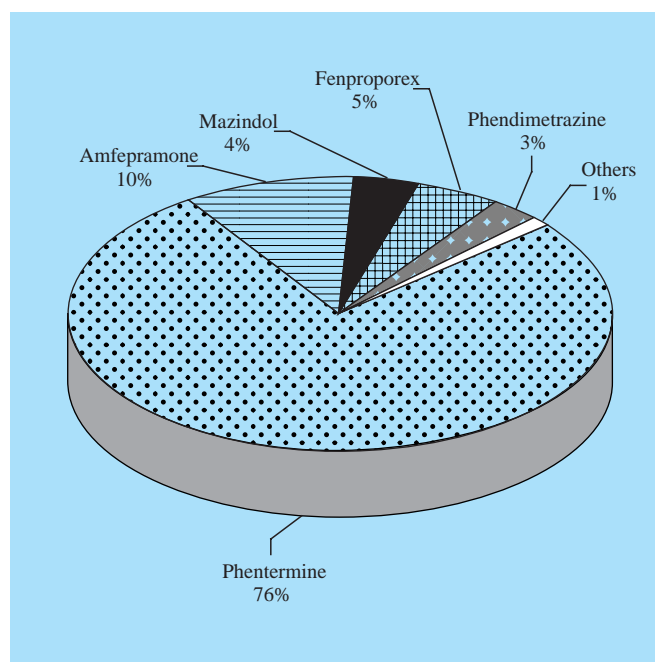
\*Statistical data submitted by Governments are used to calculate the average annual consumption for a three-year period. Data from the five countries with the highest consumption were included in the calculation for each region.

77. In 2001, of the total reported manufacture of the stimulants in Schedule IV, the reported manufacture of phentermine (1.7 billion DDD) accounted for 76 per cent, the reported manufacture of amfepramone (219 million DDD) accounted for 9 per cent, the reported manufacture of fenproporex (108 million DDD) accounted for 5 per cent, that of mazindol (97 million DDD), phendimetrazine (77 million DDD) and benzfetamine (21 million DDD) accounted for 1-4 per cent. Manufacture of pemoline (875 thousand DDD) was only minimal. No manufacture was reported for any of the other central nervous system stimulants included in Schedule IV (see figure 13).

78. Phentermine has been the main substance in the group of stimulants in Schedule IV, its share of total stimulant manufacture fluctuating widely between 25 per cent and 76 per cent. In 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. Total reported manufacture of phentermine increased steadily from 2.6 tons in 1999 to 25.5 tons in 2001. The main manufacturers during the period 2000-2001 were the United Kingdom (13 tons in 2000) and the United States (21.6 tons in 2001); smaller quantities were manufactured by Germany (1.7 tons in 2001), Spain (1.6 tons in 2001) and Italy (615 kg in 2001).

79. Until recently, the main exporter of phentermine had been the United Kingdom (more than 5 tons in 2000). In 2001, however, exports of phentermine from the United Kingdom dropped to 189 kg, and the main exporter of the substance was Switzerland (1.2 tons). Austria, France, Germany, Italy, the Netherlands, Spain and the United States all exported phentermine in quantities of less than 1 ton. Imports of phentermine in quantities of more than 1 kg were

**Figure 13. Central nervous system stimulants listed in Schedule IV: substances' shares of total reported manufacture, 2001**



reported in 2001 by 32 countries and territories. Several major importers of phentermine, including Australia and the Netherlands, re-exported a significant share of their imports of the substance. Thailand imported 1.3 tons of the substance, exclusively for domestic use.

80. In 2001, total reported manufacture of amfepramone, a substance mainly used as an anorectic, amounted to about 16 tons, 1 ton less than the average of 17 tons during the period 1999-2000. Only three countries reported having manufactured amfepramone in 2001: Brazil (8.1 tons), Switzerland (7.1 tons) and Italy (1.2 tons). Switzerland is the main exporter of amfepramone, having reported exports of more than 7 tons of the substance annually on average in the period 1998-2001. Italy exports practically all of the amfepramone that it manufactures. The amfepramone manufactured in Brazil is almost exclusively for domestic use. In 2001, the largest imports of amfepramone were reported by Mexico (1.9 tons), Belgium (1.4 tons) and Germany (1.2 tons). Germany exported most of its imports of amfepramone, while Belgium and Mexico imported the substance for domestic use. Fifteen other countries reported imports of amfepramone in quantities of more than 1 kg in 2001. 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.

81. 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 2001, the only manufacturer of fenproporex was Brazil, which reported 2.2 tons of the substance, most ever manufactured by that country. In the period 1995-1999, the manufacture of fenproporex in France varied greatly, averaging around 1.3 tons annually, a significant drop from the annual average of nearly 3 tons of that substance manufactured in that country in the period 1992-1994. No manufacture of fenproporex has been reported by France since

2000; that is probably related to the stringent regulations introduced in that country governing the prescription of anorectics. Switzerland reported steadily increasing manufacture of fenproporex after 1997, reaching 4.9 tons in 2000, more than any other country that year. Switzerland did not manufacture any fenproporex in 2001. In Brazil, the fenproporex manufactured is used almost exclusively for domestic consumption, while Switzerland exports all of the fenproporex that it manufactures. The leading importer of the substance in 2001 was Brazil (1.8 tons), followed by Mexico (966 kg). Since 1995, 14 other countries, mainly in Latin America and Southern Europe, have reported having imported the substance in quantities of more than 1 kg.

82. Mazindol was manufactured exclusively in Brazil, an average of 90 kg in the period 1999-2001, about half of which was for domestic consumption and the rest for export. The only other country ever reporting the manufacture of mazindol was Poland in 1998 (25 kg) and 1999 (1 kg). The main importer of mazindol is Mexico (37 kg in 2001, exclusively for domestic consumption) and Switzerland (69 kg in 2001, for export). During the period 1997-2001, 14 other countries reported having imported mazindol in quantities of 1-10 kg.

83. Italy was the main manufacturer of phendimetrazine, its manufacture of that substance reaching a record level of 5.1 tons in 2001. The United States reported the manufacture of phendimetrazine only in 1999 and 2001; in both years it manufactured a relatively small quantity of that substance (560 kg in 1999 and 274 kg in 2001). Phendimetrazine manufactured in Italy is mainly destined for export (4.5 tons in 2001). Traditionally, the United States has been the main importer of the substance (3.8 tons in 2001). Since 1997, five other countries have reported imports of phendimetrazine in quantities of more than 1 kg.

84. The manufacture of benzfetamine has only been reported by the United States (1.6 tons in 2001, practically all of it for domestic consumption). No international trade in the substance has been reported.

85. The manufacture of pemoline, a substance under international control since 1989, amounted to 8.7 tons in 1995. Its manufacture then declined sharply to 4.6 tons in 1997 and no manufacture of the substance was reported in 1998. In 2001, only the United States reported manufacture of the substance (35 kg). The Netherlands (716 kg) and Switzerland (722 kg) were the main exporters of the substance in 2001. The main importers of pemoline in 2001 were Israel (627 kg), Argentina (344 kg), the United States (187 kg) and Spain (175 kg); most of the pemoline imported by those countries was for domestic consumption. In 2001, six other countries reported imports of pemoline in quantities of more than 1 kg. Besides being used as a stimulant, pemoline is also used for the treatment of ADD.

86. 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 co-operation with INCB.

87. Reports on the manufacture of and trade in the other stimulants included in Schedule IV have been sporadic. No

manufacture of those stimulants was reported for 2001. In 1999, the manufacture of pipradrol was reported by France (20 kg). In the period 1999-2001, no manufacture of aminorex, etilamfetamine, femcamfamin, mefenorex, mesocarb or pyrovalerone was reported. Occasional trade transactions involving fencamfamine, mefenorex and pipradrol were reported. No international trade in aminorex, benzfetamine, etilamfetamine, mesocarb or pyrovalerone was reported.

