B.6 ALCOHOL

LEGAL SOURCES AND LEGAL DISTRIBUTION

The majority of the alcoholic beverages consumed in Canada are manufactured here. More than 95 per cent of the ale and beer consumed by Canadians is brewed in Canada and, with the exception of scotch whisky and a few other imported beverages, the distilled liquors consumed in Canada originate in this country. Over one-half the wines consumed in Canada are domestically produced.

The Federal Government, through the *Excise Act*, regulates the manufacture and importation of all beverage alcohol through the issuing of licences or permits to all distillers, brewers and importers. Manufacturers or importers of beverage alcohol are required to pay an excise duty on all products sold, and they must report all phases of their operations to the Federal Government. The contents and quality of alcoholic beverages, including the permissable range of alcohol concentration, are regulated by the *Food and Drug Regulations.*

The distribution of alcoholic beverages is regulated by the provincial governments and the governing bodies of the Yukon and Northwest Territories which hold a monopoly on the sale of beverage alcohol in their jurisdictions. Distribution is legally regulated by provincial liquor control acts, and their sale in such outlets as cocktail lounges, beverage rooms and licensed dining rooms is regulated through these acts or, in some provinces, liquor licensing acts.

Liquor control acts empower provincially appointed boards to determine the prices at which bottled beverage alcohol is sold in retail outlets, as well as hours of sale and, in some provinces, those private entrepreneurs who may operate as special agents for the sale of bottled beverages. These include, for example, independent grocers in Quebec who may sell beer or, in a few other provinces, private merchants in remote areas whose premises are utilized as retail outlets for liquor.

Liquor licensing acts govern the conditions under which liquor or beer may be dispensed for on-site consumption. Hours of sale are closely regulated, and sanitary and hygienic requirements are specified in the regulations to these provincial acts. Licensing boards also stipulate the number of outlets which may be operated in a given area, and determine who shall be permitted to operate these drinking establishments.

Provincial statutes specify drinking age limits, with penal consequences for persons who sell alcoholic beverages to persons under the legal age. At the present time, the following legal ages apply: 18 years of age—Saskatchewan, Manitoba, Ontario, Quebec, Prince Edward Island and Alberta; 19 years of age—Nova Scotia, British Columbia, New Brunswick, Newfoundland, the Yukon and Northwest Territories.

In all provinces the sale of alcoholic beverages to intoxicated persons or to "interdicted" persons, that is, persons who, in the opinion of provincial authorities, use alcohol excessively to the detriment of their family or others, is prohibited.

The distribution of alcoholic beverages in Canada is of significant economic proportions. During 1970, more than 16,000 persons were employed by distilleries, breweries and wineries in Canada, sharing a total payroll of more than $140 million.[6, 8, 9] Table B.10 shows the dollar value of all alcoholic beverages sold (i) by liquor authorities to the final consumer and to holders of licences to resell, (ii) by wineries and breweries to holders of licences to resell, and (iii) by wineries' and brewers' retail outlets.[7] The dollar volume of such sales is increasing annually. Between the fiscal years ending March 31, 1967 and March 31, 1971, the dollar volume of these sales increased by over 37 per cent. Total sales for fiscal year 1970/71 were in excess of $1.85 billion. This figure does not represent the final retail selling price of all alcoholic beverages, as mark-ups by licensees, on the sale of alcoholic beverages to final consumers, are not included.

TABLE B.10

SALES OF ALCOHOLIC BEVERAGES IN CANADA BY VALUE
FISCAL YEARS 1966/67 TO 1970/71

(in thousands of dollars)

	1966/67	1967/68	1968/69*	1969/70	1970/71
Spirits	661,282	734,368	784,833	817,201	869,640
Wine	103,811	117,749	129,871	154,680	178,951
Beer	587.374	624,673	668,955	731,449	808,023
Totals	1,352,467	1,476,790	1,583,659	1,703,330	1,856,614

Source: Canada, Statistics Canada. *The control and sale of alcoholic beverages in Canada: 1970.* Catalogue 63-202. Ottawa: Information Canada, 1972.

* The 1968/69 figures include an eight per cent retail sales tax collected at outlets by one province that year. Total collection: $10,140,000.

Commerce in beverage alcohol is a significant source of revenue for federal, provincial and territorial governments—the Federal Government, through the collection of taxes and excise and import duties and the issuing of licences and permits, and the provincial and territorial governments, through the sale of permits, the collection of taxes and the profits accruing from sales

through government monopolies. Table B.11 lists the revenues of all governments in Canada specifically derived from the control, taxation and sale of alcoholic beverages during fiscal years ending March 31, 1967 to 1971 inclusive. It will be noted that during this four-year period the revenue of provincial and territorial governments from these sources increased by more than 42 per cent, and the revenue of the Federal Government increased by almost 32 per cent. During the fiscal year ended March 31, 1971, the total revenue of all governments from the control, taxation and sale of alcoholic beverages was almost one billion dollars.

LEGAL SOURCES AND ILLEGAL DISTRIBUTION

While alcoholic beverages are probably more accessible in Canada presently than ever before, high taxation of these products and the regulation of sales (particularly age and temporal restrictions) continue to invite the illegal distribution of licitly produced beer and liquor. In some cases the alcohol is diverted (usually through theft or smuggling) from its legitimate distribution channels, and in other cases alcohol is sold to persons, in places, or at times, prohibited by provincial statutes.

Despite the recent reduction of the legal drinking age in several Canadian provinces, it is likely that under-aged youths continue to imbibe alcoholic beverages. For most, the age restrictions can be evaded by simply borrowing an older friend's or relative's identification document or by purchasing or preparing passable counterfeits. If the alcohol is desired for residential consumption, an older friend may agree to purchase the beer or liquor and transfer it to an under-aged person. Furthermore, nearly every Canadian city contains a few bars, taverns or discotheques with a reputation for "not checking I.D.'s", so that, in many instances, there is no need to resort to the strategems mentioned above.

Provincial regulations regarding the times during which alcohol may be purchased and the lack of retail liquor outlets in some communities have probably contributed to the persistence of various bootlegging operations throughout the country. In most large Canadian cities nearly anyone can buy alcohol 'after hours' or on Sundays, at approximately twice the cost of a legal purchase, by simply contacting taxi-cab firms that are known to provide such services.[36] Similar distribution operations exist in 'dry' communities where a local resident may stockpile alcoholic beverages for illicit resale at any time of day or night.

In some small towns, where an individual—for various reasons—may be refused service in licensed liquor premises, there often exist houses where he may illegally purchase and consume beer or liquor for about twice the legal fare.[26] Similar bootlegging ventures (some of which are controlled by organized criminals) are apparent in most large cities where they are generally known as 'bottle houses', 'after-hours places' or 'blind pigs'. As in the smaller communities, the alcoholic beverages are legally obtained from pro-

TABLE B.11

REVENUE OF ALL GOVERNMENTS SPECIFICALLY DERIVED FROM THE CONTROL, TAXATION AND SALE OF ALCOHOLIC BEVERAGES
FISCAL YEARS 1966–67 to 1970–71

(in thousands of dollars)

GOVERNMENT	1967	1968	1969	1970	1971
Government of Canada	320,864	353,001	371,802	396,260	432,518
Provincial and Territorial Governments:					
Newfoundland	9,879	10,537	11,806	12,916	14,450
Prince Edward Island	2,688	3,069	3,416	3,665	3,983
Nova Scotia	15,950	17,168	20,040	23,935	26,249
New Brunswick	12,815	13,360	17,633	17,662	19,279
Quebec	89,560	98,587	75,541	111,287	116,102
Ontario	135,154	150,632	194,013	180,404	195,008
Manitoba	23,408	23,701	25,789	27,941	30,760
Saskatchewan	21,632	24,589	25,754	26,476	27,895
Alberta	35,405	39,359	41,512	47,372	56,209
British Columbia	44,981	50,711	56,180	61,662	66,181
Sub-totals	391,472	431,713	471,684	513,320	556,116
Yukon	1,157	1,292	1,666	1,808	1,865
Northwest Territories	1,440	1,707	1,908	2,148	2,404
Totals, Provincial and Territorial Governments	394,069	434,712	475,258	517,276	560,385
Totals, all Governments	714,933	787,713	847,060	913,536	983,903

Source: Statistics Canada. *The Control and Sale of Alcoholic Beverages in Canada, 1970.* Ottawa: Information Canada, 1972.

vincially controlled retail outlets and then resold (in violation of various provincial statutes) at approximately a 100 per cent price mark-up.[15, 26]

The most dramatic diversions from legitimate distribution channels, however, involve the theft of considerable quantities of alcohol from trucks or warehouses and the smuggling of duty-free liquor. The smuggling operation is most popular in Newfoundland where some outporters travel the seven miles from Burin Peninsula to the French island of St. Pierre to purchase duty-free liquor (rum, for example, costs less than two dollars for a 26-ounce bottle) which they then smuggle back to Canada for resale.[34, 43] One particularly profitable item is a pure alcohol known as 'steam', which can be purchased in two and one-half-gallon cans for $25. Each can, according to an article in *Time* magazine, "produces 15 bottles, which in turn can be cut three-to-one".[43] This enterprise is said to generate between five hundred thousand and one million dollars a year for those who participate in the smuggling.[43] The theft of liquor, particularly through the hijacking of trucks, is another source of illicit diversion. Most recent thefts of this nature have occurred in the Province of Quebec where several shipments valued in the neighbourhood of one hundred thousand dollars have been stolen.[11, 20, 29, 44] The size and sophistication of these thefts suggest organized criminal involvement but, at the moment, there is no data to substantiate this claim or to explain how the stolen liquor is eventually distributed.

ILLEGAL SOURCES AND ILLEGAL DISTRIBUTION

The production and distribution of illicitly distilled alcohol in Canada continues to flourish in spite of the increased accessibility of legal liquor. The production of 'moonshine' is often considered a relatively innocuous ethnic custom or a delightful and satisfying evasion of government attempts to control or tax pleasure. These factors help to make moonshine production difficult to detect. However, the impurities in some illicitly produced alcohol, the involvement of organized criminal elements, and the significant amounts of tax revenue lost yearly constitute a serious problem.

According to the Deputy Commissioner of the R.C.M. Police more than 2,300 'stills' were seized between April 1960 and April 1971. Most of these stills,

> ...were of the pot or drip type variety having a daily capacity of one to fifty gallons of spirits [but approximately ten per cent] were of the large commercial type with a daily capacity ranging from fifty to 275 gallons of spirits.[10]

The most recent *Annual Report of the Solicitor General of Canada* indicates that between April 1st, 1971 and March 31st, 1972, 237 stills were seized under the *Excise Act*.[5] Eleven of these stills were of the large commercial type, and it is estimated that their combined daily output was nearly 1,500 gallons. Table B.12 presents a summary of illicit alcohol and still seizures from April 1966 to March 1972.

TABLE B.12

SUMMARY OF ILLICIT ALCOHOL RELATED SEIZURES UNDER THE EXCISE ACT FOR FISCAL YEARS 1966–67 TO 1971–72

	1966–67	1967–68	1968–69	1969–70	1970–71	1971–72
Stills and Part Stills.....	207	134	186	292	261	237
Spirits (gallons)*.....	6,014	3,714	5,122	8,290	4,872	5,407
Beer and Wash (gallons)..	70,042	29,321	52,023	99,303	38,682	61,316

Sources: Canada, Solicitor General of Canada. *Annual Report, 1969-1970.* Ottawa: Information Canada, 1970.

Canada, Solicitor General of Canada. *Annual Report, 1970-71.* Ottawa: Information Canada, 1971.

Canada, Solicitor General of Canada. *Annual Report, 1971-72.* Ottawa: Information Canada, 1972.

Perry, W. F. G. (Chief Preventive Officer, R.C.M. Police) Letter to the Commission, November 17, 1971.

* In addition to seizures of spirits under the federal *Excise Act*, some provinces handle seizures of spirits under provincial statutes. Such seizures are not included in the above statistics.

According to the R.C.M. Police, since the excise duty on one gallon of proof spirits is $14.25 and illicit spirits normally analyse at 150 proof or higher, it is estimated that the federal revenue loss on one gallon of illicit spirits is at least $20.[5, 42] The Federal Government's tax revenue loss for the 5,407 gallons seized during 1971–72 can thus be estimated at just over $100,000, and the loss for the six-year period stretching from 1966 to 1972 at approximately $670,000. Provincial and territorial governments' revenues are also affected by this illicit production both in terms of liquor control administration and general sales taxes. Furthermore, these revenue loss estimates are based solely on actual seizures; the total tax and sales losses attributable to this illegal activity cannot even be estimated.

More illicit alcohol appears to be produced in Quebec than any other province. In western Canada, Manitoba appears to be the greatest centre of such production.[1, 4] It has been estimated that 600,000 Quebecers, or one out of every seven persons over 15 years of age in that province, consume illicit alcohol.[28] The high rates of illicit production and consumption in Quebec are probably attributable to both the provincial popularity of 'Alcool' (an unflavoured legal alcoholic beverage which diluted 'moonshine' closely approximates) and the likelihood of organized criminal involvement in the distribution of illicit alcohol to criminally controlled nightclubs, bars and 'after-hours' establishments.[22, 26] Table B.13 indicates the seizures of illicitly produced spirits and beer as broken down by provinces for fiscal years 1970–71 and 1971–72.

TABLE B.13

SUMMARY OF ILLICIT ALCOHOL AND BEER SEIZURES UNDER THE EXCISE ACT, BY PROVINCE, FOR FISCAL YEARS 1970–71 AND 1971–72

(in gallons)

	Spirits		Beer and Wash	
	1970–71	1971–72	1970–71	1971–72
Newfoundland	4	1	50	24
Prince Edward Island	1	10	48	54
Nova Scotia	23	243	773	388
New Brunswick	—	28	—	138
Quebec*	3,836	4,563	34,527	56,169
Quebec and Ontario†	87	49	23	20
Ontario‡	111	347	711	1,148
Ontario and Manitoba§	510	92	1,637	2,404
Saskatchewan	202	59	411	532
Alberta	22	12	36	35
British Columbia	76	30	466	404
Total	4,872	5,407	38,682	61,316

Sources: Canada, Solicitor General of Canada. *Annual Report, 1970-71.* Ottawa: Information Canada, 1971.
Canada, Solicitor General of Canada. *Annual Report, 1971-72.* Ottawa: Information Canada, 1972.

* Quebec, excluding west and north of Hull.
† Eastern and northern Ontario and western Quebec.
‡ Ontario, south of Gravenhurst and west of Belleville.
§ Manitoba and Ontario west of Nipigon.

Most Canadian stills are of the low production variety supplying local markets. This type of operation is particularly prevalent among certain ethnic groups and in small towns or rural areas without retail liquor outlets. The extension of alcohol prohibition into the 1950s in some provinces (particularly parts of the Maritimes) has also probably contributed to the maintenance of illicit production, as has the high potency of 'moonshine' and its relative inexpensiveness. According to one Manitoba R.C.M. Police sergeant, "When you pay $4 for [an illicit] 26 [ounce bottle], you're getting the equivalent of almost two government 26's, which is one reason for its popularity".[1]

While the profit motive probably underlies every illicit distribution venture, it is probably only of paramount concern in regard to the large-scale commercial operations. These stills are capable of producing up to several hundred gallons of illicit alcohol a day.[12] Based on a $15 to $20 per gallon

retail selling price and a conservative daily production figure of 100 gallons, the operators of such an enterprise can expect a gross income of between $1,500 and $2,000 a day. According to an article in the R.C.M.P. *Gazette,* these "large scale commercial operations may involve an initial financial outlay of $50,000" to cover such expenses as farm rental or purchase, the drilling of wells, the erection of a still, the installation of hydro, the purchase of supplies and vehicles, and the hiring of operators.[42]

There is some evidence that criminal organizations have been involved in the establishment of these costly but lucrative enterprises.[23] Montreal based criminals have been known to establish and operate their own stills in rural areas in Quebec and eastern Ontario to supply their distribution outlets (primarily criminally controlled clubs and bars in Montreal) with inexpensive alcohol which (after dilution, flavouring and rebottling in discarded 'empties') is sold at regular prices to unsuspecting customers.[16, 26] In most cases the distilled spirits are sold to a wholesaler for between $15 and $20 per gallon. The wholesaler dilutes the spirits to approximately legal proof, allowing him to produce one case of twelve 25-ounce bottles from every gallon, which he then sells to a local distributor for around $35 (or at a profit of between $15 and $25 per gallon). The small-scale, local distributor (who has a "'milk run' of customers to whom he delivers a designated quantity regularly"[42]) sells the product for between four and five dollars a bottle, allowing himself a profit of between $12 and $24 a case. According to the R.C.M. Police,

> It is these small scale distributors who are most frequently apprehended by the police; the "higher-ups" remain in the background and are more difficult to apprehend. Thus, the financial backers who supply the capital for alcohol production and distribution, as well as for bail bonds and fines incurred by still operators or bootleggers, cannot always be convicted for the illegal activity.[42]

Occasionally illegally distilled alcohol will be sold as though it were a legal product (although not in provincial liquor outlets), having been bottled in discarded 'empties' (obtained from legitimate bottle salvage firms) bearing genuine or counterfeit labels or, in some cases, the labels of non-existent foreign companies.[3, 18, 32, 33, 35, 42] During fiscal year 1971–72, the R.C.M. Police seized eight illicit bottling plants, "the contents of which included genuine liquor bottles, counterfeit labels and seals".[5] Dry gin appears to be the easiest product to imitate, but illicit alcohol distributors have produced most types of liquor and have used the name of nearly every major licensed distiller.[42]

Although it is impossible to even estimate the extent of illicit alcohol production and distribution, it is clear that only a very small fraction of the total production is ever confiscated. 'Moonshine' remains a lucrative, though rarely discussed, Canadian industry.