### ***Benzodiazepine-type anxiolytics***

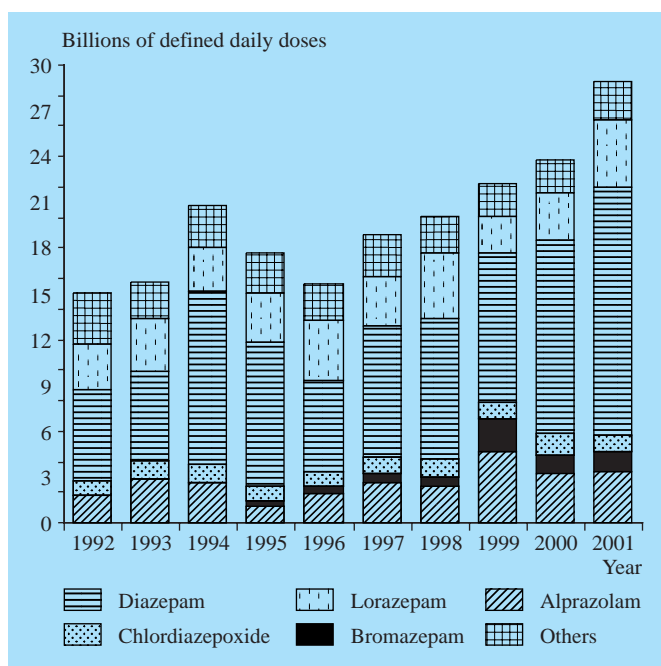
88. Thirty-three benzodiazepines were included in Schedule IV in 1984. Midazolam was added to Schedule IV in 1990 and brotizolam was added to it in 1995. Flunitrazepam was transferred in 1995 from Schedule IV to Schedule III.

89. 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. In 2000, Canada provided, for the first time, data on benzodiazepines, but that data covered only the period from September 2000 until the end of the year, since benzodiazepines became subject to national control only on 1 September 2000. Data on benzodiazepines have been made available by Austria only since 1998, such data were provided for the first time by Belgium in 1999.

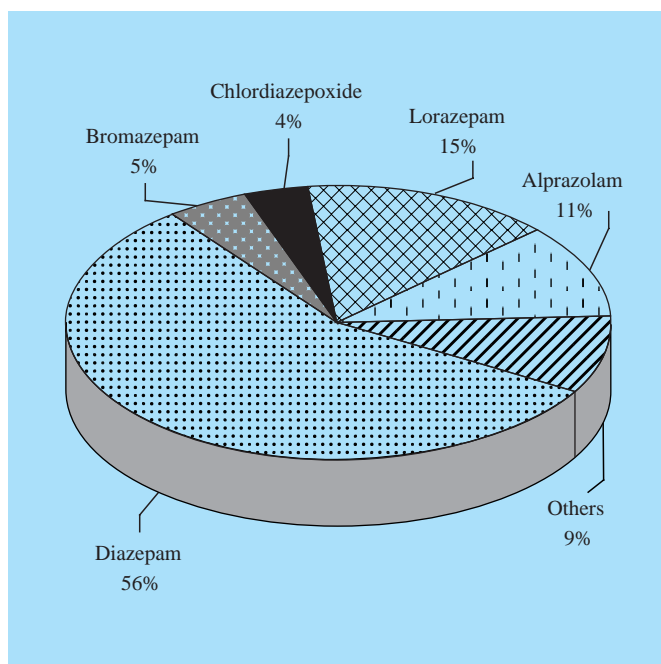
90. Twenty-two benzodiazepines are generally classified as anxiolytics. The total reported manufacture of this group of substances, expressed in DDD, has been steadily increasing since 1996; in 2001, it increased by 21 per cent, reaching a record level of 28.9 billion DDD (see figure 14). Fluctuations in the level of manufacture of benzodiazepine-type anxiolytics are usually a reflection of fluctuations in the manufacture of diazepam, the main substance of this group, which accounted for over 56 per cent (or 16.3 billion DDD) of the total in 2001. In 2001, the share of lorazepam (4.4 billion DDD) increased to over 15 per cent, while manufacture of alprazolam (3.3 billion DDD) accounted for 11.5 per cent of total reported manufacture. Bromazepam, chlordiazepoxide, oxazepam and clorazepate each accounted for between 1 and 5 per cent of the total reported manufacture of benzodiazepine-type anxiolytics in 2001 (see figure 15). The remaining 15 substances in this group (camazepam, clobazam, clotiazepam, cloxazolam, delorazepam, ethyl loflazepate, fludiazepam, halazepam, ketazolam, medazepam, nordazepam, oxazepam, pinazepam, prazepam and tetrazepam) together accounted for less than 5 per cent of the total reported manufacture calculated in DDD. No manufacture of camazepam and delorazepam was reported in 2001. As shown in figures 16 and 17, China and Italy were the leading manufacturers of benzodiazepine-type anxiolytics in the 10-year period 1992-2001.

91. Approximate consumption levels, calculated by INCB, have followed the trend in manufacture (see figure 18). In 2001, total consumption of this group of substances increased by 8 per cent, reaching 26 billion DDD. The calculated average national consumption of benzodiazepine-type anxiolytics is higher in Europe than in the other regions (see figure 19). The average use in the five leading European consumer countries for this group of substances reached 69 DDD per 1,000 inhabitants per day in 2001.

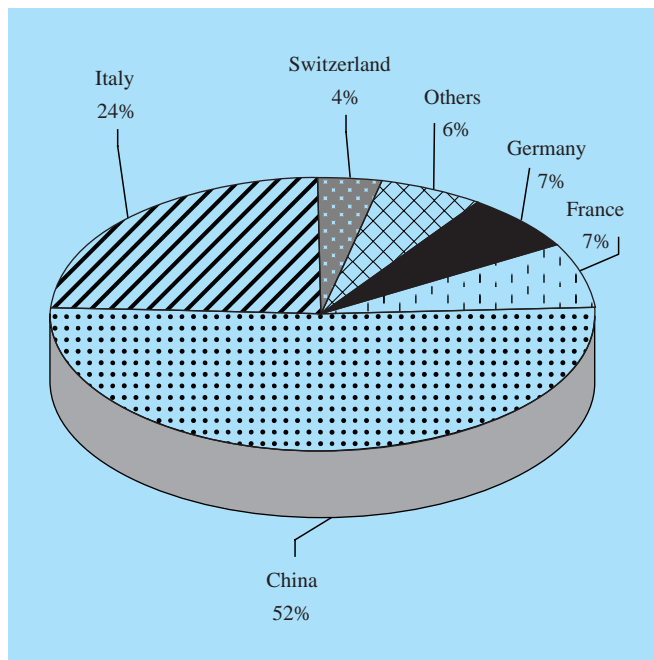
**Figure 14. Benzodiazepine-type anxiolytics: total reported manufacture, by substance, 1992-2001**



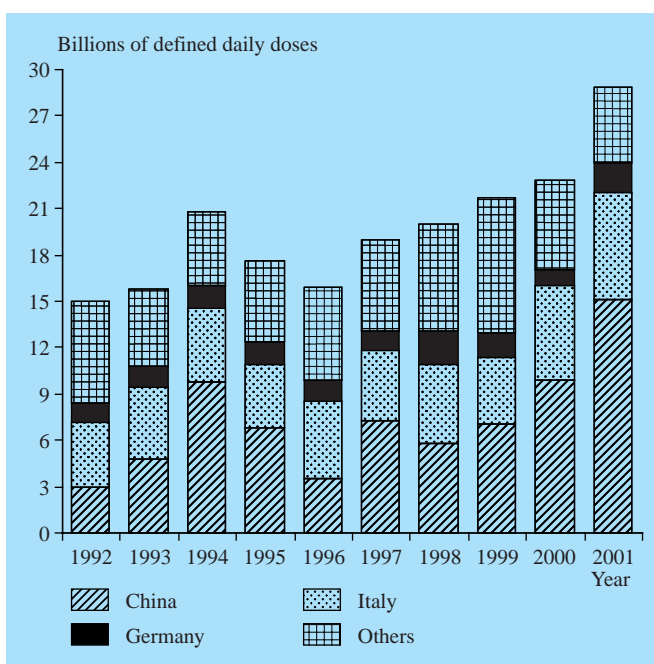
**Figure 15. Benzodiazepine-type anxiolytics: substances' shares of total reported manufacture, 2001**