B.7 MINOR TRANQUILIZERS, BARBITURATES AND OTHER SEDATIVE-HYPNOTICS

LEGAL SOURCES AND LEGAL DISTRIBUTION

The distribution of minor tranquilizers, barbiturates and other sedative-hypnotics is regulated by the provisions of the *Food and Drugs Act* and its *Regulations*. Alcohol may also be considered a sedative-hypnotic drug, but is discussed separately in this appendix (see B.6 *Alcohol*).

The major and minor tranquilizers and the non-barbiturate sedative-hypnotics listed in Schedule F of the *Food and Drug Regulations* may only be retailed on the written or verbal prescription of a licensed medical practitioner. These prescriptions can only be refilled if a practitioner so prescribes and may not be refilled more than the number of times indicated by the practitioner. The *Food and Drug Regulations* contain provisions regarding the manufacture, sale, importation, and labelling of Schedule F drugs. Sale of these drugs to a member of the public without a prescription is prohibited, but the unauthorized possession of them for personal use is not an offence.

Distributors must, under certain circumstances, keep records of their distribution of Schedule F drugs. Manufacturers must also maintain samples of any Schedule F drug they manufacture. As there is no requirement to submit regular reports or returns of Schedule F drugs to the Department of National Health and Welfare as is the case with narcotic and controlled drugs, it is not possible to present an official statement of the annual estimated consumption of tranquilizers and non-barbiturate sedative-hypnotics.[20] However, certain non-governmental estimates are available. For example, according to a Canadian Medical Association survey of prescribing habits conducted in February 1971, there were almost twice as many prescriptions written for minor tranquilizers and almost two-thirds as many for non-barbiturate sedative-hynotics as there were for barbiturates during a typical one-week period.[7] Additionally, pharmaceutical market surveys of the estimated sales of two minor tranquilizers—diazepam (Valium® and Vivol®) and chlordiazepoxide (Librium®, Solium®, and others)—and methaqualone (a non-barbiturate sedative-hypnotic, including such preparations as Mandrax® and Mequelon®) have been provided to the Commission, and these data are presented in Tables B.14 and B.15.

Barbituric acid and its salts and derivatives are considered as "controlled drugs" in the *Food and Drugs Act*, and are therefore listed in Schedule G of this Act. The *Food and Drug Regulations* contain provisions dealing with the labelling of these drugs and prohibit the manufacture, sale, import and export of controlled drugs by anyone other than a licensed dealer who has been authorized to carry on these activities by the Minister of National

TABLE B.14

ESTIMATED LICIT SALES OF DIAZEPAM, CHLORDIAZEPOXIDE AND METHAQUALONE TO DRUG STORES AND HOSPITALS, IN KILOGRAMS, FOR THE YEARS 1966 THROUGH 1972*

Year	Diazepam	Chlordiazepoxide	Methaqualone
1966	211.4	756.0	530.0
1967	311.5	898.0	440.0
1968	457.1	1,094.0	1,530.0
1969	720.0	1,148.5	3,020.0
1970	980.8	1,123.5	4,540.0
1971	1,349.7	1,204.0	5,330.0
1972	1,484.0	1,029.5	5,920.0

* Figures courtesy of the Canadian pharmaceutical industry and Intercontinental Medical Statistics. As 'discount houses' were not surveyed prior to 1971, the 1966 to 1970 data are thought to underproject sales of these drugs by approximately eight per cent.

Health and Welfare. Medical practitioners may only prescribe, administer, give, sell or furnish barbiturates to patients who are under their professional care and who require this drug for the condition for which they are receiving treatment. Hospitals are prohibited from dispensing or administering barbiturates without the authorization or prescription of a medical practitioner. Pharmacists may supply barbiturates to hospitals and, upon receipt of a written or verified verbal prescription or order, to private persons. Licensed dealers, pharmacists, medical practitioners and hospitals must keep records of all transactions involving controlled drugs for at least two years in a form which can be readily inspected, and must notify the Minister of National Health and Welfare of any "loss or theft of a controlled drug". Trafficking and possession for the purpose of trafficking in barbiturates (but not the unauthorized simple possession of them) are prohibited under the *Food and Drugs Act.*

Barbiturates are generally divided into three categories: 'short-acting', 'intermediate-acting', and 'long-acting' (see Appendix A.7 *Barbiturates and Their Effects*). Table B.16 shows the annual estimated consumption of each type of barbiturate based on the formula: Imports — Exports = Estimated

TABLE B.15

ESTIMATED LICIT SALES OF DIAZEPAM, CHLORDIAZEPOXIDE AND METHAQUALONE, BY DOSAGE UNITS, FOR THE YEARS 1966 THROUGH 1972*

(in millions of capsules or tablets)

Year	Diazepam			Chlordiazepoxide			Methaqualone		
	2 mg.	5 mg.	10 mg.	5 mg.	10 mg.	25 mg.	150 mg.	250 mg.	300 mg.
1966	8.2	31.4	3.7	7.4	61.4	4.2	1.4	.8	.4
1967	15.5	45.3	5.4	12.7	68.7	5.9	.8	.8	.4
1968	14.5	66.6	9.5	15.8	77.0	9.8	.7	5.1	.5
1969	31.0	103.4	14.1	19.0	79.6	10.3	.8	11.0	.5
1970	31.9	135.2	24.1	17.5	81.6	8.8	1.1	16.9	.5
1971	49.1	188.1	31.1	16.2	86.1	10.6	.7	20.3	.5
1972	53.0	211.2	32.2	18.3	69.8	9.6	.7	23.3	3.3

*Figures courtesy of the Canadian pharmaceutical industry and Intercontinental Medical Statistics. As 'discount houses' were not surveyed prior to 1971, the 1966 to 1970 data are thought to underproject sales of these drugs by approximately eight per cent.

(domestic) Consumption.* From this table it can be seen that there has been approximately a 24 per cent decline in the total estimated consumption of barbiturates between 1966 and 1972.

TABLE B.16

ESTIMATED CONSUMPTION OF BARBITURIC ACID AND ITS SALTS AND DERIVATIVES, FOR 1966–1972, IN KILOGRAMS

Year	Short-Acting	Intermediate-Acting	Long-Acting	Total
1966	8,759.150*	8,840.895	10,402.978	28,003.023
1967	9,572.044†	10,017.658	10,151.493	29,741.195
1968	8,879.493	8,723.557	9,672.906	27,275.956
1969	9,433.699	9,250.755	11,478.181	30,162.635
1970	9,798.955	8,721.757	8,040.205	26,560.917
1971	9,307.941	7,002.976	4,445.667	20,753.584
1972	6,810.155	5,020.993	9,534.311	21,365.459

Source: Bureau of Dangerous Drugs. Estimated Consumption: Schedule "G" drugs, for calendar years 1966–1972 inclusive, n.d. (Mimeo).

* 1,000 kilograms returned—substandard.

† 78.508 kilograms returned—substandard.

While there is considerable disagreement as to barbiturate standard-dose units (primarily depending on whether one is speaking of these drugs' use for day-time sedation or nocturnal sleep inducement), it is still apparent that Canadians consume a very substantial number of barbiturates. When the 'consumption' figures presented in Table B.16 are analysed in terms of the Bureau of Dangerous Drugs' standard conversion factors of 'average unit doses' (100 mg. for short-acting, 60 mg. for intermediate-acting, and 30 mg. for long-acting barbiturates),[28] it can be seen that the estimated consumption for 1972 was nearly one-half billion barbiturate capsules or tablets. This is enough to provide every Canadian over 15 years of age with about 30.3 individual units of barbiturates. The estimated consumption of barbiturates in 'average unit doses' is presented in Table B.17.

* 'Estimated consumption' does not represent actual sales figures to hospitals and retail pharmacies but, rather, the amounts of barbituric acid and its salts and derivatives available for medical use. Some of the barbiturates included in 'estimated consumption' are thus at processing or wholesale levels of the distribution network and have not actually been consumed.

TABLE B.17

ESTIMATED CONSUMPTION OF BARBITURIC ACID AND ITS SALTS AND DERIVATIVES, IN AVERAGE UNIT DOSES, FOR 1966–1972

Year	Short-Acting	Intermediate-Acting	Long-Acting	Total
1966	87,591,500	147,348,250	346,765,933	581,705,683
1967	95,720,440	166,960,967	338,383,100	601,064,507
1968	88,794,930	145,392,617	322,430,200	556,617,747
1969	94,336,990	154,179,250	382,606,033	631,122,273
1970	97,989,550	145,362,617	268,006,833	511,359,000
1971	93,079,410	116,716,267	148,188,900	357,984,577
1972	68,101,550	83,683,217	317,810,400	469,595,134

Combining the data presented in Table B.17 with those in Table B.15 indicates that the estimated consumption of sedative-hypnotic drugs in 1972 was over 890 million individual unit doses. As Table B.15 does not include several types of minor tranquilizers and non-barbiturate sedative-hypnotics (such as meprobamate and glutethimide), it is not unreasonable to assume that actual 1972 consumption of all sedative-hypnotics was closer to one billion individual unit doses. This was sufficient to provide every Canadian over 15 years of age with approximately 64 individual units of these drugs in 1972.

LEGAL SOURCES AND ILLEGAL DISTRIBUTION

It appears that all the sedative-hypnotics and minor tranquilizers used in Canada, both medically and non-medically, originate from licit sources. Some diversion of these drugs at different levels of the legitimate manufacturing and distribution systems does occur, however, channelling these substances into the illegal market.

The legal status of barbiturates is different from that of the minor tranquilizers and the non-barbiturate sedative-hypnotics (see "Legal Sources and Legal Distribution", above). In 1961 barbiturates and amphetamines were legally classified as "controlled drugs" after the R.C.M. Police gained knowledge supporting the belief that there was a substantial underworld traffic in barbiturates in some dance halls, restaurants, cafés, and beer parlours. Stricter measures did not serve to totally erase the illicit sale of these substances, however, and a large black market in sedatives still exists. Although it is impossible to say how many sedative-hypnotics make their way into illegal distribution channels, it is certain that it is a large number. Many minor tranquilizers and sedative-hypnotics are illegally trafficked in Canada, and individuals in multiple drug-using scenes seem to have little trouble acquiring these drugs.

The minor tranquilizers and sedative-hypnotics make their way from the licit distribution system to the illicit one at various junctures. An un-

known amount of pharmaceutical sedatives enter illicit channels of distribution through theft from manufacturers' and wholesalers' stocks. Commission field work in Toronto, during the summer of 1970, found that counterfeit Seconals® were being sold to multiple drug users, speed freaks and young heroin users. Illicit barbiturate dealers apparently purchased or otherwise obtained the secobarbital in pound lots and then 'capped' it themselves in gelatin capsules which were most likely procured from local drug stores.[24] Similarly, a Montreal man was recently found in possession of 26.56 pounds of phenobarbital which were alleged to be part of a theft of 31 barrels of this drug from Montreal harbour in June 1972.[17, 23] In 1971 there were seven thefts of controlled drugs (barbiturates and amphetamines) from drug wholesalers reported by the Bureau of Dangerous Drugs.[5] As tranquilizers and sedative-hypnotics are not "controlled drugs", there are no comprehensive records of thefts of these substances from manufacturers and wholesalers. It is to be expected, however, that these are stolen with at least the same frequency as barbiturates and amphetamines.

The minor tranquilizers, barbiturates and other sedative-hypnotics are most susceptible to theft when they are in the hands of the approximately 4,800 pharmacies in Canada. Preliminary Bureau of Dangerous Drugs tabulations indicate that there were 266 reported thefts of barbiturates during 1972.[4] During 1971 the Bureau of Dangerous Drugs recorded thefts of 19,195 grams of barbiturates. This converts to more than one-quarter million individual doses stolen during that year. Table B.18 shows the thefts of barbiturates from 1966 to 1971. The first column represents the quantities stolen in grams, and the second column transforms the quantities stolen into the minimum number of individual doses that can be converted from these bulk amounts.

TABLE B.18

REPORTED THEFTS OF BARBITURATES IN CANADA

Year	Grams	Individual Doses*
1966	3,567	35,670
1967	7,110	71,100
1968	21,525	215,250
1969	13,398	133,980
1970	14,783	147,830
1971	19,195	267,100

Sources: McKim, T. R. (Director, Bureau of Dangerous Drugs, Department of National Health and Welfare) Letter to the Commission, January 12, 1972.
McKim, T. R. (Director, Bureau of Dangerous Drugs, Department of National Health and Welfare) Letter to the Commission, November 9, 1972.

* Except for 1971 (for which year short-acting, intermediate-acting, and long-acting thefts were separately reported to the Commission), the number of individual doses represented by the bulk theft figures has been estimated on the basis of short-acting barbiturate standard-unit doses (i.e., 100 mg.). As it is improbable that all stolen barbiturates were of the short-acting variety, the first five figures in the 'individual doses' column must be seen as conservative estimates.

There is no doubt that thefts involving non-barbiturate sedative-hypnotics and minor tranquilizers also occur, as these drugs (particularly those containing methaqualone) are more widely available in the illicit marketplace than any of the barbiturate preparations.

At the retail level of the licit distribution system there appears to be some diversion of sedative preparations from pharmacies. Some users have informed Commission researchers that they have purchased such drugs from pharmacists who did not require a prescription.

At the lowest level of the licit distribution system, individuals who acquire prescriptions for sedatives may sell or give parts of their prescribed drugs to their friends and relatives. Although this type of distribution is technically illegal, it is often socially accepted, and has been found to exist among housewives, 'office buddies' and school mates.[23] Mellinger, in a recent study of a random sample of more than 1,000 adults in San Francisco, found that 27 per cent of his respondents procured their prescription-type drugs (including sedatives) from non-medical sources.[21] A 'friend' was the source usually identified; a 'spouse' was not as common a source, and wives were more likely to dispense these drugs (especially tranquilizers) to their husbands than vice versa.

The use of minor tranquilizers and sedative-hypnotics is fairly common among some groups of youthful multi-drug users.[13] Diazepam (Valium®) and chlordiazepoxide (Librium®) particularly, but also the barbiturates, have been used in Canada since the explosion of cannabis and hallucinogen use in the mid-sixties to counteract 'freak-outs'. Speed freaks have also used minor tranquilizers and sedative-hypnotics to counteract the effects of the 'crash' from extended methamphetamine use. In the last few years young persons have been increasingly using these drugs, either alone or in combination with other drugs, to achieve a 'stoned' state. A distribution system for these drugs has developed among multiple drug users in parts of Canada which is comparable to, and affiliated with, the distribution systems for cannabis and the hallucinogens.

The price of pharmaceutical sedatives on the illicit market is dependent, to a large degree, on their availability. Even in multiple drug-using scenes, where the normal course of affairs involves free distribution of small amounts of sedatives to those desiring them, shortages of these substances can force their sale to inflated prices.

In Toronto there is a well developed distribution system for barbiturates. During the summer of 1970, 50 100 mg. Seconals® sold for $15. The winter of 1970–1971, however, brought an over-abundance of these pills and a consequent reduction in their price; they sold for $25 per hundred doses.[24] In 1968, in Vancouver, 200 mg. Tuinals® were selling on the illicit market to heroin addicts for one dollar. One hundred mg. Seconals®, although less popular, sold to heroin addicts for fifty cents each.[8]

Methaqualone, a non-barbiturate sedative-hypnotic, has recently come into widespread use among some groups of multi-drug users in eastern Canada, especially in the Ottawa-Hull and Montreal areas. Pharmaceutical preparations containing methaqualone have been fairly constantly available since late 1970, and they are occasionally obtained through thefts from warehouses. They can be illegally purchased for between $25 and $50 per 500 capsules and then eventually resold for between twenty-five and fifty cents each.[13] During periods of relative drought, however, the price may rise as high as one dollar per capsule or tablet.

ILLEGAL SOURCES AND ILLEGAL DISTRIBUTION

Margaret Kreig, in her book *Black Market Medicine*, states that prescription-type drugs in the United States are increasingly originating from illegal sources.[16] The basic chemicals are manufactured in bulk in clandestine laboratories or may be shipped illegally into the United States from abroad. These chemicals, on entering the United States, are converted into pharmaceutical doses, in which form they either remain in the illegal distribution system or else they enter the legal stream of prescription drug distribution to be sold in retail pharmacies as legitimate prescription drugs. In Canada there is no evidence of tranquilizing or sedative-hypnotic substances either being manufactured in Canada illegally or being illegally imported into the country. All of these substances appear to be imported legally into Canada before any diversion into illicit channels of distribution occurs.

B.8 VOLATILE SUBSTANCES: SOLVENTS AND GASES

There are an uncounted number of readily and legally available volatile substances that can be used to achieve a state of intoxication. Some of the more common intoxicating solvents in everyday use include fast drying glue and cements, paints and lacquers, paint thinners and removers, gasoline and kerosene, lighter fluid, dry cleaning fluid, fingernail polish remover, and many aerosols.

The advertising, sale and importation of these substances are regulated by the *Hazardous Products Act* and the *Hazardous Products (Hazardous Substances) Regulations*. This Act and its Regulations require the identification of hazardous products and the alerting of consumers to their possible dangers by "clear", "prominently displayed", "easily legible", and "readily discernible" labelling.

The Hazardous Products Act and its *Regulations* limit neither the possession of volatile substances nor their use for psychotropic purposes. Consequently, all of the above mentioned substances are legally available to anyone regardless of age or condition. In Alberta, however, the provincial *Public Health Act* states that "no person shall use any intoxicating vapour

to produce intoxication", and provides for the prosecution of persons who induce anyone to use such a product for intoxication or who sell a product for such reason.

In contrast to other psychotropic drugs which are distributed through licit or illicit 'drug dealers', volatile substances are available in a variety of retail outlets (including hobby shops and department stores) and are ordinarily sold for mundane purposes rather than their psychotropic potential. The customary procedure for a person wishing to use a volatile substance is to simply go to a store which sells the desired product and purchase it. Although a Commission field study has uncovered instances of adolescents reselling bottles of nail polish remover for inflated prices to children who are too young to make their own purchases without arousing a retailer's suspicion as to their motives, the purchase of these substances from retail outlets is ordinarily easily accomplished.[6] Even if an individual is a known 'sniffer' it is unlikely that he will be refused access to solvents by store vendors. According to another Commission field study, for example, a chronic glue sniffer in Winnipeg has purchased as many as 30 tubes of glue at a time from a retail store without encountering any difficulty.[9] In fact, in some Canadian cities store owners have been known to sell 'kits' (containing nail polish remover, a plastic bag and Kleenex®) to recognized solvent users.[6]

While paint thinner is the most popular solvent in Japan and in the Scandinavian countries, in North America airplane glue and nail polish remover (especially Cutex®) are the solvents most often used for psychotropic purposes. Airplane glue is available in hobby stores, in the toy sections of department stores, as well as in many corner stores. Some stores take the precaution of placing the tubes under a counter so that they will not be stolen, but most stores display them openly. A tube of glue can be purchased for between fifteen and twenty cents. A few deep inhalations of the solvent is usually sufficient to render at least a novice user intoxicated, and several individuals can reportedly achieve a desired state of intoxication with one fifteen cent tube (usually containing about 20 c.c. of the glue).[4] A chronic user, after extended experience with the substance, may require up to five tubes to achieve intoxication, which obviously increases his cost.[4] Lacking money to buy glue, some juveniles simply steal it or steal money with which to purchase it.[2]

'Testor's' glue was the most popular volatile solvent in Canada prior to 1968. In that year, however, this company added allylisothiocyanate (a volatile oil of mustard) to their glue which rendered it unpalatable to sniffers.[3] This led users to switch from Testor's to their competitors, as well as to some of the countless other solvent-containing products in everyday use.

There are other, less readily available products included in the category 'volatile substances'. Nitrous oxide and ether (the medical anesthetics) are occasionally used by a small number of individuals to experience a drug effect. Nitrous oxide, or 'laughing gas', can be procured through dentists, and

ether can be obtained through physicians and hospital anesthetists. It is also reportedly possible to order and receive cylinders of nitrous oxide without legal risk from some companies that stock this substance.

B.9 TOBACCO

LEGAL SOURCES AND LEGAL DISTRIBUTION

During the 19th century, Ontario developed as the principal tobacco-growing area of Canada, a trend that has continued to the present. Ontario now produces over 90 per cent of the tobacco grown in Canada, including significant export quantities. Although tobacco was grown in Quebec at an earlier date than in Ontario, it presently accounts for less than seven per cent of the total national production. Likewise, Prince Edward Island, Nova Scotia and New Brunswick produce a small amount; only experimental tobacco crops have been planted west of Ontario.

Canada is fifth in the world in the production of flue-cured tobacco. Total annual 1970 Canadian production of all types of tobacco was estimated to be approximately 222 million pounds, green weight, an estimated 214 million pounds of which were flue-cured. This represented a total estimated farm value of $142.9 million.[10]

Tobacco is second only to wheat in Canadian agricultural exports.[9] Flue-cured tobacco exports in 1971 were estimated to be 48.5 million pounds, valued at somewhat more than $53 million. Eighty-five per cent of this tobacco was exported to the United Kingdom.[9] Only about two per cent of all tobacco consumed in Canada is imported.[2] As can be seen from Table B.19, Canadians consume a substantial number of cigarettes. It is of some interest to note that the per capita consumption of cigarettes by Canadians 15 years of age and over decreased between 1966 and 1969; however, the per capita rate of cigarette consumption had returned to the 1967 level by 1972.[14] For further information on the epidemiology of tobacco use in Canada, see Appendix C.2 *Extent of Use,* "Tobacco".

The cultivation of tobacco is a significant source of income and employment in Canada. In 1970, the total estimated capital investment in tobacco farms in Canada was $436 million. About 9,500 full-time and 40,000 seasonal workers are employed in the cultivation and harvesting of this product.[8] The manufacturing and processing of tobacco products involve an additional 1,500 employees with a total payroll of about $60 million. Purchases of materials by manufacturers, excluding tobacco, run to about $40 million annually and, in 1967, their advertising budgets approached $15 million. In addition, the number of share holders in tobacco manufacturing firms is in excess of 17,500.[8]

TABLE B.19

CONSUMPTION OF MANUFACTURED AND HAND-ROLLED CIGARETTES, FROM 1966 TO 1972

Year	Consumption of manufactured cigarettes (in thousands)	Consumption of hand-rolled cigarettes (in thousands)‡	Consumption of manufactured plus hand-rolled cigarettes (in thousands)	Population 15 years of age and over (in thousands)	Consumption of manufactured cigarettes plus hand-rolled cigarettes per person 15 years of age and over
1966*	46,275,981	6,897,459	53,173,440	13,423	3,961
1967*	46,864,890	6,496,183	53,361,073	13,812	3,863
1968*	46,258,100	6,988,581	53,246,681	14,179	3,755
1968-9†	45,976,997	6,776,000	52,752,997	14,461	3,648
1969-70†	48,901,204	6,873,000	55,774,204	14,814	3,765
1970-71†	50,386,465	7,122,000	57,508,465	15,159	3,794
1971-72†	52,982,522	6,949,000	59,931,522	15,508	3,865

Source: Colburn, H. N. (Director, Use of Tobacco Program, Department of National Health and Welfare) Letter to the Commission, with relevant tables, February 22, 1973.

* Calendar year.

† November 1 to October 31.

‡ Calculated with a conversion factor of 2.205 pounds of fine cut tobacco per 1,000 cigarettes.

The industry also reflects significant economic activity at the wholesale and retail levels. Tobacco products are distributed through some 90,000 retail outlets and 650 wholesale and distribution enterprises.[8] In 1969 the combined wholesale and retail annual income of the tobacco industry was estimated to be about $180 million.[8]

The greatest financial benefits of the tobacco industry accrue, however, to the federal and provincial governments. In 1971 total Federal Government revenue from excise taxes and sales taxes collected on tobacco products totalled $620 million.[15] In 1968 federal tobacco taxes accounted for about six per cent of total Federal Government revenues.[8] The provinces, in 1971, collected about $215 million in tobacco taxes, and tobacco manufacturers paid an additional $29 million in corporate taxes.[15] In all, federal and provincial taxes account for more than 60 per cent of the retail price of tobacco products in Canada.[8]

The distribution of tobacco products is controlled by both federal and provincial government statutes and regulations. At the federal level, the *Excise Act* determines the tax that must be paid by the manufacturer. This system of tax collection is implemented through a stringently-controlled series of measures, including licensing and bonding of the manufacturer, monthly returns regarding his sales and purchases, annual reporting of his equipment inventory, and a requirement to make available to government inspectors, when requested, company books, accounts and papers.

Another federal statute, the *Tobacco Restraint Act*, regulates some aspects of the distribution of tobacco products. It prohibits the sale or giving of any tobacco product, or cigarette papers, to anyone under the age of 16 years. This prohibition carries with it a sanction in the form of fines of up to $10 for a first offence, up to $25 for a second offence and up to $100 for a third or subsequent offence. This Act also prohibits persons under the age of 16 years from purchasing tobacco, having it in their possession, or smoking or chewing tobacco in a street or public place. The maximum fine for a third or subsequent offence is four dollars. This statute also prohibits keepers of cigarette vending machines from permitting their use by persons under 16 years of age.

All the provinces of Canada levy a cigarette tax which, in every case, must be collected by the retailer from the customer. While taxation levels vary from province to province, a number of administrative devices are common to all the provinces. For example, all retail vendors of tobacco products must receive a license from the provincial government; and the onus is on the retailer to ensure that, regardless of the price at which the product is sold, the full tax is paid to the province.

Each province also has legislation governing the minimum age of persons to whom tobacco products may be sold. In most respects, the provincial statutes resemble the federal *Tobacco Restraint Act*, although most provinces make an exception in the case of a child who is obtaining a tobacco product on behalf of a parent, guardian or, in some cases, an employer.

Because tobacco products—unlike alcohol—are not distributed under government monopoly, there are few limitations, other than those listed above, on the manner in which they may be distributed. However, as of January 1, 1972, the Canadian Tobacco Manufacturers Council (composed of four major cigarette manufacturing companies) committed its members to a 'Cigarette Advertising Code' governing the advertising of all cigarettes.[12] This Cigarette Advertising Code contains a number of voluntary restraints on cigarette advertising, including the following provisions: that member companies shall not advertise cigarettes on television or radio after December 31, 1971, and shall limit advertising expenditures in remaining media to 1971 levels; that cigarette packages produced after April 1, 1972 shall bear a warning that the Department of National Health and Welfare advises that danger to health increases with the amount smoked; that cigarette promotions involving incentive programs offering to the consumer cash or other prizes shall be discontinued; that the average tar and nicotine content of cigarette smoke shall not exceed 22 milligrams of tar, moisture-free weight, and 1.6 milligrams of nicotine per cigarette; and that cigarette advertising shall be addressed to the adult population of Canada, with a concomitant ban on cigarette promotions in the immediate vicinity of primary or secondary schools.

LEGAL SOURCES AND ILLEGAL DISTRIBUTION

Since the cultivation of tobacco is not prohibited in Canada, there are technically no illegal sources of this drug. All illegal tobacco distribution that does occur involves customs or excise violations, theft, and the possession by or sale to minors of tobacco products.

The smuggling and bootlegging of tobacco does not appear to be a major problem in Canada. There is some evidence that cigarettes are regularly smuggled into Newfoundland from the duty-free port of Saint Pierre, where they sell for two dollars a carton.[19] However, according to a recent *Annual Report of the Solicitor General of Canada,* this type of commercial venture is atypical as "the majority of [customs] seizures were of items illegally brought into Canada for personal use".[5] While it is impossible to estimate the total amount of such smuggling and bootlegging (or the consequent loss in federal and provincial tax revenues), Table B.20, which reports the extent of tobacco seizures between the fiscal years 1966–67 and 1971–72, indicates the widespread nature of this phenomenon.

The theft of tobacco products at the wholesale level has also been occasionally reported.[11, 18] Unfortunately, however, Canadian criminal statistics do not permit the identification of arrests or convictions solely related to tobacco thefts, so the extent of such activity cannot be ascertained at this time.

Since federal and provincial laws regulating the possession and sale of tobacco products are primarily directed at juveniles (see B.9 *Tobacco,* "Legal Sources and Legal Distribution", above), the chief offenders of these laws are persons under 16 years of age and those who sell to them. These

TABLE B.20

SUMMARY OF TOBACCO SEIZURES, UNDER THE CUSTOMS AND EXCISE ACTS FOR FISCAL YEARS 1966–67 TO 1971–72

	1966–67	1967–68	1968–69	1969–70	1970–71	1971–72
Cigarettes (cartons)*	1,477	1,587	2,261	2,604	1,827	2,369
Tobacco (pounds)†	288	602	236	1,412	2,373	308

Sources: Canada, Solicitor General of Canada. *Annual Report, 1969-70.* Ottawa: Information Canada, 1970.
Canada, Solicitor General of Canada. *Annual Report, 1970-71.* Ottawa: Information Canada, 1971.
Canada, Solicitor General of Canada. *Annual Report, 1971-1972.* Ottawa: Information Canada, 1972.

* Newfoundland, Nova Scotia, Quebec, Ontario and British Columbia account for between 97 and 99 per cent of these customs violations; the majority, on a pro rata basis, occurred in Newfoundland.

† Nearly all of these excise violations occurred in Ontario and Quebec.

laws, however, are very infrequently enforced. An examination of the Annual Police Reports of the major cities in Canada for 1969 reveals that only one city, Ottawa, reports a breach of the *Tobacco Restraint Act*—and that single arrest occurred in 1966.[17] In 1968 only three juveniles in all of Canada appeared before a court for smoking and buying cigarettes, and all three cases were adjourned *sine die*.[7]

Even casual observation, however, indicates that minors smoke openly in every Canadian community. While there are no studies extant of how these youths obtain tobacco, the retailing of cigarettes is such that anyone with the correct change and the requisite skill can easily obtain them from unattended vending machines. Juveniles can also purchase cigarettes, by the pack or single cigarettes, from many corner stores, or can arrange for older friends or relatives to buy tobacco products for them. Cigarettes, of course, can also be easily stolen (since few persons keep track of the number of cigarettes in their possession at any given time), or they may be freshly rolled from 'butts' collected in various public places. The laws restricting tobacco possession and use to those 16 years of age and over appear to be generally unenforceable.