**Figure 16. Benzodiazepine-type anxiolytics: countries' shares of total reported manufacture, 2001**



**Figure 17. Benzodiazepine-type anxiolytics: reported manufacture, selected countries, 1992-2001**

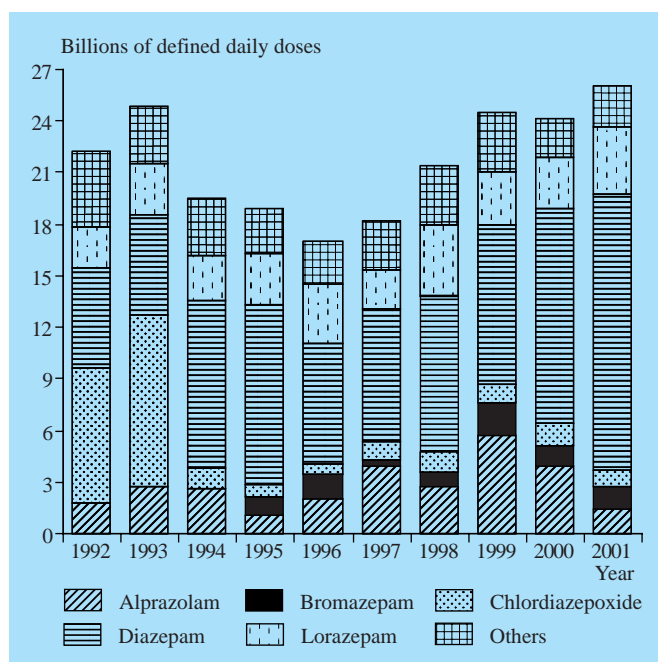


92. Attempts have frequently been made to divert some benzodiazepine-type anxiolytics, especially diazepam and chlordiazepoxide, from international trade into the illicit drug traffic, mainly in countries in Africa and South-East Asia.<sup>7</sup>

<sup>7</sup>See *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.

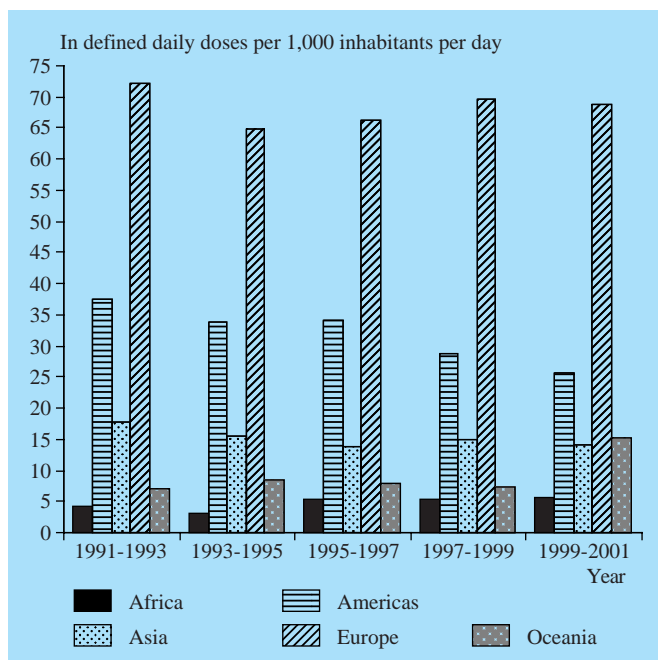
93. Diazepam, the most traded substance in the group of benzodiazepine-type anxiolytics, is consumed in all regions of the world. During the period 1997-2000, global manufacture of diazepam followed an increasing trend, averaging over 100 tons annually. In 2001, that trend continued, as a total of 162 tons, 28 per cent more than in 2000, was reported to have been manufactured in nine countries. China has traditionally been the major manufacturer and exporter of the substance; it accounted for 88 per cent of global manufacture of that substance in 2001. The other main manufacturers and exporters of diazepam in recent years included Brazil, India, Italy and Switzerland.

**Figure 18. Benzodiazepine-type anxiolytics: calculated global consumption,\* by substance, 1992-2001**



\*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 19. Benzodiazepine-type anxiolytics: average national consumption, in selected countries, by region,\* 1991-2001**



\*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.

94. In China, the manufacture of diazepam increased by 56 per cent in 2001, reaching a new peak of over 143 tons. The manufacture of that substance in China fluctuated between 24 and 92 tons in the 10-year period 1992-2001. In addition, China supplied at least one third of global exports of diazepam, on average, in the five-year period 1997-2001.

China exported 20 tons of the substance in 2001, which was far below the levels reported by that country in the mid-1990s (for example, 67 tons in 1994).

95. The manufacture of diazepam fell in Italy, the second largest manufacturer and exporter of the substance, from 21 tons in 2000 to 16 tons in 2001; however, the country continued to increase its exports of the substance, which reached 20 tons in 2001. The manufacture of diazepam in India has declined in recent years, falling from an average of 11 tons during the period 1998-1999 to 7 tons in 2000; however, no data are available on manufacture in India in 2001. Despite the decreasing trend in the manufacture of diazepam, India continued to export an average of 1 ton of the substance annually during the period 1997-2001. In the same period, diazepam manufacture in Brazil and Switzerland fluctuated around 3 tons annually, the average for the five-year period 1997-2001. In Brazil, 94 per cent of the diazepam manufactured was for domestic use. In Switzerland, exports of the substance exceeded 10 tons in 2001. The only other manufacturers of diazepam in 2001 were Poland (609 kg), the United States (280 kg), Iraq (242 kg) and Japan (28 kg).

96. For 2001, 119 countries and territories reported having imported diazepam in quantities of more than 1kg, while 65 per cent of total imports of the substance were accounted for by the 10 biggest importers: Denmark (6.9 tons), Switzerland (6.6 tons), United States (4.6 tons), Germany (3.8 tons), United Kingdom (2.8 tons) and Thailand (2.8 tons). Denmark, Switzerland and the United Kingdom re-exported most of their imports of diazepam. Spain, formerly the main importer of diazepam, reduced its imports of the substance from 29 tons (used mainly for veterinary purposes) in 1989 to 10 tons in 1997 and 1.8 tons in 2001.

97. Total reported manufacture of lorazepam followed an increasing trend in the period 2000-2001, amounting to 11.1 tons in 2001, 44 per cent higher than in the previous year. That represented a reversal of the downward trend of the period 1998-1999, when total reported manufacture of lorazepam experienced a sharp decrease from 10.6 tons to 5.8 tons. Such fluctuations are attributable to significant changes in the levels of manufacture of lorazepam in Italy (6.1 tons in 2001) and Germany (4.7 tons in 2001), the two main manufacturers of the substance, which accounted for 95 per cent of total reported manufacture in the period 1997-2001. India manufactured as much as 500 kg of the substance in recent years, but no data on its manufacture are available for 2001. The only other countries that reported having manufactured lorazepam in 2001 were Poland (221 kg), the United Kingdom (51 kg), Israel (24 kg), Spain (14 kg) and Slovakia (1 kg).

98. Trade in lorazepam averaged a little over 10 tons annually in the period 1997-2001, 9.2 tons of the substance having been imported in 2001. Italy, Germany and Ireland were by far the main exporters of lorazepam in recent years, together accounting for more than 88 per cent of total exports of the substance in 2001. Of the 77 countries that imported more than 1 kg of lorazepam at least once in the period 1997-2001, Ireland and the United States imported the most, together accounting for 42 per cent of total imports of the substance in that five-year period. In 2001, however, imports of lorazepam amounted to less than 2.6 tons in Ireland (compared with an annual average of 2.9 tons in the

period 1997-2000) and 630 kg in the United States (compared with an annual average of 1.5 tons in the period 1997-2000). The other main importers of the substance in 2001 included France (730 kg), Spain (638 kg), Italy (635 kg) and Argentina (559 kg). Germany, Ireland and Italy re-export almost all of their imported lorazepam. Argentina, France, Spain and the United States continued to be the main countries consuming lorazepam; their imports of the substance are destined for domestic use.

99. Total reported manufacture of alprazolam fluctuated in recent years, increasing from 1.1 tons in 1995 to 4.7 tons in 1999 and then falling to an average of 3.2 tons during the period 2000-2001. Those fluctuations in the level of global output reflected to a large extent the manufacturing levels in the United States, which accounted for 60 per cent of the world total prior to 1995. The United States has reported no manufacture of alprazolam since 1999, when it manufactured 1.5 tons of the substance. In 2001, France and Italy each manufactured 1.3 tons of the substance, together accounting for 79 per cent of global output. France and Italy were also the main exporters of alprazolam in 2001; together with Belgium, India and the United States, they accounted for 87 per cent of total exports of the substance in 2001.