References and Selected Bibliographies

B.2 OPIATE NARCOTICS

1. Agent France Presse. Second coup de filet de la police française: 320 lb de morphine base sont saisies dans une voiture venant de Turquie. *Le Devoir* (Montreal), March 7, 1972: 10.
2. Aldrich, M. R. Prolegomena: America's drugging of China in 1920's; the Ginsberg files; the Karnow reports; relevant notes from Ginsberg files; Operation Haylift; the Tunney charges; China lobby, Watergate East: Suppressed information starting with Koen's book; CIA names named...; who knows? Unpublished manuscript, Amorphia, Inc., San Francisco, Calif., 1973.
3. Aldrich, M. R. The secret of the Laos invasion 1971: Opium notes for Peace and Freedom Party of Long Beach, California. Paper presented at the meeting of U.S. College Press Service editors, Los Angeles, Calif., February 1971.
4. Aldrich, M. R. U.S. Central Intelligence Agency complicity in the South East Asian narcotics trade: A confidential report and annotated bibliography, 1945-1972. Unpublished manuscript, Amorphia, Inc., San Francisco, Calif., 1973.
5. Anderson, J. Playing tricks. *New York Post*, October 17, 1972.
6. Anslinger, H. J. The implementation of treaty obligations in regulating the traffic in narcotic drugs. *American University Law Review*, 1959, 8: 112-116.
7. Anslinger, H. J. *The protectors.* New York: Farrar, Straus and Cudahy, 1962.
8. Anslinger, H. J., & Oursler, W. *The murderers: The story of the narcotic gangs.* New York: Farrar, Straus and Cudahy, 1961.
9. Associated Press. Brazil to expel seven arrested in dope probe. *Globe and Mail* (Toronto), November 17, 1972: 12.
10. Associated Press. Burmese seize plants. *New York Times*, May 19, 1959.
11. Associated Press. Chinese in Burma in opium-gun deal. *New York Times*, March 9, 1952: 8.
12. Associated Press. Heroin intrigue: U.S., Brazil make real French connection. *Ottawa Citizen*, November 18, 1972.
13. Associated Press, Laotian general drug pusher, Steele claims. *Globe and Mail* (Toronto), July 12, 1971: 4.
14. Associated Press. U.S. sends agents: Three tons of opium seized in Thai raids. *Globe and Mail* (Toronto), July 25, 1972: 37.
15. Associated Press-Reuters News Agency. 3 French suspects whisked from Brazil to U.S. *Toronto Star*, November 18, 1972.
16. Belair, F., Jr. A Saigon general named as a trafficker in heroin. *New York Times*, July 8, 1971: 1.
17. Belair, F., Jr. U.S. troops supplied with heroin from 21 opium refineries in Laos-Burma-Thailand area. *Globe and Mail* (Toronto), June 17, 1971: 10.
18. Berrigan, D. They smuggle dope by the ton. *Saturday Evening Post*, May 5, 1956: 42.
19. Binder, D. Munich called entry for Mideast heroin. *New York Times*, June 15, 1972: 1.

20. Blackwell, J. C. B.D.D. catchment population. Unpublished Commission research project, 1972.

21. Blanchard, W. *Thailand: Its people, its society, its culture.* New Haven, Conn.: Human Relations Area Files Press, 1958.

22. Bloomfield, R. Cooperative measures with Mexico to control the traffic in narcotics. Paper presented at the White House Conference on Narcotics and Drug Abuse, Washington, D.C., September 27-28, 1962.

23. Blum, R. H., & Associates. *The dream sellers.* San Francisco: Jossey-Bass, 1972.

24. Braden, T. W. I'm glad the CIA is 'immoral'. *Saturday Evening Post,* May 20, 1967: 10.

25. Branfman, F. Presidential war in Laos, 1964-1970. In N. S. Adams & A. W. McCoy (Eds.), *Laos: War and revolution,* New York: Harper Colophon, 1970. Pp. 213-280.

26. Brean, H. A global criminal trade. In Time, Inc., *The drug takers.* New York: Time, Inc., 1965. Pp. 34-43.

27. Browning, F., & Garrett, B. The new opium war. *Ramparts,* 1971, 9(10), 32-39.

28. Bulletin on Narcotics. Illicit traffic in heroin. *Bulletin on Narcotics,* 1953, 5: 45-48.

29. Bulletin on Narcotics. Twenty years of narcotics control under the United Nations: Review of the work of the Commission on Narcotic Drugs from its 1st to its 20th session. *Bulletin on Narcotics,* 1966, 18: 1-59.

30. Butterfield, F. Lao's opium country resisting drug law. *New York Times,* October 16, 1972: 12.

31. Campbell, I., & Solomon, R. Interviews with officials of the United States Bureau of Narcotics and Dangerous Drugs, Washington, D.C. Unpublished Commission research project, 1971.

32. Campbell, I., & Solomon, R. Interviews with officials of the United States Bureau of Narcotics and Dangerous Drugs, Washington, D. C. Unpublished Commission research project, 1972.

33. Canada, Department of National Health and Welfare, Bureau of Dangerous Drugs. Number of thefts involving specific narcotics during 1971. Unpublished paper, Ottawa, 1972.

34. Canada, Department of National Health and Welfare, Bureau of Dangerous Drugs. Reported thefts of narcotics during the calendar year 1971. Unpublished paper, Ottawa, 1972.

35. Canada, Department of National Health and Welfare, Bureau of Dangerous Drugs. Statement showing seizures of narcotic drugs during the calendar years 1970-71. Unpublished paper, Ottawa, May 2, 1972.

36. Canada, Department of National Health and Welfare, Bureau of Dangerous Drugs. Table showing estimated consumption of the main narcotics for the period 1961-1971 inclusive. Unpublished paper, Ottawa, April 5, 1972.

37. Canada, House of Commons. Methadone and amphetamines—Statement on action to control abuse. *Commons Debates,* February 24, 1972.

38. Canada, Senate. *Proceedings of the Special Committee on the Traffic in Narcotic Drugs in Canada.* Ottawa: Queen's Printer, 1955.

39. Canadian Press. Big heroin seizure worth $28 million. *Ottawa Citizen,* June 23, 1971: 4.

40. Canadian Press. Montreal heroin dealer hurt as Vancouver buyers switch. *Montreal Star,* July 19, 1972.

41. Cauble, M. The "Red Chinese connection" and Interpol's concern with Southeast Asian narcotics production in 1966. Unpublished paper, Amorphia, Inc., San Francisco, Calif., December 20, 1972.

42. Collins, L., & Lapierre, D. The French connection—in real life. *New York Times Magazine,* February 6, 1972: 14-15, & 51-55.

43. Columbia Broadcasting System. *CBS reports: The Mexican connection.* Unpublished transcript of CBS network television broadcast, June 25, 1972, New York, 1972.

44. Committee of Concerned Asian Scholars. *The opium trail: Heroin and imperialism.* (2nd ed.) Boston, Mass.: New England Free Press, 1972.

45. Cooper, P. Technical information on cocaine and heroin. Unpublished Commission research paper, 1971.

46. Express (London) Service. Brazilians will send home Italian narcotics kingpin. *Toronto Star,* November 18, 1972.

47. Feingold, D. Opium and politics in Laos. In N. S. Adams, & A. W. McCoy (Eds.), *Laos: War and revolution.* New York: Harper Colophon, 1970. Pp. 322-339.

48. France, Ambassade de France, Service de Presse et d'Information. A few facts on narcotics control in France. Press release, New York, n.d.

49. France, Ambassade de France, Service de Presse et d'Information. French-American cooperation on narcotics control agreement signed February 26, 1971. Press release, New York, March 1, 1971.

50. France, Ambassade de France, Service de Presse et d'Information. Joint communique on French-American cooperation on narcotics control issued at the close of the visit to Washington of Raymond Marcellin, French Minister of the Interior on Friday, July 31, 1970. Press release, New York, n.d.

51. Gage, N. East coast heroin flow is reported cut. *New York Times,* July 28, 1972: 4.

52. Gage, N. 45 drug arrests in Europe are based on evidence compiled by U.S. agents. *New York Times,* October 1, 1971.

53. Gage, N. *The Mafia is not an equal opportunity employer.* New York: McGraw-Hill, 1971.

54. Gayn, M. The generals are the wheeler-dealers in Asia's great drug racket. *Toronto Star,* August 13, 1971: 8.

55. Giniger, H. Drug issue hits home in Marseilles. *New York Times,* September 7, 1971: 1.

56. Goldner, S. Field reports: Montreal. Unpublished Commission research project, 1971.

57. Gormely, S. Methadone controls aimed at ending abuse by doctors. *Toronto Star,* July 21, 1972: 11.

58. Green, M., & Blackwell, J. C. Final monitoring project. Unpublished Commission research paper, 1972.

59. Green, T. *The smugglers: An investigation into the world of the contemporary smuggler.* New York: Walker, 1969.

60. Gregg, R. W. The politics of international drug control. *American Bar Association Journal,* 1963, 49: 176-179.

61. Halpern, J. M. *Economy and society of Laos.* Yale University Monograph No. 5 (Southeast Asia Studies). New Haven: Yale University Press, 1964.

62. Harvey, P. The drug trail. I. The million dollar arteries of death. *Guardian* (Manchester), December 10, 1971: 13.

63. Harvey, P. The drug trail. II. The shadows that hide the opium sharks. *Guardian* (Manchester), December 11, 1971: 11.

64. Hersh, S. M. Asian drug inflow found 'greater than realized'. *New York Times,* July 28, 1972: 3.

65. Hersh, S. M. Drug flow can't be halted, U.S. told. *Montreal Star,* July 24, 1972: 1.

66. Hess, J. L. U.S. agent's drug charges anger the French police. *New York Times,* August 27, 1971: 2.

67. Hogarth, J. Field reports: Toronto. Unpublished Commission research project, 1969.

68. Hogarth, J. Interviews with R. C. M. Police officers: Halifax and St. John. Unpublished Commission research project, 1970.

69. Holahan, J. F., & Henningsen, P. A. The economics of heroin. In Drug Abuse Survey Project (Ed.), *Dealing with drug abuse: A report to the Ford Foundation.* New York: Praeger, 1972.

70. Howe, M. Brazil reports drug ring broken: Says chiefs of international trafficking are arrested. *New York Times,* November 2, 1972: 6.

71. Hughes, J. The junk merchants: International narcotics traffic. Part 1. World junk traffic: 'We're dealing with an epidemic'. *Christian Science Monitor,* May 29, 1970: 15-16.

72. Hughes, J. The junk merchants: International narcotics traffic. Part 2. Turkey principal U.S. source—Legal opium production spawns illegal trafficking. *Christian Science Monitor,* June 2, 1970: 11-12.

73. Hughes, J. The junk merchants: International narcotics traffic. Part 3. Marseille—Hub of heroin industry: Risks greater but profits fatter. *Christian Science Monitor,* June 5, 1970: 13.

74. Hughes, J. The junk merchants: International narcotics traffic. Part 4. Iran's strict drug controls: Good intentions no barrier to traffickers. *Christian Science Monitor,* June 9, 1970: 13.

75. Hughes, J. The junk merchants: International narcotics traffic. Part 5. Ominous trend. Young people on 'pot trail' graduate to narcotics smuggling. *Christian Science Monitor,* June 12, 1970: 11.

76. Hughes, J. The junk merchants: International narcotics traffic. Part 6. Thailand: 'Four-lane' drug highway. *Christian Science Monitor,* June 16, 1970: 6.

77. Hughes, J. The junk merchants: International narcotics traffic. Part 7. Hong Kong's thriving opium traffic: Focal point for Far East narcotics. *Christian Science Monitor,* June 19, 1970: 11.

78. Hughes, J. The junk merchants: International narcotics traffic. Part 8. U. N. has little power to curb trafficking: Onus for antinarcotic action rests on individual governments. *Christian Science Monitor,* June 23, 1970: 11.

79. Hughes, J. The junk merchants: International narcotics traffic. Part 9. U. S. and Mexico fight traffickers: Operation Cooperation now under way. *Christian Science Monitor,* June 26, 1970: 11.

80. Hughes, J. The junk merchants: International narcotics traffic. Part 10. Reform of addict will curb trafficking: 'Solution to his problem must be a metaphysical one'. *Christian Science Monitor,* June 30, 1970: 11.

81. Hunter, C. Addicts are 'copping garbage' in face of drug shortage here. *New York Times,* November 30, 1971: 28.

82. Hutten, M. Selon les autorités américaines, la France lutte trop mollement contre le trafic de la drogue. *La Presse* (Montreal), September 8, 1971: A4.

83. International Criminal Police Organization (INTERPOL). Illème colloque sur le trafic illicite des stupéfiants. Unpublished transcript, Saint-Cloud, France, October 14-16, 1970.

84. International Criminal Police Organization (INTERPOL), Committee on Narcotic Drugs. Account of the meeting. Unpublished transcript, 39th General Assembly Session, Brussels, Belgium, October 5-10, 1970.

85. Josie, G. H. *A report on drug addiction in Canada.* Ottawa: King's Printer and Controller of Stationery, 1948.

86. Kamm, H. Asians doubt that U.S. can halt heroin flow. *New York Times*, August 11, 1971: 1.

87. Kamm, H. Meo general leads tribesmen in war with communists in Laos. *New York Times*, October 27, 1969.

88. Kamm, H. Turkish ban on poppy: Delayed impact seen. *New York Times*, October 10, 1972: 1.

89. Kaplan, M. Philippine diplomat seized here as heroin smuggler. *New York Times*, November 12, 1971: 93.

90. Karnow, S. Opium. *Saturday Evening Post*, February 22, 1964: 80-82.

91. Karnow, S. The opium must go through. *Life*, August 30, 1963: 11-12.

92. Katz, P. Drug city. *Oui*, 1972, 1: 29-32.

93. King, H. $20 million heroin haul came from U.S.—French raids on traffickers. *Toronto Telegram*, October 28, 1970.

94. King, H. U.S. drugs agent riles Paris officials. *Toronto Telegram*, August 27, 1971: 42.

95. Koch, J. V., & Grupp. S. E. The economics of drug control policies. *International Journal of the Addictions*, 1971, 6: 571-584.

96. Lewis, F. Small-timers entering drug scene in France. *New York Times*, July 25, 1972: 2.

97. Liljefors, Y. Interviews with senior R. C. M. Police officers and municipal police officers: Calgary, Edmonton, Regina, and Saskatoon. Unpublished Commission research project, 1970.

98. Lubasch, A. H. 23 accused of smuggling 1,500 lbs. of heroin here. *New York Times*, January 18, 1972: 1.

99. Lyle, D. The logistics of junk. *Esquire*, 1966, 65(3): 59-67.

100. Maas, P. *The Valachi papers*. New York: Putnam, 1968.

101. Manes, R. D. A historical survey of international narcotics treaties with special reference to Canadian and U. S. participation. Unpublished Commission research paper, 1971.

102. Markham, J. M. Asian heroin ring uncovered here. *New York Times*, August 24, 1972: 1.

103. Markham, J. M. The heroin epidemic: Pace of addiction seems to have slowed, but methadone use is posing problems. *New York Times*, November 21, 1972: 28.

104. Markham, J. M. South Florida is emerging as center of drug traffic. *New York Times*, May 1, 1972: 1.

105. McCoy, A. W., with Read, C. B., & Adams, L. P., II. *The politics of heroin in Southeast Asia*. New York: Harper & Row, 1972.

106. McKim, T. R. (Director, Bureau of Dangerous Drugs, Ottawa). Letter to the Commission, November 9, 1972.

107. Moore, M. *Policy concerning drug abuse in New York State*. Vol. 3. *Economics of heroin distribution*. Croton-on-Hudson, N.Y.: Hudson Institute, 1970.

108. Moscow, A. *The merchants of heroin: An in-depth portrayal of business in the underworld*. New York: Dial, 1968.

109. Murphy, M. F., & Steele, R. H. *The world opium problem: Report of the special study mission*. Washington, D. C.: U. S. Government Printing Office, June 22, 1971.

110. New York Times. Nixon envoy visited Paraguay to seek drug figure's return. *New York Times*, August 16, 1972.

111. New York Times. Paraguay yields on drug suspect. *New York Times*, August 15, 1972: 7.

112. New York Times. $2.75 million bail set in heroin case. *New York Times,* September 21, 1971.

113. New York Times. U. N. asked to oust Chinese in Burma. *New York Times,* March 27, 1953: 6.

114. Newsweek. America's battle against the 'white death'. *Newsweek,* March 29, 1971: 41-43.

115. Newsweek. The big heroin haul. *Newsweek,* March 13, 1972: 36.

116. Newsweek. Heroin: Now it's the Latin connection. *Newsweek,* January 24, 1972: 24-26.

117. Newsweek. Indochina's heroin traffic. *Newsweek,* July 19, 1971: 16.

118. Newsweek. Open secret. *Newsweek,* August 16, 1971: 30.

119. Newsweek. The U. S. scores in the war on drugs. *Newsweek,* August 28, 1972: 30-33.

120. Novitski, J. Teamwork by Latins bringing growing number of drug hauls. *New York Times,* October 10, 1972: 15.

121. O'Callaghan, S. *The drug traffic.* Belfast: W. & G. Baird, 1967.

122. Pearson, K. M. *The drug scene in Vancouver: An overview.* Vancouver: Narcotic Addiction Foundation of British Columbia, 1970.