100. In 2001, 57 countries and territories in all regions of the world declared imports of alprazolam in quantities exceeding 1 kg. The total flow of imports fluctuated between 1.6 tons and 4.1 tons, averaging 3.4 tons annually during the period 1997-2001, mainly as a result of highly unstable import developments reported by Belgium and the United States. In 2001, the main importers of alprazolam were Belgium (1 ton), the United States (838 kg), Switzerland (185 kg), Spain (182 kg), France (162 kg), Hungary (148 kg), Japan (144 kg), Argentina (137 kg) and Italy (130 kg), which together accounted for over three quarters of the total import volume. Most of the alprazolam imported by Belgium, France, Italy and Switzerland was subsequently re-exported.

101. Total reported manufacture of bromazepam fluctuated significantly in the period 1997-2001. After increasing sharply from an annual average of 6 tons during the period 1997-1998, global output of the substance peaked at over 21 tons in 1999, only to decrease by 40 per cent during the period 2000-2001, when it averaged 12.4 tons per year. Switzerland (8.4 tons) remained the major manufacturer of bromazepam, accounting for 62 per cent of total manufacture (13.4 tons) in 2001. The only other main manufacturers of the substance were Italy (averaging 3.7 tons per year in the period 1997-2001) and Brazil (averaging 1.6 tons per year during the period 1997-2001).

102. Global exports of bromazepam averaged 13.4 tons per year during the period 1997-2001, the main exporters being Switzerland (8.5 tons) and Italy (4.2 tons), which together accounted for 85 per cent of total exports of the substance in 2001. Of the 72 countries that reported imports of bromazepam in quantities of more than 1 kg in 2001, four countries accounted for 52 per cent of global imports. During the period 1997-2001, all of the bromazepam imported by Italy and Switzerland was re-exported; during the same period, 95 per cent of France's imports of the substance and 65 per cent of Germany's imports of the substance were for domestic use. Calculated global consumption of bromazepam fluctuated at about 1.4 billion DDD per year during the period 1997-2001.

103. In recent years, total reported manufacture of chlordiazepoxide fluctuated widely around its annual average (36 tons) for the period 1997-2001. In 2001, five countries reported having manufactured chlordiazepoxide, and total reported manufacture of the substance decreased by 25 per cent, compared with the year before, to 33 tons. Those fluctuations reflected changes in the quantities of chlordiazepoxide manufactured in China and Italy, the main manufacturing countries, which accounted for over 95 per cent of global output in 2001. While 85 per cent of the 19 tons of chlordiazepoxide manufactured in China in 2001 was for domestic consumption, all of the 12 tons manufactured in Italy were for export. China, Italy and Switzerland, the other main exporters of chlordiazepoxide, together accounted for over 85 per cent of global exports in 2001.

104. International trade in chlordiazepoxide averaged over 20 tons during the period 1997-2001; since 1997, 94 countries have reported, at least once, imports of the substance in quantities exceeding 1 kg. In 2001, 17 tons of the substance were imported, a decrease of 29 per cent over the year before. The main importers of chlordiazepoxide in 2001 were Switzerland (3.9 tons, entirely for re-export), Spain (3.2 tons, 30 per cent of which was for re-export) and the United States (1.6 tons, for domestic use). In the period 1997-2001, global consumption of the substance averaged about 1 billion DDD per year. According to the calculated figures, China (552 million DDD) and France (303 million DDD) were the main countries consuming chlordiazepoxide in 2001, together accounting for 85 per cent of global consumption.

105. World manufacture of oxazepam has been fairly stable in recent years, averaging 28.7 tons per year during the period 1997-2001. The main manufacturers of oxazepam in 2001 were Italy (23.5 tons) and France (6.3 tons), which together accounted for 97 per cent of global manufacture. The volume of trade in oxazepam averaged about 38 tons annually during the five-year period 1997-2001. France, Germany and Ireland were the main importers of oxazepam, with France and Ireland importing the substance mainly for re-export.

106. Total reported manufacture of clorazepate averaged 8.6 tons during the period 1997-2001, showing a slight downward trend in the last three years of that period. France (6 tons) and Italy (1.9 tons) accounted for 98 per cent of total output of clorazepate in 2001. The volume of international trade in clorazepate increased by 40 per cent in 2001, when 54 countries imported a total of 11 tons of the substance. The main importers of clorazepate in 2001 were Spain and France, but most of their imports were destined for re-export.

107. Total reported manufacture of clobazam, clotiazepam, delorazepam, ethyl loflazepate, ketazolam, nordazepam, prazepam and tetrazepam increased in 2001, as their combined total grew by 27 per cent, from 850 million DDD in 2000 to 1.1 billion DDD in 2001. The manufacture of medazepam and pinazepam declined in 2001.

### **Other anxiolytics**

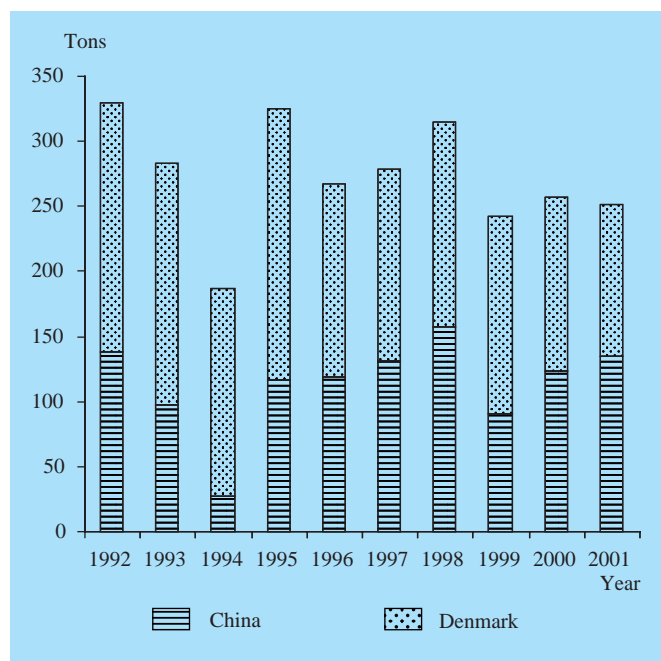
#### *Meprobamate*

108. 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 about a quarter of that amount in the 10-year period 1992-2001. Apart from two occasions in which small amounts of meprobamate were manufactured by Iraq (110 kg in 1996) and Switzerland (56 kg in 1997), China and Denmark have been the only manufacturers of the substance (see figure 20). Most of the meprobamate manufactured by China and Denmark was exported; those two countries accounted for 90 per cent of global exports during the period 1997-2001. Manufacturing levels in China fluctuated between 91 tons and 158 tons and averaged 128 tons per year in that five-year period. In Denmark, the manufacture of meprobamate experienced similar fluctuations, averaging 141 tons per year during the same period.

109. The level of international trade in meprobamate averaged over 300 tons annually in the five-year period 1997-2001; 79 countries reported imports of the substance during that period. France was the main importer of meprobamate, purchasing an average of 97 tons annually during the period 1997-2001, almost all of which was for domestic use. In 2001, France imported 111 tons of meprobamate, accounting for 36 per cent of the world total. The other main importers of the substance in 2001 were Cuba (50 tons), South Africa (34 tons), Hungary (24 tons) and Denmark (13 tons, mostly for re-export). The United States did not report imports of meprobamate in 2001, although in the previous four years it imported an average of 20 tons per year, for domestic use.

**Figure 20. Meprobamate: total reported manufacture, 1992-2001**

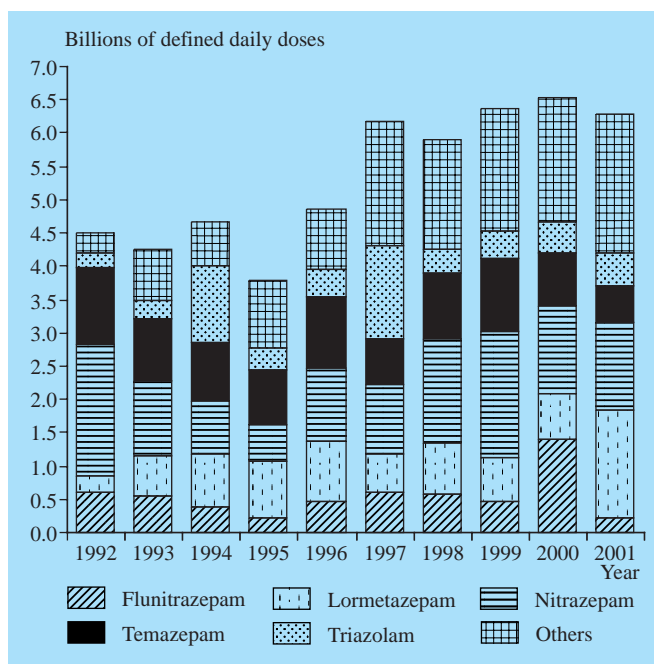


**Benzodiazepine-type sedative-hypnotics**

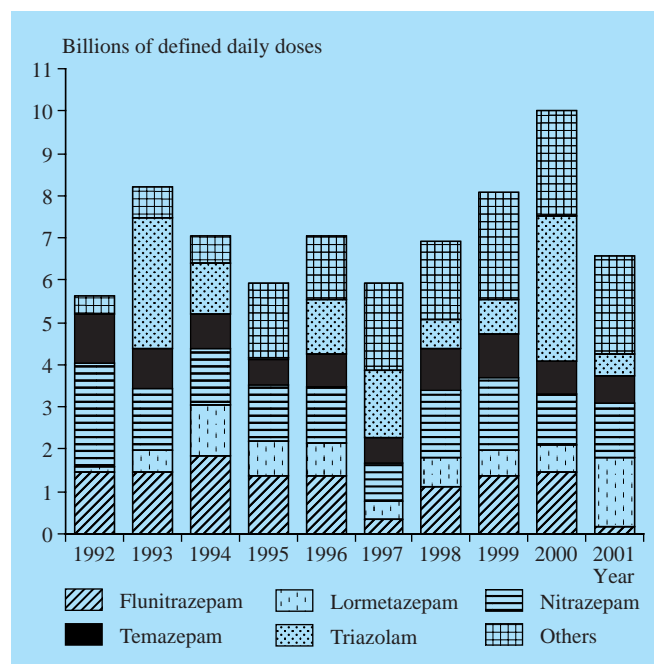
110. Twelve benzodiazepines are generally used as sedative-hypnotics: brotizolam, estazolam, flunitrazepam (the only benzodiazepine included in Schedule III), flurazepam, haloxazolam, loprazolam, lormetazepam, midazolam, nimetazepam, nitrazepam, temazepam and triazolam.

111. During the period 1997-2001, the total reported manufacture of the 12 substances in the group averaged 6.3 billion DDD per year—about 40 per cent higher than the annual average during the period 1992-1996. Belgium, Canada and Switzerland have recently started reporting to INCB on their manufacture of benzodiazepines, which has brought the calculated levels of annual consumption in line with the levels of total manufacture (see figures 21 and 22).

**Figure 21. Benzodiazepine-type sedative-hypnotics: total reported manufacture, by substance, 1992-2001**



**Figure 22. Benzodiazepine-type sedative-hypnotics: calculated global consumption,\* 1992-2001**



\*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 (DDD).

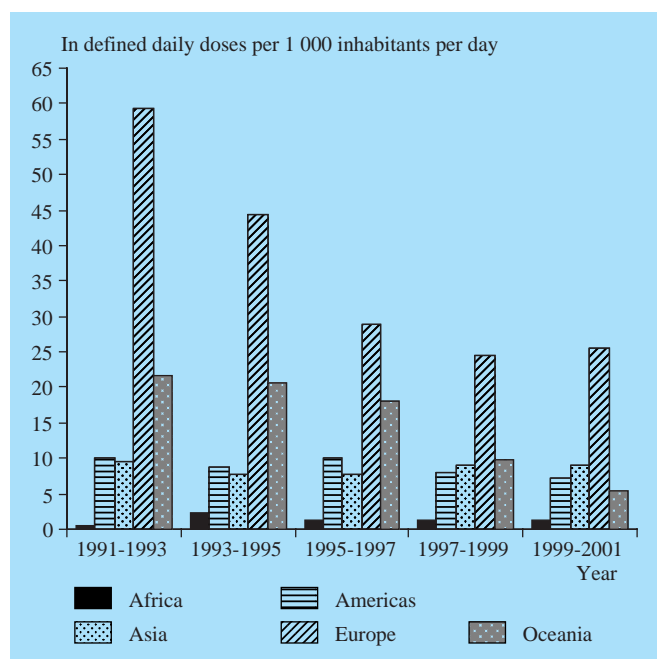
112. The calculated average national consumption of benzodiazepine-type sedative-hypnotics, expressed in defined daily doses per 1000 inhabitants per day, is higher in Europe than in the other regions (see figure 23).

113. In 2001, the levels of manufacture of lormetazepam (1.6 billion DDD), nitrazepam (1.3 billion DDD), estazolam (876 million DDD) and brotizolam (836 million DDD) accounted for three quarters of the total manufacture of benzodiazepine-type sedative-hypnotics (see figure 24). The share of total manufacture accounted for by flunitrazepam declined sharply in the period 2000-2001, from 21 per cent (1.4 billion DDD) to 3 per cent (207 million DDD), as Switzerland, the main manufacturer, reported no manufacture of the substance in 2001. The manufacture of temazepam and triazolam each accounted for 8-9 per cent of total manufacture, while the remaining five substances (flurazepam, haloxazolam, loprozepam, midazolam and nimetazepam) accounted for 6 per cent of the total. Italy, Germany, China, Switzerland and France were the main manufacturers of this group of substances (see figures 25 and 26).

114. Comments on flunitrazepam, a substance that was transferred from Schedule IV to Schedule III in 1995, are included in paragraphs 64-66 above.

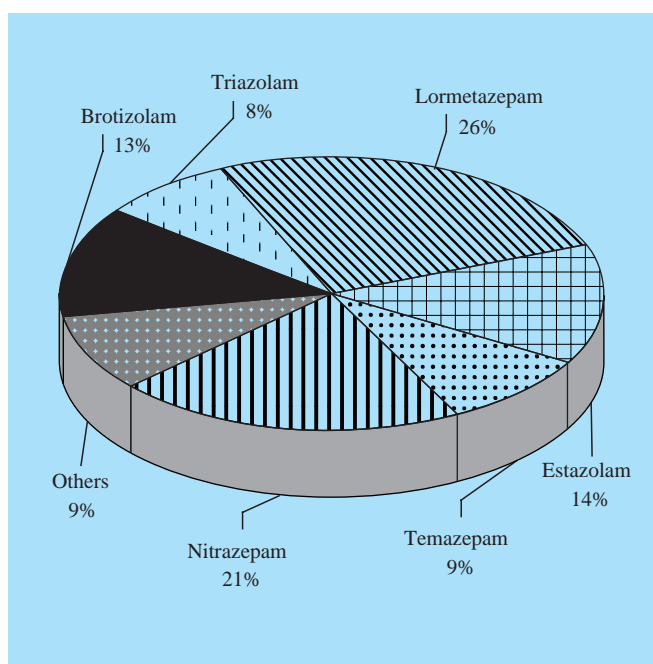
115. The manufacture of lormetazepam increased steadily after 1991, reaching a peak of 899 kg in 1996; after averaging 670 kg during the period 1997-2000, it peaked again at over 1.6 tons in 2001. The latest boost in manufacture can be attributed to a significant increase in the output of the two main manufacturers: the amount of lormetazepam manufactured in 2001 by Germany (998 kg) and Italy (634 kg) was more than double the amount manufactured by those

**Figure 23. Benzodiazepine-type sedative-hypnotics: average national consumption,\* by region, 1991-2001**

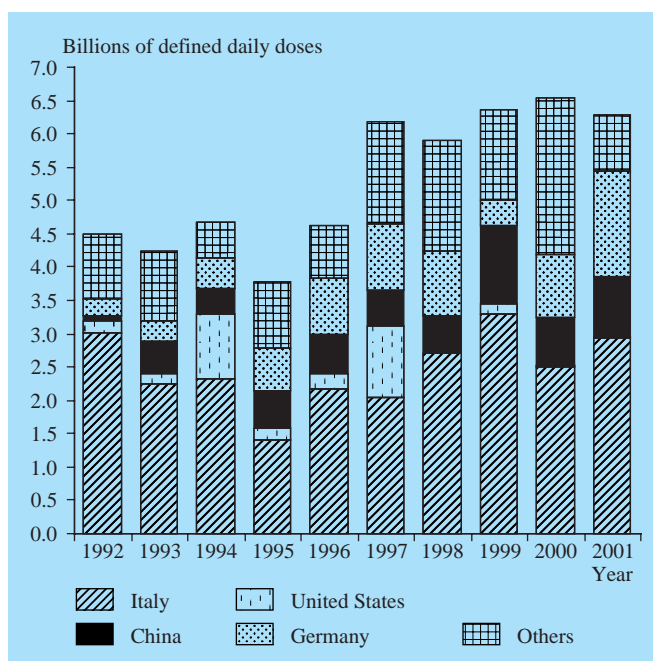


\*Statistical data submitted by Governments are used to calculate the average annual consumption for a three-year period. Data from the five countries with the highest consumption were included in the calculation for each region.