123. Peck, J., & Selden, M. *Bulletin of Concerned Asian Scholars, special issue.* San Francisco: James Peck, February, 1971.

124. Preble, E., & Casey, J. T., Jr. Taking care of business: The heroin user's life on the street. *International Journal of the Addictions,* 1969, 4: 1-24.

125. Quebec, Department of Justice. Brief submitted to the Commission at Winnipeg, November 13, 1969.

126. Redlinger, L. J. *Dealing in dope: Market mechanisms and distribution patterns of illicit narcotics.* (Doctoral dissertation, Northwestern University, Evanston, Illinois) Ann Arbor, Mich.: University Microfilms, 1970, No. 70-6523.

127. Reid, E. *The anatomy of organized crime in America: The grim reapers.* Chicago: Regnery, 1969.

128. Reuters News Agency. Big heroin ring smashed with U. S. aid, French say. *New York Times,* January 17, 1972: 37.

129. Reuters News Agency. Chinese from 1950 retreat still in Burma. *Los Angeles Times,* May 27, 1971.

130. Reuters News Agency. Diplomat convicted as drug courier. *Toronto Star,* April 12, 1972: 17.

131. Reuters News Agency. Get big haul. *Gazette* (Montreal), June 12, 1972: 11.

132. Reuters News Agency. Opium seized. *Gazette* (Montreal), June 14, 1972: 9.

133. Reuters News Agency. $13 million heroin haul in New York. *Montreal Star,* November 12, 1971.

134. Reuters News Agency. Worth $1 billion: 20 tons of opium turned in. *Montreal Star,* June 16, 1972.

135. Rickenbach, R. J. Eyewitness testimony. *Harper's,* October 1972: 120-121.

136. Rottenberg, S. The clandestine distribution of heroin, its discovery and suppression. *Journal of Politicial Economy,* 1968, 76: 78-90.

137. Royal Canadian Mounted Police. R. C. M. P. research into organized crime and international drug traffic with replies to questions raised by the Commission. Unpublished manuscript, Ottawa, n.d.

138. Schmidt, D. A. U. S. aide hopeful on Asian drug curb. *New York Times,* July 26, 1972: 2.

139. Schmidt, D. A. U.S. seeks to end Latin drug flow. *New York Times*, November 30, 1971: 29.

140. Scott, A. Suspected heroin king flown to U.S. for trial. *Los Angeles Times*, September 3, 1972: 2.

141. Scott, P. D. Air America: Flying the U.S. into Laos. In N. S. Adams & A. W. McCoy (Eds.), *Laos: War and revolution*. New York: Harper Colophon, 1970. Pp. 301-321.

142. Scott, P. D. Heroin traffic: Some amazing coincidences linking the CIA, the Mafia, Air America, several members of the Brook Club, Chiang Kai-Shek, the Kuomintang, Prince Puchartra of Thialand, many banks and insurance companies—practically everyone except Richard Nixon. Wasn't he asked? *Earth*, 1972, 3(2): 35-42.

143. Severo, R. Inability to stem drug traffic in Panama vexes U.S. officials. *New York Times*, January 16, 1972: 19.

144. Siragusa, C. *The trail of the poppy: Behind the mask of the Mafia*. Englewood Cliffs, N.J.: Prentice-Hall, 1966.

145. Solomon, R. The criminal prohibition of non-medical opiate use in Canada. Unpublished Commission research paper, 1972.

146. Solomon, R. Interview with senior R.C.M. Police officers: R.C.M. Police Headquarters, Ottawa. Unpublished Commission research project, 1972.

147. Solomon, R. Interviews and participant observation with senior R.C.M. Police and municipal police officers: Vancouver. Unpublished Commission research project, 1970.

148. Solomon, R. Interviews with heroin addicts in east-wing, Oakalla Prison Farm, Oakalla, B.C. Unpublished Commission research project, 1971.

149. Solomon, R. Interviews with senior R.C.M. Police officers and municipal police officers: Montreal, Ottawa, Toronto, and Winnipeg. Unpublished Commission research project, 1971.

150. Solomon, R. Telephone interview with senior official of the United States Bureau of Narcotics and Dangerous Drugs, Washington, D.C. Unpublished Commission research project, December 12, 1972.

151. Solomon, R., & Green, E. M. Customs and the illicit heroin traffic. Unpublished Commission research paper, 1971.

152. St. Louis Post-Dispatch. Crusade against drugs masks facts in Saigon. *Vancouver Sun*, August 27, 1971: 5.

153. Stoddart, K. W. Drug transactions: The social organization of a deviant activity. Unpublished Master's thesis, Department of Sociology, University of British Columbia, 1968.

154. Strock, C. No news from Laos. *Far Eastern Economic Review*, January 30, 1971: 18.

155. Sunday Times (London) Service. Politicians, drug gangs linked in France. *Edmonton Journal*, September 28, 1970: 5.

156. Sutton, H. Drugs: Ten years to doomsday? *Saturday Review*, November 14, 1970: 18-21.

157. Tara, S. Southeast Asia: Super supplier of heroin. *World*, 1972, 1(1): 68-74.

158. Thailand, Ministry of Interior. *Report on the socio-economic survey of the hill tribes in Northern Thailand*. Bangkok, Thailand, September 1962. United Nations document number E/CN.7/450.

159. Time, Inc. Drugs: Moving towards the killers. *Time*, August 23, 1971: 4-6.

160. Time, Inc. The French connection. *Time*, November 29, 1971: 6.

161. Time, Inc. Laos: Flower power struggle. *Time*, September 8, 1967: 28-29.

162. Time, Inc. Laos: The twilight zone. *Time*, August 16, 1971: 29-30.

163. Time, Inc. Search and destroy—the war on drugs. *Time*, September 4, 1972: 12-18.

164. Time, Inc. The smuggling scandal. *Time*, March 23, 1962: 10.

165. Tomalty, G. L. (Officer in Charge, R.C.M. Police Drug Enforcement Branch, Ottawa). Letter to the Commission, December 15, 1972.

166. Topping, S. New Chiang raids in China reported, *New York Times*, May 18, 1965: 1.

167. United Nations, Division of Narcotic Drugs. *Information letter to members of the Commission [on Narcotic Drugs]*. United Nations document ST/NAR/INF/R. 1970/10, September 7, 1970.

168. United Nations, Division of Narcotic Drugs. *Information letter to members of the Commission [on Narcotic Drugs]*. United Nations document ST/NAR/INF/R. 1971/2, July 15, 1971.

169. United Nations, Division of Narcotic Drugs. Opiates and their alternates for pain and cough relief: Report of a WHO scientific group. *Information letter*. United Nations document NAR/INF. Lett./72-10, October 1972. P. 2.

170. United Nations, Economic and Social Council, Commission on Narcotic Drugs. *List of Chapters XI (illicit traffic) of Annual Reports for the year 1969 transmitted by Governments under the International Narcotic Treaties*. United Nations document E/IT/1969, March 2, 1971.

171. United Nations, Economic and Social Council, Commission on Narcotic Drugs. *Plan for concerted action against drug abuse*. Part 1. United Nations document E/CN.7/538, July 27, 1971.

172. United Nations, Economic and Social Council, Commission on Narcotic Drugs. *Single convention on narcotic drugs*. March 1961.

173. United Nations, Economic and Social Council, Commission on Narcotic Drugs. *Suggestions for short-term and long-term measures against drug abuse and illicit trafficking*. United Nations document E/CN. 7/530, July 28, 1970.

174. United Nations, Economic and Social Council, Commission on Narcotic Drugs. *Summary of annual reports of governments relating to opium and other narcotic drugs (1968)*. United Nations document E/NR.168/Summary, July 6, 1970.

175. United Nations, Economic and Social Council, Commission on Narcotic Drugs. *Summary of drugs seized or involved in the illicit traffic during 1969*. United Nations document E/IT/1969/85, February 22, 1971.

176. United Nations, Economic and Social Council, Commission on Narcotic Drugs. *Summary of reports on illicit transactions and seizures received by the Secretary-General from January 1 to April 30, 1970*. United Nations document E/NS, 1970/Summary 1, July 26, 1970.

177. United Press International. Largest heroin cache seized. *Gazette* (Montreal), March 3, 1972: 4.

178. United Press International. Saigon orders death penalty for drug sellers. *Gazette* (Montreal), August 14, 1972: 39.

179. U.S. News and World Report. Booming traffic in drugs: The government's dilemma. *U.S. News and World Report*, 1970, 69: 40-44.

180. United States, Bureau of Narcotics and Dangerous Drugs. Drug traffic in South America. Unpublished manuscript, Washington, D. C., n.d.

181. United States, Bureau of Narcotics and Dangerous Drugs. The world opium situation. Unpublished manuscript, Washington, D.C., October 1970.

182. United States, Cabinet Committee on International Narcotics Control. *World opium survey—1972*. Washington, D.C., July 1972.

183. United States, Department of Defense. *United States-Vietnam relations, 1945-1967*. (The Pentagon Papers). Washington, D. C.: U. S. Government Printing Office, 1971. (12 volumes).

184. United States, Department of State. *Cooperation in combating illicit international traffic in narcotics and other dangerous drugs: Memorandum of understanding between the United States of America and Thailand.* Washington, D.C.: U. S. Government Printing Office, 1971.

185. United States, Department of State, Embassy of the United States. International narcotics control summary. Press release, Ottawa, December 28, 1971.

186. United States, Ninety-first Congress, House of Representatives, Special Subcommittee on Alleged Drug Abuse in the Armed Services. *Alleged drug abuse in the armed services.* Washington, D.C.: U. S. Government Printing Office, 1971.

187. Wade, N. Heroin: Role of technology in curtailing supply. *Science,* 1972, 177: 1083-85.

188. Warner, D. A. *The last Confucian.* New York: Macmillan, 1963.

189. Washington Star Service. Laos takes steps to curb opium trade. *Globe and Mail* (Toronto), November 18, 1971: 11.

190. Washington Star Service. U. S. pressing for the extradition of alleged smuggling mastermind. *Globe and Mail* (Toronto), January 7, 1972: 8.

191. Welles, B. House member charges narcotics smuggling inquiry touches 'highest levels' of Panama government. *New York Times,* March 16, 1972: 14.

192. Wighton, C. *Dope international.* London: Frederick Muller, 1960.

193. Wise, D., & Ross, T. B. *The invisible government.* New York: Random House, 1964.

B.3 AMPHETAMINES AND AMPHETAMINE-LIKE DRUGS

1. Associated Press. 'Speed' haul said largest yet by U.S. customs. *Gazette* (Montreal), September 21, 1971: 41.

2. Broomfield, H. Halifax report. Sub-study of M. Green, Committed users study. Unpublished Commission research project, 1971.

3. Caldwell, E. Maker sent drugs to dummy outfit. *New York Times,* October 26, 1969.

4. Canada, Department of National Health and Welfare. New amphetamine regulations: Minister's statement. Press release No. 1972-206, Ottawa, December 28, 1972.

5. Canada, Department of National Health and Welfare, Bureau of Dangerous Drugs. Estimated consumption of schedule "G" drugs based on the deduction of exports from imports for calendar years 1962-1971 inclusive. Information communicated to the Commission, Ottawa, May 10, 1972.

6. Canada, House of Commons. Methadone and amphetamines—Statement on action to control abuse. *Commons Debates,* February 24, 1972.

7. Clement, V. R., Solursh, L. U., & Van Ast, W. Abuse of amphetamines and amphetamine-like drugs. *Psychological Reports,* 1970, 26: 343-354.

8. Drugs and Drug Abuse Education Newsletter. Amphetamine production cut 80%. *Drugs and Drug Abuse Education Newsletter,* February 1972, 3(2): 5.

9. Durrin, K. A. Diversion as a factor in illict drug traffic. *Drug and Cosmetic Industry,* 1970, 107: 28-30.

10. Eisenberg, W. V., & Tillson, A. H. Identification of counterfeit drugs, particularly barbiturates and amphetamines by microscopic, chemical, and instrumental techniques. *Journal of Forensic Sciences,* 1966, 11: 529-551.

11. Geller, A., & Boas, M. *The drug beat.* New York: McGraw-Hill, 1969.

12. Globe and Mail. Largest speed seizure: Police believe drug ring broken. *Globe and Mail* (Toronto), January 19, 1973: 5.

13. Green, M. Committed users study. Unpublished Commission research project, 1971.

14. Green, M. Interviews with selected amphetamine traffickers. Unpublished Commission research project, 1970.

15. Green, T. *The smugglers: An investigation into the world of the contemporary smuggler.* New York: Walker, 1969.

16. Grinspoon, L., & Hedblom, P. Amphetamines reconsidered. *Saturday Review of Science,* July 8, 1972: 33-46.

17. Gunn, J. W., Jr., Johnson, D. W., & Butler, W. P. Clandestine drug laboratories. *Journal of Forensic Sciences,* 1970, 15: 51-64.

18. Hammond, R. C. Drug abuse in Canada. *Applied Therapeutics,* 1970, 12(9): 7-10.

19. Harper, J. D. (Director of Public Relations, Pharmaceutical Manufacturers Association of Canada) Letter to the Commission, June 18, 1971.

20. Harper, J. D. (Director of Public Relations, Pharmaceutical Manufacturers Association of Canada) Letter to the Commission, August 12, 1971.

21. Harper, J. D. (Director of Public Relations, Pharmaceutical Manufacturers Association of Canada) Letter to the Commission, October 12, 1971.

22. Harper, J. D. (Director of Public Relations, Pharmaceutical Manufacturers Association of Canada) Letter to the Commission, October 10, 1972.

23. Hider, C. L. Preparation of evidence in illicit amphetamine manufacturing prosecutions. *Journal of the Forensic Science Society,* 1969, 9: 75-79.

24. Kreig, M. *Black market medicine.* Englewood Cliffs, N.J.: Prentice-Hall, 1967.

25. Loving, R., Jr. Putting some limits on "speed". *Fortune,* March, 1971: 99, 127-128.

26. Marchuk, E. Montreal report. Sub-study of M. Green, Committed users study. Unpublished Commission research project, 1971.

27. McKim, T. R. (Director, Bureau of Dangerous Drugs, Ottawa) Letter to the Commission, June 9, 1971.

28. McKim, T. R. (Director, Bureau of Dangerous Drugs, Ottawa) Letter to the Commission, February 10, 1972.

29. McKim, T. R. (Director, Bureau of Dangerous Drugs, Ottawa) Letter to the Commission, June 25, 1972.

30. McKim, T. R. (Director, Bureau of Dangerous Drugs, Ottawa) Letter to the Commission, November 9, 1972.

31. McKim, T. R. (Director, Bureau of Dangerous Drugs, Ottawa) Letter to the Commission, January 8, 1973.

32. Murphy, C. Halifax report. Sub-study of M. Green, Committed users study. Unpublished Commission research project, 1971.

33. New York Times. Big pep pill profits of doctors related. *New York Times,* January 31, 1968.

34. New York Times. Pep pills bought by carton in test. *New York Times,* September 3, 1964.

35. O'Neill, M. Monitoring study field reports: Toronto. Unpublished Commission research project, 1971.

36. O'Neill, M. The occupation of speed dealing. Unpublished student essay, Sociology Department, Bishop's University, Lennoxville, Quebec, 1971.

37. O'Neill, M. Toronto report. Sub-study of M. Green, Committed users study. Unpublished Commission research project, 1971.

38. Ottawa Citizen. Man is fined $500 in 'diet drug' case. *Ottawa Citizen,* July 19, 1971.

39. Ouellette, K. Monitoring study field reports: Winnipeg. Unpublished Commission research project, 1971.

40. Pharmaceutical Manufacturers Association of Canada. Brief submitted to the Commission, 1970.

41. Rawlin, J. W. Street level abuse of amphetamines. In J. R. Russo (Ed.), *Amphetamine abuse.* Springfield, Ill.: C. C. Thomas, 1968. Pp. 51-65.

42. Sadusk, J. F. Nonnarcotic addictions: Size and extent of the problem. *Journal of the American Medical Association,* 1966, 196(8): 119-121.

43. Schmeck, H. M., Jr., U. S. plans 82% cutback in amphetamines. *New York Times,* February 10, 1972: 1.

44. Seevers, M. H. Abuse of barbiturates and amphetamines. *Postgraduate Medicine,* 1965, 37: 45-51.

45. Shepard, J. The cruel chemical world of speed. *Look,* March 5, 1968. 53-64.

46. Skinner, W. J. Abused prescription drugs: Sources of helpful drugs that hurt. In J. R. Wittenborn, H. Brill, J. P. Smith, & S. A. Wittenborn (Eds.), *Drugs and youth.* Springfield, Ill.: C. C. Thomas, 1969. Pp. 148-158.

47. Smith, E. Monitoring study field reports: Halifax. Unpublished Commission research project, 1971.

48. Smith, R. C. *The marketplace of speed: Compulsive methamphetamine abuse and violence.* (Doctoral dissertation, University of California, Berkeley) Ann Arbor, Mich.: University Microfilms, 1970. No. 70-12,983.

49. United Press International. Stimulant drug quotas are cut by 80 per cent. *New York Times,* February 11, 1972: 63.

50. United States, Ninety-first Congress, House of Representatives, Select Committee on Crime. *Amphetamines.* Washington, D.C.: U.S. Government Printing Office, 1971.

51. United States, Ninety-first Congress, House of Representatives, Select Committee on Crime. *Crime in America—Why 8 billion amphetamines?* Washington, D.C.: U.S. Government Printing Office, 1970.

52. United States, Ninety-first Congress, House of Representatives, Special Subcommittee on Alleged Drug Abuse in the Armed Services. *Alleged drug abuse in the armed services.* Washington, D.C.: U.S. Government Printing Office, 1971.

53. Wilson, E. V. (Assistant Director, Bureau of Dangerous Drugs, Ottawa) Letter to the Commission, August 23, 1972.

54. Wilson, E. V. (Assistant Director, Bureau of Dangerous Drugs, Ottawa) Letter to the Commission, with relevant tables, March 27, 1973.

B.4 COCAINE

1. Campbell, I. Information letter to Commissioners. (Visit to Office of Strategic Intelligence, Bureau of Narcotics and Dangerous Drugs, Department of Justice, Washington.) Unpublished Commission research project, 1971.

2. Campbell, I., & Solomon, R. Interviews with officials of the United States Bureau of Narcotics and Dangerous Drugs, Washington, D. C. Unpublished Commission research project, 1971.

3. Canada, Department of National Health and Welfare, Bureau of Dangerous Drugs. Table showing estimated consumption of the main narcotics for the period 1961-1971 inclusive. Unpublished manuscript, April, 1972.

4. Eduardo [pseud.] Talkin' to 'the Man'. Part I. *Georgia Straight* (Vancouver), September 7-14, 1972: 10 & 14.

5. Eduardo [pseud.] Talkin' to 'the Man'. Part III. *Georgia Straight* (Vancouver), September 28-October 5, 1972: 9-10.

6. Gaffney, G. H. Narcotic drugs: Their origin and routes of traffic. In J. R. Wittenborn, H. Brill, J. P. Smith, & S. A. Wittenborn (Eds.), *Drugs and youth*. Springfield, Ill.: C. C. Thomas, 1969. Pp. 55-61.

7. Gay, G. R., Inaba, D. S., Sheppard, C. W., & Newmeyer, J. A. "High, high, Miss American Pie". New debut for an old girl: Cocaine in perspective. Unpublished manuscript, Haight-Ashbury Free Medical Clinic, San Francisco, Calif., 1972.

8. Green, T. *The smugglers: An investigation into the world of the contemporary smuggler*. New York: Walker, 1969.

9. Hopkins, J. Cocaine: A flash in the pan, a pain in the nose. *Rolling Stone*, April 29, 1971: 1 & 6.

10. Kurke, M. I. (Chief, Information Development and Analysis Division, Bureau of Narcotics and Dangerous Drugs, Washington, D.C.) Letter to the Commission, October 16, 1972.

11. Long, D. Cocaine: Ain't it a shame. *Vancouver Free Press*, April 27-30, 1971.

12. McKim, T. R. (Director, Bureau of Dangerous Drugs, Ottawa). Letter to the Commission, June 9, 1971.

13. McKim, T. R. (Director, Bureau of Dangerous Drugs, Ottawa). Letter to the Commission, February 10, 1972.

14. McKim, T. R. (Director, Bureau of Dangerous Drugs, Ottawa). Letter to the Commission, November 9, 1972.

15. Narcotics Control Digest. Announcement of Customs Commissioner Myles J. Ambrose. *Narcotics Control Digest*, 1971, 1(9): 2.

16. New York Times. Tips from Interpol linked to seizure of 5 drug plants. *New York Times*, September 24, 1972.

17. New York Times. U. S. agents try but fail to stop flow of cocaine from Latin countries. *New York Times*, January 25, 1971.

18. O'Callaghan, S. *The drug traffic*. Belfast: W. & G. Baird, 1967.

19. Ouellette, K. Monitoring study field reports: Winnipeg. Unpublished Commission research project, 1971.

20. Perry, C. The star-spangled powder; or, through history with coke spoon and nasal spray. *Rolling Stone*, August 17, 1972: 24-26.

21. Schmeck, H. M., Jr. Cocaine is re-emerging as a major problem, while marijuana remains popular. *New York Times*, November 15, 1971: 74.

22. Tomalty, G. L. (Officer in Charge, R.C.M. Police Drug Enforcement Branch, Ottawa). Letter to the Commission, December 15, 1972.

23. Toronto Star. Raid nets $100,000 in cocaine. *Toronto Star*, June 22, 1972: 69.

24. United Nations, Economic and Social Council, Commission on Narcotic Drugs. *Plan for concerted action against drug abuse*. Part I. United Nations document E/CN.7/538, July 27, 1971.

25. United Nations, Economic and Social Council, Commission on Narcotic Drugs. *Suggestions for short-term and long-term measures against drug abuse and illicit trafficking*. United Nations document E/CN.7/530, July 28, 1970.

26. United Nations, Economic and Social Council, Commission on Narcotic Drugs. *Summary of drugs seized or involved in the illicit traffic during 1969*. United Nations document E/IT/1969/85, February 22, 1971.

27. United States, Bureau of Narcotics and Dangerous Drugs. Cocaine and coca leaves. Unpublished manuscript, Washington, D.C., n.d.

28. United States, Bureau of Narcotics and Dangerous Drugs. Cocaine traffic. Unpublished manuscript, Washington, D.C., 1971.

29. United States, Bureau of Narcotics and Dangerous Drugs. Drug traffic in South America. Unpublished manuscript, Washington, D.C., n.d.

30. United States, Department of the Treasury, Bureau of Customs. Customs drug seizures top $100 million. Press release, Washington, D.C., May 3, 1971.

31. United States, Department of the Treasury, Bureau of Customs. Customs drug seizures total $617.3 million in ten months. Press release, Washington, D.C., November 19, 1971.

32. United States, Department of the Treasury, Bureau of Customs. Half-billion drug seizures by customs. Press release, Washington, D.C., July 26, 1971.

33. Volsky, G. Illicit traffic in cocaine in Miami. *New York Times,* February 1, 1970.

34. White Mountain Press. *The gourmet cokebook: A complete guide to cocaine.* New York: White Mountain Press, 1972.

35. Woodley, R. *Dealer: Portrait of a cocaine merchant.* New York: Holt, Rinehart, and Winston, 1971.

36. Woodley, R. The return of King Cocaine—Conversations with a coke peddler. *New York,* August 30, 1971: 24-29.

B.5 HALLUCINOGENS

1. Bussières, C. Rapport de Montréal. Sub-study of M. Green, Committed users study. Unpublished Commission research project, 1971.

2. Carey, J. T. *The college drug scene.* Englewood Cliffs, N.J.: Prentice-Hall, 1968.

3. Chayet, N. L. Social and legal aspects of LSD usage. In R. C. DeBold, & R. C. Leaf (Eds.), *LSD, man & society.* Middletown, Conn.: Weslyan University Press, 1967. Pp. 92-124.

4. Cohen, S., & Ditman, K. S. Complications associated with lysergic acid diethylamide (LSD-25). *Journal of the American Medical Association,* 1962, 181:161-162.

5. Darrough, W. Vancouver report. Sub-study of M. Green, Committed users study. Unpublished Commission research project, 1971.

6. Dilworth, C. Pusher. Unpublished student essay, Department of Sociology, Carleton University, Ottawa, 1971.

7. Eduardo [pseud.] Talkin' to 'the Man'. Part 1. *Georgia Straight* (Vancouver), September 7-14, 1972: 10 & 14.

8. Gaussiran, M. Rapport de Montréal. Sub-study of M. Green, Committed users study. Unpublished Commission research project, 1971.

9. Geller, A., & Boas, M. *The drug beat.* Toronto: McGraw-Hill, 1969.

10. Georgia Straight. Clear light: An interview with an LSD distributor. *Georgia Straight* (Vancouver), December 6-19, 1970: 12-13.

11. Graham, R. A. (Head, Scientific Services, Health Protection Branch, Department of National Health and Welfare, Ottawa) Letter to the Commission, October 17, 1972.

12. Graham, R. A. (Head, Scientific Services, Health Protection Branch, Department of National Health and Welfare, Ottawa) Letter to the Commission, November 20, 1972.

13. Green, M. Committed users study. Unpublished Commission research project, 1971.

14. Green, T. *The smugglers: An investigation into the world of the contemporary smuggler.* New York: Walker, 1969.

15. Gunn, J. W., Jr., Johnson, D. W., & Butler, W. P. Clandestine drug laboratories. *Journal of Forensic Sciences*, 1970, 15: 51-64.

16. Hammond, R. C. Drug abuse in Canada. *Applied Therapeutics*, 1970, 12(9): 7-10.

17. Harris, T. G. Agent in a losing battle. *Look*, 1968, 32(5): 61-64.

18. Janson, D. Doctors report a black market in drug that causes delusions. *New York Times*, July 14, 1962.

19. Karpel, C. Buyer beware. *Playboy*, September 1972.

20. Kohn, J. Midipusher. *East Village Other*, January 24, 1969: 6-7.

21. Letourneau, G., & Aubin, R. Rapport de Montréal. Sub-study of M. Green, Committed users study. Unpublished Commission research project, 1971.

22. Lyons, R. D. A drug more potent than LSD widely distributed in California. *New York Times*, June 28, 1967.

23. Lyons, R. D. STP: The word is out on a 'megahallucinogen'. *New York Times*, July 2, 1967.

24. Marshman, J. A., & Gibbins, R. J. A note on the composition of illicit drugs. *Ontario Medical Review*, 1970, 37: 429-430.

25. Masters, J. The high school drug pusher: He's happy, personable, and rich. *Toronto Star*, April 2, 1971.

26. Mouledoux, J., & Mader, W. Observations of a drug dealership and reflections upon its communal and ideological aspects. Paper presented at C.O.D.A. International Symposium on Druge Abuse, Toronto, August 1970. (Published as Mouledoux, J. Observations sur un trafic de drogue et réflexions sur ses aspects communaux et idéologiques. *Toxicomanies*, 1971, 4: 81-97.)

27. New York Times. Chemical company fined in hallucinatory drug sale. *New York Times*, December 15, 1964.

28. Schaefer, J. Taking a look at street dope. *Georgia Straight* (Vaucouver), September 10-14, 1971: 8-9.

29. Schmeck, H. M., Jr. Cocaine is re-emerging as a major problem while marijuana remains popular. *New York Times*, November 15, 1971: 74.

30. Schumach, M. Distributor of LSD recalls all supplies. *New York Times*, April 16, 1966.

31. Shaffer, R. A. Drug abuse: Where are all the pills coming from? *Medical Times*, 1971, 99: 147-156.

32. Shulgin, A. T. (Research Chemist, Berkeley, California) Letter to the Commission, February 22, 1972.

33. Smith, R. (Director, Marin Open House, San Raphael, California) Unpublished information provided to the Commission, October 1972.

34. Stoddart, K. Vancouver report. Sub-study of M. Green, Committed users study. Unpublished Commission research project, 1971.

35. United Press International. 'Biggest LSD factory' in U.S. is uncovered at farms in California. *Toronto Star*, December 3, 1971: 27.

36. Warner, E. G. Sources of hallucinogenic drugs, including marijuana: The nature and economic significance of the trade. In J. R. Wittenborn, H. Brill, J. P. Smith, & S. A. Wittenborn (Eds.), *Drugs and youth*. Springfield, Ill.: C. C. Thomas, 1969, Pp. 161-167.

37. Watts, W. D., Jr. *The psychedelic experience: A sociological study*. Beverly Hills, Calf.: Sage, 1971.

38. Whitaker, R. *Drugs & the law: The Canadian scene*. Toronto: Methuen, 1969.

39. Woolfrey, J. Winnipeg report. Sub-study of M. Green, Committed users study. Unpublished Commission research project, 1971.

B.6 ALCOHOL

1. Allen, T. 'Juice-making' follows tradition and may top $1,000 daily. *Winnipeg Tribune,* February 23, 1970.
2. Beaumier, J. C. Clandestine stills are a public menace. *Le Nouvelliste* (Trois-Rivières), August 16, 1963.
3. Canada, Department of the Solicitor General. *Annual report, 1969-70.* Ottawa: Information Canada, 1970.
4. Canada, Department of the Solicitor General. *Annual report, 1970-71.* Ottawa: Information Canada, 1971.
5. Canada, Department of the Solicitor General. *Annual report, 1971-72.* Ottawa: Information Canada, 1972.
6. Canada, Statistics Canada. *Breweries: 1970.* Catalogue 32-205. Ottawa: Information Canada, 1972.
7. Canada, Statistics Canada. *The control and sale of alcoholic beverages in Canada: 1970.* Catalogue 63-202. Ottawa: Information Canada, 1972.
8. Canada, Statistics Canada. *Distilleries: 1970.* Catalogue 32-206. Ottawa: Information Canada, 1972.
9. Canada, Statistics Canada. *Wineries: 1970.* Catalogue 32-207. Ottawa: Information Canada, 1972.
10. Canadian Press. Alcohol seized. *Globe and Mail* (Toronto), December 5, 1972: 4.
11. Canadian Press. 1,150 cases of liquor stolen in Montreal hijacking. *Toronto Star,* October 4, 1971: 34.
12. Canadian Press. Tipsy sheep: Police led to huge still in Laurentians. *Ottawa Citizen,* June 14, 1972: 85.
13. Carriere, J. R. R. (Assistant Commissioner, R.C.M. Police, Ottawa.) Letter to the Commission, June 23, 1971.
14. Croll, B. Raid by Mounties in Eastern Townships bares still. *Gazette* (Montreal), November 10, 1956.
15. Dowell, J. Time to pay. *Ottawa Journal,* March 19, 1971.
16. Foley, D. Moonshine for bootleggers. *Ottawa Citizen,* December 7, 1965.
17. Gazette. Maker of contraband alcohol draws fine; potion dangerous. *Gazette* (Montreal), January 12, 1967.
18. Gazette. Moonshine, phoney labels sought by police in bars. *Gazette* (Montreal), November 10, 1971: 3.
19. Gazette. Moonshine ring broken in Eastern Townships. *Gazette* (Montreal), November 3, 1972: 38.
20. Gazette. Police still dig for stolen booze. *Gazette* (Montreal), August 11, 1971: 3.
21. Gazette. RCMP raid still, seize 400 gallons of moonshine. *Gazette* (Montreal), October 27, 1972: 4.
22. Gazette. R.C.M.P. raids moonshine operation. *Gazette* (Montreal), October 15, 1971: 21.
23. Globe and Mail. Cass rejects one independent authority for all police. *Globe and Mail* (Toronto), March 20, 1964.
24. Globe and Mail. Police charge three over methyl alcohol. *Globe and Mail* (Toronto), April 27, 1971.
25. Globe and Mail. R.C.M.P. raid uncovers still, 2,000 ounces of moonshine. *Globe and Mail* (Toronto), May 15, 1972: 27.