**Figure 24. Benzodiazepine-type sedative-hypnotics: substances' share of total reported manufacture, 2001**

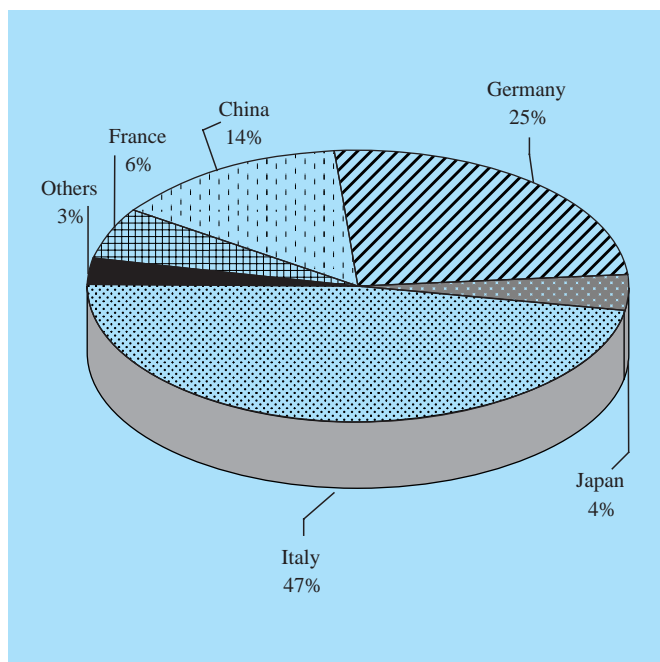


**Figure 25. Benzodiazepine-type sedative-hypnotics: reported manufacture, selected countries, 1992-2001**



countries in 2000. The only other manufacturer of lormetazepam in recent years was Poland, which averaged 6 kg of the substance annually during the period 1997-2001. On average, over 1 ton of the substance was traded annually during the period 1997-2001, as import levels gradually increased from 664 kg in 1997 to over 1.7 tons in 2001. Belgium, France, Germany, Ireland, Italy and Spain, were the main importers of the substance in recent years and most of their imports were for re-export.

**Figure 26. Benzodiazepine-type sedative-hypnotics: countries' shares of total reported manufacture, 2001**



116. After substantial fluctuations in the early 1990s, the level of nitrazepam manufacture gradually increased from 2.7 tons in 1995 to 9.4 tons in 1999. Since then, the trend has been reversed, global output falling sharply (by 30 per cent) to an average of 6.5 tons during the period 2000-2001. That volatility in the manufacture of nitrazepam is attributable to the changing levels in the main manufacturing countries, including Italy, India and Switzerland. Italy manufactured 6.2 tons of nitrazepam in 2001, 53 per cent more than in 2000. India, which reported the manufacture of 1.7 tons of nitrazepam in 2000, did not submit statistics on manufacture for 2001. Switzerland reported the manufacture of 1.5 tons of nitrazepam in 1999 but has not reported any manufacture of the substance since then. The only other manufacturers of the substance in the period 1997-2001 were China, which averaged 591 kg per year during that period, and the Russian Federation, which reported the manufacture of 68 kg in 1997.

117. The level of international trade in nitrazepam averaged over 6 tons annually during the period 1997-2001. Italy (3.6 tons) and Switzerland (1.6 tons) were by far the main exporters of the substance in 2001, accounting for 81 per cent of total exports that year. Since 1997, 61 countries have reported at least once imports of nitrazepam in excess of 1 kg. Japan was the main importer of the substance, averaging 1.5 tons during the period 1997-2001. In 2001, 72 per cent of the 5.6 tons of nitrazepam imported were accounted for by Japan (1.2 tons), Spain (over 1 ton), Germany (530 kg), the United Kingdom (480 kg), Hungary (320 kg), the Netherlands (252 kg) and Switzerland (214 kg). Between 2000 and 2001, imports of nitrazepam increased fivefold in Spain and decreased fivefold in Switzerland.

118. In the period 1992-2001, total reported manufacture of temazepam fluctuated between 13.4 tons (in 1997) and 23 tons (in 1992). In 2001, it fell to 11.3 tons, more than 37 per cent less than the four-year annual average during the

period 1997-2000 (17.9 tons). Italy (10.5 tons in 2001) was the main manufacturer throughout that period, accounting for over 90 per cent of total output, on average. The United States manufactured almost 3 tons of temazepam in 1999, while Poland was the only other manufacturer during that period, averaging more than 700 kg annually.

119. The level of international trade in temazepam averaged about 20 tons per year during the period 1997-2001. Italy was by far the main exporter of the substance, accounting for over 70 per cent of total exports, on average, during that period. In 2001, Italy (13.7 tons), Ireland (1.3 tons), Germany (800 kg) and Finland (767 kg) together accounted for 93 per cent of global exports of temazepam. Since 1997, 41 countries have reported imports of temazepam at least once. The United States (4.8 tons), Ireland (1.8 tons), the United Kingdom (1.7 tons), Germany (1.7 tons), Australia (1.4 tons), Canada (1.3 tons), the Netherlands (950 kg) and Finland (812 kg) were the main importers of the substance in 2001. While Finland, Germany and Ireland re-exported most of their imports in recent years, the United Kingdom and the United States used temazepam for domestic consumption. In 1995, the control measures for temazepam were strengthened in the United Kingdom to counter the increasing diversion of the substance into the illicit market in that country.<sup>8</sup> As a result, imports of temazepam decreased considerably from a peak level of 6.3 tons in 1994 to 1.3 tons in 1996. After that, the level of imports in the United Kingdom fluctuated, reaching a new peak of 7.3 tons in 1998 and gradually decreasing ever since.

120. 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 2001, global manufacture of brotizolam amounted to 209 kg. Only three countries reported manufacture of the substance in 2001: Germany (149 kg), Italy (52 kg) and Japan (8 kg). International trade in brotizolam involved 15 countries and the import volumes averaged 174 kg annually during the period 1997-2001. Germany and Italy were the main exporters, while Japan, Mexico and the Republic of Korea reported the highest import levels. The calculated consumption levels indicated that Japan (404 million DDD), Italy (156 million DDD) and Mexico (148 million DDD) together accounted for 89 per cent of global consumption of the substance in 2001.

121. In 2001, total manufacture of estazolam increased by 40 per cent compared with the annual average for the period 1997-2000. That increase came from the higher levels of manufacture in China, the main manufacturer of the substance, where the estazolam that it manufactures is used entirely for domestic consumption. In 2001, China accounted for 80 per cent of the total manufacture of estazolam (2.6 tons). Japan (389 kg) and Poland (175 kg) were the only other countries that manufactured estazolam in 2001. The main exporters of estazolam in recent years were Japan, Italy and the Netherlands. Of the 11 countries importing the substance, France, Italy, Portugal and the United States together accounted for 67 per cent of total imports in 2001. Japan supplemented its manufacture with imports and about 47 per cent of its imports were re-exported. In Italy, all of the imports of estazolam were re-exported in 2001.

<sup>8</sup>See *Report of the International Narcotics Control Board for 1995* (United Nations publication, Sales No. E.96.XI.1), para 113.