26. Green, M. Field notes: Illicit alcohol distribution. Unpublished Commission research project, 1971.

27. Hughes, E. D. What doctors should know about moonshine. *Resident Physician*, November, 1967: 78-86.

28. Kilner, E. *Moonshine: Its history and folklore*. New York, Bobbs-Merrill, 1971.

29. La Presse. Vol de $63,000 de whisky. *La Presse* (Montreal), October 20, 1971.

30. Le Soleil. Condamnations: Alambic et fraudes. *Le Soleil* (Québec), April 8, 1971: 7.

31. Montreal Star. Liquor still churned out 1,200 gallons a week. *Montreal Star*, July 20, 1972: A-2.

32. Montreal Star. Police seize moonshine, arrest women. *Montreal Star*, November 23, 1972: A-3.

33. Montreal Star. Police warn against buying cut-rate booze. *Montreal Star*, December 17, 1971.

34. Mowat, F. *The boat who wouldn't float*. Toronto: McClelland and Stewart, 1969.

35. Noel, A. Huge moonshine cache seized. *Gazette* (Montreal), December 22, 1971.

36. Ottawa Citizen. Cabbie, dispatcher fined for bootlegging. *Ottawa Citizen*, November 29, 1972: 3.

37. Ottawa Citizen. R.C.M.P. seizes big still in Quebec farm raid. *Ottawa Citizen*, December 20, 1972: 1.

38. Ottawa Journal. Costs government millions. *Ottawa Journal*, September 4, 1969.

39. Palmer, A. R.C.M.P. fearful lye in moonshine. *Gazette* (Montreal), October 24, 1963.

40. Palmisano, P., Sneed, R., & Cassady, G. Untaxed whiskey and fetal lead exposure. *Journal of Pediatrics*, 1969, 75: 869-872.

41. Perry, W. F. G. (Chief Prevention Officer, R.C.M. Police, Ottawa.) Letter to the Commission, November 17, 1971.

42. R.C.M.P. Gazette. Illicitly distilled spirits. *R.C.M.P. Gazette*, September, 1970: 13-18.

43. Wilde, O. T. On the steam run to Saint Peters. *Time*, September 20, 1971: 10-11.

44. Zolty, A. La police retrouve à Laval des caisses de scotch volées dans le port de Montréal. *La Presse* (Montreal), October 15, 1971.

B.7 MINOR TRANQUILIZERS, BARBITURATES AND OTHER SEDATIVE-HYPNOTICS

1. Canada, Department of National Health and Welfare, Bureau of Dangerous Drugs. Estimated consumption schedule "G" drugs based on the deduction of exports from imports for calendar years 1962-1970 inclusive: Barbituric acid and its salts and derivatives. Unpublished manuscript, Ottawa, March 10, 1971.

2. Canada, Department of National Health and Welfare, Bureau of Dangerous Drugs. Estimated consumption schedule "G" drugs based on the deduction of exports from imports for calendar years 1962-1971 inclusive. Unpublished manuscript, Ottawa, May 10, 1972.

3. Canada, Department of National Health and Welfare, Bureau of Dangerous Drugs. Estimated consumption schedule "G" drugs based on the deduction of exports from imports for calendar years 1970-1971 inclusive: Barbituric acid and its salts and derivatives. Unpublished manuscript, Ottawa, August 23, 1972.

4. Canada, Department of National Health and Welfare, Bureau of Dangerous Drugs. Number of thefts involving specific controlled drugs during 1972, n.d.

5. Canada, Department of National Health and Welfare, Bureau of Dangerous Drugs. Reported thefts of controlled drugs during the calendar year 1971. Unpublished manuscript, Ottawa, n.d.

6. Canadian Medical Association. National prescribing habits survey. Unpublished manuscript, Ottawa, 1971.

7. Canadian Medical Association, Non-medical Use of Drugs Sub-Committee. Report to C.M.A. Board of Directors re final brief to the Commission of Inquiry into the Non-Medical Use of Drugs. Unpublished manuscript. Ottawa, 1971.

8. Cumberlidge, M. C. The abuse of barbiturates by heroin addicts. *Canadian Medical Association Journal*, 1968, 98: 1045-1049.

9. Curran, R. E. Canada and controlled drugs. *Medical Services Journal*, 1962, 78: 415-430.

10. Durrin, K. A. Diversion as a factor in illicit drug traffic. *Drug and Cosmetic Industry*, 1970, 107: 28-30, 126-127.

11. Franklin, B. A. Traffic in 'pep pills' and 'goofballs' is linked to underworld. *New York Times*, February 1, 1965.

12. Green, M. Committed users study. Unpublished Commission research project, 1971.

13. Green, M., & Blackwell, J. C. Final monitoring project. Unpublished Commission research paper, 1972.

14. Harper, J. D. (Director of Public Relations, Pharmaceutical Manufacturers Association of Canada). Letter to the Commission, September 23, 1970.

15. Harper, J. D. (Director of Public Relations, Pharmaceutical Manufacturers Association of Canada). Letter to the Commission, December 3, 1971.

16. Kreig, M. *Black market medicine.* Englewood Cliffs, N.J.: Prentice-Hall, 1967.

17. La Presse. La police de Laval retrouve des barbituriques volés dans le port. *La Presse* (Montreal), October 18, 1972: 12.

18. McKim, T. R. (Director, Bureau of Dangerous Drugs, Ottawa). Letter to the Commission, January 12, 1972.

19. McKim, T. R. (Director, Bureau of Dangerous Drugs, Ottawa). Letter to the Commission, November 9, 1972.

20. McKim, T. R. (Director Bureau of Dangerous Drugs, Ottawa). Letter to the Commission, January 8, 1973.

21. Mellinger, G. D. The psychotherapeutic drug scene in San Francisco. In P. H. Blachly (Ed.), *Drug abuse: Data and debate.* Springfield, Ill.: C. C. Thomas, 1970. Pp. 226-240.

22. Murphy, C. Halifax report. Sub-study of M. Green, Committed users study. Unpublished Commission research project, 1971.

23. Nebbs, S. Bail granted in drugs case despite Crown's opposition. *Montreal Star*, October 20, 1972.

24. O'Neill, M. Monitoring study field reports: Toronto. Unpublished Commission research project, 1971.

25. Skinner, W. J. Abused prescription drugs: Sources of helpful drugs that hurt. In J. R. Wittenborn, H. Brill, J. P. Smith, & S. A. Wittenborn (Eds.), *Drugs and youth.* Springfield, Ill.: C. C. Thomas, 1969. Pp. 148-158.

26. Thompson, P. Prescribing practices. Unpublished Commission research project, 1971.

27. U.S. News and World Report. Booming traffic in drugs: The government's dilemma. *U.S. News and World Report*, December 27, 1970: 40-44.

28. Wilson, E. V. (Assistant Director, Bureau of Dangerous Drugs, Ottawa). Letter to the Commission, August 23, 1972.

29. Woolfrey, J. Winnipeg report. Sub-study of M. Green, Committed users study. Unpublished Commission research project, 1971.

B.8 VOLATILE SUBSTANCES: SOLVENT AND GASES

1. Brown, F. The Hazardous Products Act (1969): Legal status, method of enforcement, and apparent effectiveness. Unpublished Commission research project, 1972.

2. Brozovsky, M., & Winkler, E. G. Glue sniffing in children and adolescents. *New York State Journal of Medicine*, 1965, 65: 1984-1989.

3. Chapman, R. A. (Director General, Food and Drug Directorate, Ottawa). Letter to the Commission, May 10, 1971.

4. Glaser, H. H., Massengale, O. N., & Denver, M. D. Glue sniffing in children. *Journal of the American Medical Association*, 1962, 181(4): 90-93.

5. Green, M. Committed users study. Unpublished Commission research project, 1971.

6. Green, M., & Blackwell, J. C. Final monitoring project. Unpublished Commission research paper, 1972.

7. Gregg, M. A note on solvent sniffing in Toronto. *Addictions*, 1971, 18(4): 39-44.

8. Wallace, P. It's in the bag, baby: Glue sniffing among juvenile delinquents as reported by the users themselves. Paper presented at the Conference of the Continuing Institute on Non-Narcotic Drug Abuse, Southern Illinois University, May 15-20, 1967.

9. Woolfrey, J. Winnipeg report. Sub-study of M. Green, Committed users study. Unpublished Commission research project, 1971.

B.9 TOBACCO

1. *Tobacco Restraint Act*, R.S.C. 1970, c. T-9.

2. Canada, Department of Agriculture. Statistics on Canadian tobacco. *The Lighter*, 1971, 41(1): 26-27.

3. Canada, Department of National Health and Welfare. Trends in cigarette consumption, Canada 1920-1970. Unpublished manuscript, Canadian Smoking and Health Program, Ottawa, 1970.

4. Canada, Department of the Solicitor General. *Annual report, 1969-70*. Ottawa: Information Canada, 1970.

5. Canada, Department of the Solicitor General. *Annual report, 1970-71*. Ottawa: Information Canada, 1971.

6. Canada, Department of the Solicitor General. *Annual report, 1971-72*. Ottawa: Information Canada, 1972.

7. Canada, Dominion Bureau of Statistics. *Juvenile delinquents, 1968*. Ottawa: Queen's Printer, 1970.

8. Canada, House of Commons. *Report of the Standing Committee on Health, Welfare and Social Affairs on tobacco and cigarette smoking*. Ottawa: Queen's Printer, 1969.

9. Canada, Statistics Canada. *Exports by commodities: December 1971*. Ottawa: Information Canada, 1972.

10. Canada, Statistics Canada. *Tobacco and tobacco products statistics quarterly: March 1972*. Ottawa: Information Canada, 1972.

11. Canadian Press. Cigarette thieves bore through concrete wall. *Montreal Star*, November 22, 1971.

12. Canadian Tobacco Manufacturers Council. Cigarette advertising code of the Canadian Tobacco Manufacturers Council. Unpublished manuscript, n.p., 1972.

13. Charlton, L. Bootleg cigarettes: A hot business. *Chronicle-Herald* (Halifax), May 18, 1971.

14. Colburn, H. N. (Director, Use of Tobacco Program, Department of National Health and Welfare) Unpublished information provided to the Commission, February and March, 1973.

15. Imperial Tobacco Products Limited, Public Relations Department. 1971: Review of the Canadian tobacco industry—The industry at a glance. Unpublished manuscript, Montreal, 1972.

16. Imperial Tobacco Products Limited, Public Relations Department. 1971: Review of the Canadian tobacco industry—Production of leaf tobacco grown in Canada. Unpublished manuscript, Montreal, 1972.

17. Ottawa City Police. *Annual report 1969*. Ottawa, 1969.

18. Toronto Star. 3 held after truck picks up cigarettes. *Toronto Star*. November 1. 1971: 44.

19. Wilde, O. J. On the steam run to Saint Peters. *Time*, September 20, 1971: 10-11.

Appendix C

Extent and Patterns of Drug Use

C.1 INTRODUCTION

Despite an enormous amount of research on the extent and patterns of drug use in the last few years, a number of considerable difficulties still remain in providing information on this subject. Some of these difficulties are conceptual, some arise from the types of populations studied by researchers, and some have to do with temporal changes in the phenomenon of drug use itself. Various populations are not equally amenable to social scientific investigation, and we realize that drug use patterns in certain groups (for example, among most institutionalized persons) remain invisible. In this section we set out these and other methodological difficulties and indicate the rationale of our approach to the extent and patterns of non-medical drug use. Tentative estimates of the number of current non-medical drug users in Canada, and their social characteristics, are provided in the second and third parts of this appendix, C.2 *Extent of Use* and C.3 *Characteristics of Users*. The fourth section, C.4 *Patterns of Use* is devoted to a description of Canadian drug use patterns.

Information on any subject to do with human behaviour always derives from a delimited group of people. Such a group is called a 'population' by social scientists. Everyone 18 years of age and over and living in Toronto in the spring of 1973 constitutes a population, and all university students in Canada in the spring of 1973 constitute another population, one that happens to overlap slightly with the first. By whatever method information is collected, from whatever type or size of 'sample', the information can, with any certainty, represent only the situation in the population from which it was obtained. Uncertainty necessarily enters when the information is projected to other populations. Research in the drug field has concentrated disproportionately on particular populations, reflecting temporal changes in public concern. In the post-war United States, when heroin use was the principal concern, lower-class people of specific ethnic minority groups were the main populations studied. Later, when cannabis and hallucinogen use began to

spread, first university students and then high school students became the populations of most interest to researchers, partly because they were seen as especially 'at risk' to drug use, and partly because they were easily accessible. This tendency to study drug use in special populations creates problems of comparability from study to study, and of generalizability to larger populations. It has undoubtedly made the drug use patterns of these special populations seem more exotic than they would appear in the context of the drug use patterns of our society as a whole.

Our primary concern is non-medical drug use. But what do we mean by 'drug use' and what constitutes 'non-medical' use? Many different answers to these questions are possible, and many can be found in the studies that we depend on for data on extent and patterns of use. How drug use is defined depends on the particular problem under study, and this leads to various definitions and, consequently, a certain degree of confusion. For our purposes, however, we refer the reader to the *Interim Report* in which the non-medical use of drugs is defined as *"all drug use which is not indicated on generally accepted medical grounds. . . ."*

Many studies attempt to say something about the 'drug culture', and hence focus on the use of illegal drugs: cannabis, 'speed', and the hallucinogens, for example. If the study is of a high school population, then for most of its subjects alcohol will also be an illegal drug. However, alcohol has frequently been omitted from past consideration since researchers have not ordinarily associated it with the drug culture. Fortunately this situation is changing, as indicated by the inclusion of alcohol-related questions in many recent Canadian surveys.

Some studies are directed at adult use of pharmaceutical substances in order to evaluate the degree to which this use accords with medical norms. Here alcohol, tobacco, and illegal drugs are typically ignored. Studies of tobacco use generally define that use in terms relevant to a concern with the increased risk of disease, and studies of alcohol use tend to reflect a concern with the development of alcoholism, and thus to remove each from a broader consideration of the patterns and context of drug use. Many researchers have failed to examine the larger context within which the use of certain substances occurs and have displayed stereotyped thinking regarding both particular drugs and the populations to which they are presumed to be relevant.

In studies of the use of illegal drugs, use is typically regarded as being *ipso facto* non-medical use, and is therefore artificially isolated from all other current patterns of drug use. This assumption may disguise illuminating parallels between the use of these illegal drugs and the use of legal psychotropic substances employed for medical purposes. The opinion of the user himself as to the function of his drug use (be it medical or non-medical) is subjective, but it may be a relevant definition for certain purposes such as understanding those factors which motivate some persons to use drugs on an initial or continuing basis.

In discussing measurements of extent of use, we have made no judgment, in the first instance, as to the medical or non-medical purpose of the use. We thus have a maximum figure for the extent of use of the substance in question. We then qualify the maximum figure with estimates of non-medical use. In some cases these estimates are quantitative; in others they can only be in qualitative terms. Wherever possible we point out subcategories of users of a drug in terms of recreational, functional or medical use of the substance (see C.4 *Patterns of Use,* page 707), in terms of the level-of-use of the substance, and in terms of the short-term or chronic character of use. We know that these subcategories of users are smaller than the totality of users, but in most cases there are no data available that enable us to determine their size exactly.

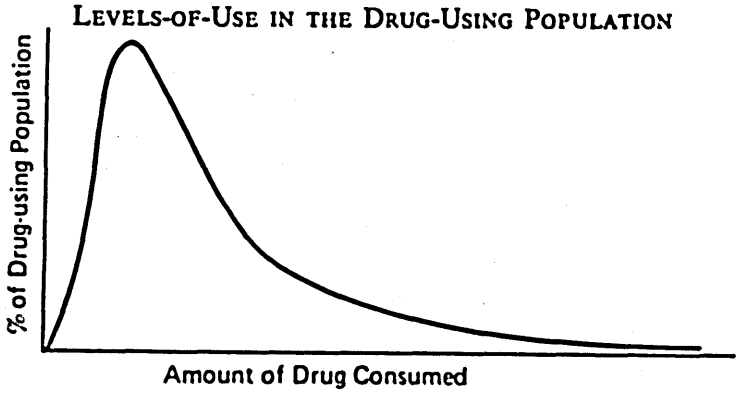
By 'extent of use' of a drug we mean how widespread its use is in a population. Since the studies on which this appendix is based do not use a single precise definition of extent of use, we are in no position to do so either. The term becomes more precise when 'level-of-use' is defined, and a period of time is specified. We may then be able to say what proportion of Canadians have used, for example, barbiturates at least once a month in a period of a year. Or we may define the phenomenon much more broadly, and ask what proportion of Canadians have used barbiturates in their life time. The second approach to determining extent of use will undoubtedly yield a different phenomenon in terms of the social characteristics of users and of the patterns of barbiturate use, and of drug use more generally, than the first definition.