122. Triazolam is a potent hypnotic, having, together with brotizolam, the lowest defined daily dose of all psychotropic substances (0.25 mg). Total reported manufacture of triazolam reached a record level of 539 kg (2.2 billion DDD) in 1988. Discussions at the beginning of the 1990s on the medical use of triazolam had major repercussions on the market for the substance, as the manufacture of triazolam decreased considerably (by 90 per cent) to 55 kg in 1992. The manufacture of the substance increased to 351 kg in 1997 and then dropped sharply once again to 87 kg the next year. Since then, total reported manufacture of triazolam has been steadily increasing, reaching 123 kg in 2001. The above-mentioned fluctuations in the early and middle parts of the 1990s mainly reflected the fluctuations in the manufacture of triazolam in the United States, the former leading manufacturer and still the largest exporter of the substance.

123. The United States has not reported any manufacture of triazolam since 1997, when 271 kg of the substance were manufactured. In 2001, only France (74 kg), China (36 kg) and Japan (13 kg) reported the manufacture of triazolam. France has doubled its output compared with the annual average of 37 kg during the four-year period 1997-2000. Italy has reported no manufacture of triazolam since 2000, when it manufactured 53 kg of the substance. The United States continued to export its triazolam stocks in 2001 (62 kg, compared with 90 kg in 1999 and 2000). Belgium and France were the other main exporters of the substance in 2001. The imports of Japan (95 kg), Belgium (47 kg, entirely for re-export) and Italy (21 kg) accounted for 80 per cent of total imports of the substance in 2001. The level of global calculated consumption of triazolam decreased by 50 per cent, from an average of 1.4 tons during the period 1998-2000 to 700 kg in 2001. In 2001, China, Italy and Japan continued to be the main countries where the substance was used.

124. In 2001, total reported manufacture of midazolam declined to 2.4 tons (less than one quarter of the peak level of 10 tons reached in 1999). The sharp drop in reported manufacture of midazolam was caused, for the most part, by the drastic decline of its manufacture in China, which fell from 6.9 tons in 1999 to an average of 12 kg during the period 2000-2001. The output of Israel decreased by 90 per cent, from 1.3 tons in 2000 to 131 kg in 2001. Switzerland maintained relatively stable levels of manufacture during the period 1999-2001, its output in 2001 (2.1 tons) accounting for 86 per cent of the world total. The level of international trade in midazolam continued to increase in 2001, averaging 3.5 tons per year during the period 1997-2001. China, Israel, the Netherlands and Switzerland were the main exporters of the substance in recent years. In 2001, Switzerland accounted for 64 per cent of total exports of midazolam (4.1 tons). The combined imports of Brazil (705 kg), the United States (283 kg), Germany (240 kg), the Netherlands (220 kg), Hungary (211 kg) and France (180 kg) accounted for only 48 per cent of the total imports of midazolam in 2001. France and the Netherlands re-exported a significant part of their imports of the substance. Brazil, China and the United States were the main countries where the substance was used in recent years.

125. After fluctuating between 6 and 11 tons in the four-year period 1997-2000, total reported manufacture of flurazepam fell to 4.4 tons in 2001. That sharp decline resulted from the discontinued manufacture of the substance in Brazil and Switzerland and its reduced manufacture in Italy. Brazil reported the manufacture of 6.5 tons of flurazepam in 1997 and 3.1 tons in 1998, while Switzerland manufactured 3.7 tons of

the substance in 1999; since then, those two countries have reported no manufacture of the substance. Italy's manufacture of flurazepam in 2000 (6 tons) and 2001 (4.3 tons) accounted for more than 99 per cent of total manufacture of the substance in each of those years. The only other manufacturer of flurazepam in 2001 was China (40 kg). Italy, Spain, Switzerland and the United States were the main importers of flurazepam in the period 1997-2001, together accounting for 69 per cent of total imports during that period. In Italy, Spain and Switzerland, all of the flurazepam imports were re-exported. In the United States, imports of the substance were used for domestic consumption. According to the calculated rates, Brazil, Japan, the United Kingdom and the United States were the main countries that used flurazepam in 2001.

126. Total reported manufacture of loprazolam decreased from 128 kg in 2000 to 90 kg in 2001. France was the only manufacturer and the leading exporter of the substance in 2001, its output decreasing by 12 per cent compared with the year before. The United Kingdom (25 kg in 2000) was the only other manufacturer of loprazolam in recent years. The main importers of loprazolam in 2001 were the United Kingdom (20 kg, of which 8 kg were for re-export), Spain (15 kg), Portugal (12 kg) and Belgium (8 kg), which together accounted for 82 per cent of total imports of the substance.

### ***Benzodiazepine-type anti-epileptics***

#### ***Clonazepam***

127. Clonazepam is the only benzodiazepine generally used as an anti-epileptic. Total reported manufacture of clonazepam fluctuated around its annual average of 3.7 tons during the five-year period 1997-2001. The 2001 level of 2.8 tons (or 348 million DDD) is 28 per cent lower than that of the previous year and is only half the volume of 1998. The fluctuations reflected changes in the annual output of Italy (1.3 tons) and Switzerland (1.1 tons), the leading manufacturers (and exporters), which accounted for 86 per cent of the total output in 2001. India, which had manufactured 464 kg of the substance in 2000, did not submit manufacturing data for 2001. Brazil, China, Israel and Poland were the only other manufacturers of clonazepam in the period 1997-2001. The United States, once a major manufacturer of clonazepam, has reported no manufacture of the substance since 1995. The levels of global trade in clonazepam gradually increased from 1.5 tons in 1997 to about 4 tons in 2001. Since 1997, 86 countries have reported imports of the substance at least once. The United States (630 kg), Mexico (440 kg), Switzerland (375 kg), Israel (351 kg), Brazil (284 kg), France (273 kg), Argentina (267 kg), Italy (251 kg), Canada (162 kg) and Japan (115 kg) imported more than 100 kg of clonazepam in 2001, their combined imports accounting for 81 per cent of the total imports. Argentina, France and the United States imported clonazepam mostly for domestic use.

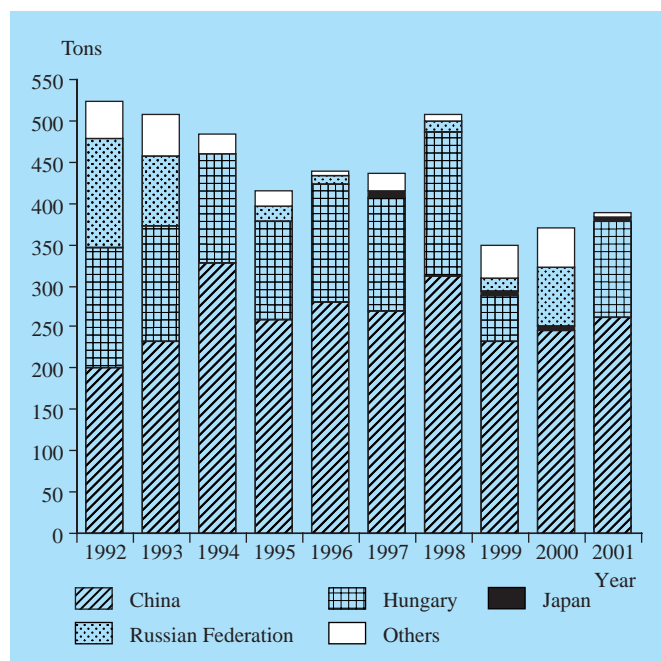
### ***Barbiturate-type sedative-hypnotics and anti-epileptics***

128. Seven barbiturates are listed in Schedule IV: allobarbitol, barbital, butobarbital, methylphenobarbital, phenobarbital, secbutobarbital and vinylbital. Total reported manufacture of those barbiturates, recalculated in defined daily doses, gradually increased to reach 5.4 billion DDD in 1998; then,

a downward trend took place in the following two years, as total reported manufacture of those substances plunged to 3.8 billion DDD in 1999 and 3.1 billion DDD in 2000. In 2001, it increased again to about 4.1 billion DDD. During the period 1997-2001, phenobarbital accounted for an average of more than 90 per cent of total manufacture of the barbiturates included in Schedule IV (in defined daily doses); in 2001, it accounted for an average of 94 per cent of total manufacture. Barbitol was second, accounting for 6 per cent of total manufacture; it was followed by methylphenobarbital and allobarbitol. No manufacture of vinylbital has been reported since 1996 and no manufacture of butobarbital has been reported since 1999.

129. Phenobarbital is used as a hypnotic and as an anti-epileptic. Its total reported annual manufacture averaged 438 tons in the period 1996-1997, peaked at 508 tons in 1998 and fell to 388 tons in 2001. China and Hungary were the major manufacturers of the substance, accounting for an average of 95 per cent of total output in the period 1996-1998 (see figure 27). Manufacture in China during the period 1997-2001 was about 269 tons per year, ranging from 234 tons (in 1999) to 312 tons (in 1998). In 2001, China reported the manufacture of 261 tons of phenobarbital, accounting for 67 per cent of total manufacture of the substance. Hungary is the other main manufacturer (116.5 tons in 2001, mainly for re-export). Other countries that have manufactured phenobarbital since 1997 include India, Japan, the Russian Federation and Switzerland. India manufactured an average of 33 tons of the substance in the period 1999-2000. In the Russian Federation the manufacture of phenobarbital rose steadily from nearly 10 tons in 1996 to 17 tons in 1999 and then increased substantively to over 69 tons in 2000; INCB has not yet received statistics for 2001. In Switzerland, manufacture of phenobarbital averaged 7.2 tons during the period 1997-2000; no manufacture of the substance was reported in 2001. In Japan manufacture of the substance decreased from 6 tons in 1997 to 5 tons in 1999 and then returned to 6 tons in 2001. The United States cut its output of phenobarbital from 16 tons in 1997 to 2 tons in

**Figure 27. Phenobarbital: total reported manufacture, 1992-2001**



1998, reported no manufacture of the substance in 1999 and then manufactured 6.5 tons of the substance in 2000 and only 537 kg in 2001. The manufacture of phenobarbital has also been reported by Germany (431 kg in 2000 and 3.1 tons in 2001) and by Brazil, Iraq, Italy and Kazakhstan (quantities ranging from 60 kg to 570 kg in 2001).

130. Phenobarbital exports from Hungary, the main exporter of that substance since the 1970s, have been relatively stable, averaging 119 tons annually in the period 1996-2001, except 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 reported having exported an average of 129 tons of phenobarbital per year during the period 1996-1998; its exports then fell to 76 tons in 1999 before increasing to 121 tons in 2001. In the period 1997-2001, there were 51 countries reporting exports of phenobarbital. Total exports fluctuated between 397 tons (in 1997) and 264 tons (in 1999), most of the trade (up to 70 per cent) accounted for by China and Hungary. Other important exporters of the substance in 2001 included Switzerland (34 tons), Denmark (20 tons), Germany (19 tons), the Netherlands (almost 9 tons) and the United Kingdom (8 tons).

131. Phenobarbital continues to be one of the most widely imported psychotropic substances. During the period 1997-2001, 168 countries and territories reported having imported the substance at least once. The main importers in 2001 included Brazil (40 tons), Switzerland (39 tons, mainly for re-export), Germany (21 tons, mostly for re-export) and Ukraine (18 tons). In recent years, Denmark, the Netherlands, the Russian Federation, the United Kingdom and the United States have also reported relatively large imports of phenobarbital. However, in 2001, total imports of the substance amounted to 287 tons, about 200 tons less than in 2000, probably as a result of the sharp decline in such imports in Ukraine from 211 tons in 2000 to 18 tons in 2001.

132. In addition to its medical use as a sedative-hypnotic, barbitol is also used in industry for the manufacture of non-psychotropic substances or products. Total reported manufacture of barbitol declined sharply from nearly 259 tons in 1992 to 84 tons in 1995. After that, despite a slight increase in 1998, it gradually fell to 86 tons in 2001. China remains the main manufacturer of the substance, although its output has continued to decrease, falling from 140 tons in 1998 to 80 tons in 2001. Japan was the other main manufacturer, reporting 2.6 tons in 2001 and averaging about 2 tons in the period 1997-2001. Other manufacturers included Denmark (2.8 tons in 2001), the United States (1 ton in 2001) and the United Kingdom (51 kg in 2000).

133. In 2001, five countries reported exports of barbitol in quantities of more than 200 kg; the largest exports were from China and Germany. Total exports gradually fell from 78 tons in 1997 to 26 tons in 2001. Exports of barbitol fell in China from 42 tons in 1997 to 15.5 tons in 2001 and in Germany from 33 tons in 1997 to 9 tons in 2001.

134. There were 51 countries that imported barbitol at least once in the period 1997-2001. Germany, the leading importer of barbitol, decreased its imports of the substance gradually from more than 33 tons in 1997 to 10 tons in 2001, re-exporting almost all of those imports. Imports of Japan also fell

from 8 tons in 1997 to 5 tons in 2001. Total reported consumption of barbital decreased from 144 tons in 1998 to 80 tons in 2001.

135. Almost 8 tons of methylphenobarbital were manufactured in Germany in 1990. Since then, Switzerland has been the only manufacturer of the substance; its output fluctuated but followed a gradual downward trend, dropping from 9.5 tons in 1997 to 2.6 tons in 2001. In 2001, the United States reported having manufactured 800 kg of the substance.

136. Of the eight countries that reported exports of methylphenobarbital in the five-year period 1997-2001, Switzerland was by far the largest exporter, accounting for about 96 per cent of total exports of the substance. Exports of methylphenobarbital from Switzerland fell from 7.3 tons in 1997 to 3.2 tons per year during the period 1998-2001. There were 21 countries that imported the substance at least once in that period. The largest importers of the substance in 2000 and 2001 were Croatia (average of 1.2 tons), Italy (average of 400 kg), United Kingdom (299 kg only in 2000), Argentina (average of 212 kg), Australia (253 kg in 2000) and Slovenia (average of 103 kg). Croatia, Italy and Slovenia have been the main importers of methylphenobarbital since 1997, Croatia importing more than half of the total imports of the substance.

137. Poland last reported manufacture of allobarbitol in 1995 (228 kg) and Denmark discontinued the manufacture of that substance after 1994 (11 kg). Germany has been the only country reporting the manufacture of allobarbitol in recent years. Germany's manufacture of allobarbitol increased from 393 kg in 1998, when the country first started to report its manufacture of that substance, to 2.4 tons in 1999, about 4 tons in 2000 and 2.7 tons in 2001. Total exports of the substance averaged 4.5 tons per year during the period 1999-2001, Germany consistently being the largest exporter, accounting for about 1.6 tons of the world total of 2.4 tons in 2001. Other exporters in 2001 included Switzerland (350 kg) and Denmark (225 kg). There were 19 countries importing allobarbitol at least once in the period 1997-2001. In 2001, the major importers included Poland (1.3 tons), Turkey (400 kg), Jordan (350 kg) and Switzerland (350 kg, entirely for re-export). Global consumption of allobarbitol decreased sharply from 3.2 tons in 2000 to 1.9 tons in 2001.

138. Since 1991, only Germany has reported having manufactured secbutobarbital. Germany's manufacture of that substance increased from 67 kg in 1997 to 749 kg in 1999. Germany reported no manufacture of secbutobarbital for 2000 and manufactured only 22 kg of the substance in 2001. Germany, Lebanon, Switzerland and the United States were the only countries that reported trade in the substance in recent years; however, total imports of the substance decreased sharply from 828 kg in 2000 to 50 kg the following

year. Germany and Switzerland were the only countries reporting exports of the substance during the period 1997-2001.

139. There were only two countries that reported manufacture of butobarbital in recent years. Denmark manufactured 1 kg of butobarbital in 1996 and about 1.3 tons in 1998. Germany manufactured 596 kg of butobarbital in 1996 and 304 kg in 1997 and reported no manufacture of the substance for 1999, 2000 and 2001. France was the main importer of butobarbital, its imports of the substance averaging 190 kg per year since 1997; it was followed by Thailand, the United Kingdom, the Russian Federation and the Czech Republic. Germany reported having imported butobarbital only in 1998 (1.6 tons). Hungary reported having imported 1.5 tons of the substance in 1997 and 1.2 tons in 1998. Exports of butobarbital decreased from 3.6 tons in 1997 to 189 kg in 2001, possibly as a result of exports of the substance in Hungary falling from nearly 2 tons in 1997 to only 4 kg in 2001 (averaging 350 kg during the period 1998-2000).

### ***Other sedative-hypnotics***

140. 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. In 2001, two more substances were included in this group: *gamma*-hydroxybutyric acid (GHB) and zolpidem. Comments on the statistics for the latter will be provided in the future.

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

### ***Analgesics***

#### ***Lefetamine***

142. Lefetamine is the only analgesic included in Schedule IV. No manufacture of and no trade in the substance have been reported since 1996.