The want of sophistication that still plagues studies of non-medical drug use shows up most obviously in the treatment of levels-of-use. By 'levels-of-use' we mean the frequency and regularity (and, in some cases, dose levels) with which individual users consume a particular drug, or the total number of times that they have used it. A minimum level-of-use must be specified in order to define a user. We may ask how many people have ever used a particular substance, even once. This is the simplest measure of drug use in a population, and for most purposes the least useful since the levels-of-use, and whether the use is current or took place in the more or less distant past, are not known. In some studies the measure is sharpened to include only those who have used the substance at least once in a fixed period of time (for example, in the last six months), but this still leaves room for a wide variation in levels-of-use. Despite these problems, 'ever used' and 'any use in the last six months' remain the most commonly employed operational definitions of drug use. The matter becomes more complicated when we consider that it has become typical of studies of non-medical drug use to survey the use of a range of substances, and to define that use in terms of the same levels-of-use definitions for all drugs. However, the relevance of a level-of-use definition depends on the particular substance: cannabis used once a month would probably not be considered heavy use, but LSD used once a month might well be.

The distribution of levels-of-drug-use in a population at a given point in time has received increasing attention in recent years. The majority of the relevant studies have focussed on per capita alcohol consumption, although there is also more limited evidence that similar distributions of use occur with a variety of other psychotropic drugs as well. It would appear from available data that levels-of-use of a drug in the user population may be distributed in a way which can be described by a continuous smooth curve, in some circumstances approximately a log-normal distribution (see Figure C.1). Although the exact mathematical specifications of the distribution are not essential here, its general form can provide significant information.[74, 130, 200, 218, 244]

FIGURE C.1

LEVELS-OF-USE IN THE DRUG-USING POPULATION



Within this distribution, the majority of those who use a drug use relatively little, and as the amount used is increased, the number of individuals involved at these levels decreases, at first rapidly and then more slowly, but without any break that would differentiate various levels-of-use. Available data suggest that extreme use is on a continuum with light and moderate consumption, and that discrete levels-of-use categories do not exist as such. The unimodal shape (i.e., having only one peak or 'mode') of this distribution may be of considerable importance. If, for example, users of a particular substance became 'fixed' at a given level of consumption, we would expect some clustering at such a level which would be indicated by a bimodal distribution curve (i.e., having two peaks or 'modes') rather than a unimodal one. No evidence of such a subpopulation, defined only by levels-of-use, has been indicated by the available data.

For practical purposes of analysis, however, discrete and necessarily arbitrary divisions on the levels-of-use continuum are made in much of the following discussion.

In this appendix level-of-use is employed as an indicator of an individual's stage in a social process, the process of becoming a user of a drug, his use governed by the norms of the using culture. The examination of this social process or 'career' of drug use can be viewed as the study of how

an individual changes his position in the per capita consumption distribution over time (which is a within-subject analysis over time, as opposed to a between-subject analysis at a given point in time).[51] This social process by which an individual becomes a user of a particular substance suggests that the first conceptual distinctions in levels-of-use are between non-users and 'experimental' users, and between experimental users and all more experienced users. These more experienced users can then be subdivided into 'occasional' and 'regular' level-of-use categories. Experimental use, occasional use and regular use are defined more concretely in C.4 *Patterns of Use,* where regular users are further examined in terms of the moderate or heavy character of their use.

Differences in levels-of-use of a drug may be an indicator of different drug-using subcultures. When that is the case, the differences in level-of-use are usually accompanied by a number of other differences in style of use. If the definition of use of a substance does not in some way take into account these differences in stylo of use, then disparate phenomena may be analysed together as if they were the same. 'Speed freaks', for example, use amphetamines, but are not typical of amphetamine users as regards level-of-use, dosage patterns, mode of consumption, or subcultural values. If a study fails to recognize these distinctions and still goes on to examine the social correlates of drug use, the results will be misleading. When the extent and patterns of use of a drug are examined, information on the style of use as well as the level and duration of use of that drug must be available. It is only with such information that there is any hope of elucidating the social context of use, and of evaluating the physiological and psychological consequences of varying consumption patterns.

There are various approaches to, and sources of, information on the extent and patterns of non-medical drug use, differing in reliability, validity and generalizability. The first and most common approach to drug use data is surveys and, under certain circumstances, surveys based on random samples provide the most valid extent of use information for a population. However, if the number of users in the total population is very small, or if they are geographically "clustered" (i.e., live close together in specific areas) or frequently institutionalized (hospitalized or imprisoned), then the size of the sample that would yield valid estimates of numbers of users may be impractically large. Thus, most surveys may yield valid data on alcohol use, but not on cocaine or heroin use because of the relatively small number of users of such drugs in the general population. Additionally, the legal status of a drug or the relative stigma associated with its use may affect the likelihood of accurate responses and, thus, the overall validity of drug survey findings.

The quality of social research in the Canadian drug field has risen considerably in the past few years. In the spring of 1971 the Addiction Research Foundation of Ontario conducted the first random sample survey, apart from samples drawn for the Commission, of a general population of

adults, and a broad range of drug use patterns was examined.[82, 239] It is to be hoped that this represents the beginning of a trend to less specialized samples, a broader definition of the phenomenon under scrutiny, and a more profound analysis of the relationships that are found. The unsophisticated polling of correlates of drug use that characterized many studies in the past yielded prevalence of use rates which have some value but which now need to be carefully interpreted. A much more sophisticated approach is presently required. Specifically researchers must be more analytical and precise in the questions they ask when investigating the phenomenon of non-medical drug use, and they must be prepared to conduct open-ended and extensive interviews and, if necessary, apply ethnographic techniques to ensure sociologically meaningful measures of the phenomenon. The time for exploratory surveys is past.

If the use of a substance is known to be concentrated within a particular subculture or relatively small geographical area, then anthropological techniques, of a qualitative sort, may be the most effective means of determining extent and patterns of use. There are two difficulties in using this second approach to drug use data to describe the situation in the general population. First of all, the assumption cannot usually be made that use is concentrated in a subculture. Subcultural trappings may make certain kinds of drug use more visible and lead the observer to the conclusion that that sort of drug use is always found in association with those trappings: for example, assuming that all hallucinogen users affect long hair, beads and dishevelled dress. The use of a substance may, however, be mediated by more general social norms, and in that case the use is liable to be less visible, but still definitely present. A second difficulty is that anthropological studies provide no basis for predicting the consequences of an increase in the extent of use of a drug. If the extent of use of a drug increases because the particular beliefs and practices that define the subculture are spreading, then no problem arises. However, it is possible that the extent of use is increasing because the use of the drug has expanded beyond the boundaries of the subculture. In this case, many of the concomitants of use will drop away, having been the consequence not of the substance itself, but of the subculture. This appears to be the case with cannabis, which has now escaped the boundaries of the 'hippie' subculture and has consequently shed these subcultural trappings. As a result, the social characteristics of cannabis users have changed, relegating the early studies of communities of cannabis users to a position of a largely historical interest.

Drug use may also be measured indirectly through such data as illicit drug analyses, licit drug sales, psychiatric or medical epidemiology (for example, liver cirrhosis and adverse reaction statistics), arrest statistics, or police seizures. This third source of drug use information was the usual mode of determining extent of use before drug-related surveys became popular in the mid-1960s. Some of these measures are highly sophisticated (in particular those used to estimate numbers of alcoholics and heroin de-

pendents), but they are often a source of interpretive disagreement. The ultimate origin of such information is commonly the tabulations of the consequences of the activities of such groups as police and hospital officials. These data are therefore susceptible to changes resulting from policy alterations within the agencies that generate them. Furthermore, any such measures depend on an explicit or implicit function or relationship linking it to the extent of drug use that it is to measure. If the true extent of drug use changes, the function may also change, and this is a second reason why such measures may yield false conclusions.

The Commission has made use of all three of these sources of information: surveys, more qualitative anthropological approaches, and indirect measures.

The York University Survey Research Centre, in collaboration with Le Centre de Sondage de l'Université de Montréal, conducted national surveys for the Commission on drug use of the population of Canada 12 years of age and over in the spring of 1970. These surveys (the only methodologically rigorous general national surveys to date) were intended to measure the extent of drug use, including individual drug use histories, attitudes toward and knowledge of drugs, and attitudes toward and knowledge of the law, together with a number of social and social-psychological variables.[142, 143, 144]

There were three national Commission surveys: one of high school students, one of college and university students (including both undergraduates and graduates), and one of a group that is most conveniently called 'adults' and that was defined as everyone over the age of 12 who was not attending a primary or secondary school.

The adult and high school surveys were based on multi-stage samples: the first stage was geographical areas, with far northern areas being excluded. Households were listed within sampled areas, and randomly sampled in turn. Since households formed the sampling frame, or units of analysis, at this stage, people in prisons, hospitals, old people's homes, on Indian reserves and in institutional dormitories were excluded. The high school sampling frame included all students in grades 7 to 12 or 13 who were over the age of 11 and living in the sampled households. The adult frame included everyone else over the age of 11. The sample of university students was randomly selected from registrars' lists from universities and colleges selected in a purposive sample to represent all Canadian colleges and universities. Each survey used a different method of data collection: the adult survey used an interview, the high school survey used a questionnaire distributed by the interviewer to all eligible children in the household and completed by them in private, and the college and university survey used a mailed questionnaire. The adult survey yielded 2,749 usable interview schedules, while the high school and college and university surveys each yielded 1,213 respondents. The response rate for the adult survey was 79 per cent, and for the college and university survey, 73 per cent. Since the high school survey was dependent on the

national adult sample, it is not possible to present a meaningful response rate for this population.

The Commission also conducted a special survey of adult drug users in five Canadian cities,[106] and a smaller study of regular cannabis users to quantitatively determine their drug consumption patterns. [105] In addition, the Commission made use of many published and unpublished survey studies of various populations in Canada and other countries, as well as extensively reviewing the social scientific literature related to extent and patterns of drug use. The Commission also conducted participant-observation studies in several 'street-level' drug-using communities in 1970,[103] and regularly monitored drug use patterns in several of these communities for over two years. Recently, Commission observers returned to a variety of cities across Canada to further question knowledgeable persons on changes in patterns of drug use since 1970.[104]

The Commission attempted to evaluate the extent of certain drug-related deaths in Canada between 1969 and 1972.[173] Besides these special analyses of national data on drug deaths supplied by Statistics Canada, the Commission surveyed coroners in each province requesting coroners' reports and related documents pertaining to the drugs of primary interest. The Commission also surveyed all psychiatric hospitals in Canada in April 1971 to determine the extent to which certain drugs, including alcohol, were mentioned in the diagnoses of hospitalized patients.[116] In addition, special analyses were done of national mental health data provided by Statistics Canada. The results of these studies are discussed elsewhere in this report (see Appendix A *The Drugs and Their Effects*).

The Commission has had access to the annual tabulations of numbers of 'known habitual illicit narcotic drug users' compiled by the Bureau of Dangerous Drugs of the Health Protection Branch, Department of National Health and Welfare (some of these tabulations for 1972 are presented in Annex 2 of this appendix), as well as many studies measuring numbers of addicts and alcoholics in several jurisdictions using various indirect indicators. In addition, R.C.M. Police estimates of Canada's addict population were available to the Commission.

In this appendix we primarily make use of a particular model to explain human behaviour, that which interprets human conduct as social conduct governed by definitions and evaluations learned from other persons. The individual and his drug use are linked within a social context by definitions, practices and values, in other words, by the elements of a culture. If there are different patterns of drug use within a society, these are mediated by different cultures. By culture, we mean merely a body of tools, definitions, norms and values bearing upon some ongoing human activity. Thus there can be cultures within cultures. Those cultural elements which are common to a whole society make up the core of any individual's culture. However, if cultural elements which cover sufficient of the tasks of social life as to mark an individual off from others are shared among a small proportion of the population, they

constitute a subculture. For certain purposes society can be seen as a mosaic of subcultures. We are concerned with subcultures only insofar as they display distinct subcultural patterns of drug use.

If the use of a drug spreads from one subculture to another, it will not necessarily take its cultural baggage with it. Therefore, the social concomitants of use may change. The more widespread use becomes, the more the social characteristics of users will approach those of the general population, if they were not the same to begin with. This process, as has been previously noted, is strikingly illustrated by the case of cannabis.

We must make use of past information to arrive at a description of the present, and therefore must project the past into the present in some way. There are so few observations on drug use in the same population over time in Canada (or, in fact, in any other country) that formal statistical techniques of extrapolation or projection are not useful. However, certain assumptions about the social context within which the diffusion of drug use occurs, and about social processes more generally, allow us to make descriptive statements that reflect all of the available data and the consensus of opinion on the subject in the social sciences. These assumptions are more specifically delineated in the following section.

No society ever stands still. However, we can imagine a society in which all social forces are in equilibrium, in which no social change is taking place. Each drug would then presumably be consumed by a constant proportion of the population, and the various patterns of use of each drug would be relatively fixed. All drug use would then be at a plateau. If there is a change, and the social forces move to a new equilibrium, then the extent and patterns of use of each drug would probably change and move to a new plateau, there to remain until another shift in social forces takes place. This is not the only way of conceiving of social processes, but it is a useful way of thinking about significant changes in the extent and patterns of drug use. Estimating changes in extent and patterns of drug use in the society as a whole thus becomes a process of estimating the plateaux of use in the various subcultures of a society, and determining the culturally conditioned style of use for each subculture. The results of this method of analysis follow.

C.2 EXTENT OF USE

From the point of view of the individual consumer, the non-medical use of any given drug occurs within a context of multiple drug use, including both the medical and non-medical use of drugs, and the use of substances that an individual may not regard as drugs, such as alcohol, tobacco or coffee. In this section we examine the extent of use of individual drugs and, in the next section, present summary data on the social characteristics of Canadian drug users. Finally, we discuss patterns of drug use and the multi-drug use context. This latter discussion is complemented by Annex 1 to this appendix

in which quantitative data on the relationships between various drugs is analytically reviewed.

Research during the last four years has produced a respectable volume of data on the extent of drug use but these studies describe a patch-work quilt of populations. Certain groups, particularly adults and people in rural areas, are still largely ignored by drug researchers. Because of this fragmentation of the data, formal methods of extrapolating the extent of drug use in Canada are not appropriate. The "estimates" that follow are sound impressions rather than firm estimates, but we feel that they give the best sense of the available information, and that they are near enough to the present reality of drug use in Canada to be useful.

OPIATE NARCOTICS

'Opiate narcotics' or 'opiates' in this context will refer to opium and its natural alkaloids and related synthetic compounds, including heroin and methadone. (See Appendix A.2 *Opiate Narcotics and Their Effects.*)

Many of those in drug-using circles who state that they have used 'opiates' are probably referring to opium preparations other than heroin including, in some cases, codeine-containing pills or cough syrups. They may also be referring, incorrectly, to 'opiated' hashish, an apparently mythical substance, the existence of which has never been documented in Canadian street-drugs analysis programs. With regard to patterns of use, opium is occasionally used, when available, in a manner similar to cannabis smoking. Heroin, on the other hand, suggests to youthful drug users a much more serious and dangerous drug. It is unfortunate that so many studies simply ask exclusively about 'opiates', and do not seek data that would allow us to empirically distinguish between the use of heroin and the use of other opiate narcotic drugs. Furthermore, heroin use does not necessarily imply intravenous use of the drug; experimental users, in particular, tend to use inhalation as their primary mode of consumption.

In the following pages, we will attempt to estimate the number of heroin and methadone dependent persons in Canada. Information on the extent of opiate use other than heroin or methadone is, unfortunately, scanty.

The number of "known habitual illicit narcotic drug users" (hereafter referred to as "habitual narcotics users") recorded by the Bureau of Dangerous Drugs (B.D.D.) of the Department of National Health and Welfare is shown in Table C.1. Table C.2 indicates the changes in these numbers from year to year. The number of known habitual narcotics users was relatively stable in Canada from 1962 to 1969, and showed marked increases in 1970, 1971 and 1972.

Opiate users are added to this B.D.D. list if they come to the attention of the police, or if they are prescribed methadone for the treatment of dependence. They are dropped from the list if they are not heard of in ten years. There are, therefore, two sources of error in the list. First, not all habitual

TABLE C.1

NUMBER OF HABITUAL ILLICIT NARCOTIC DRUG USERS* RECORDED BY THE DIVISION OF NARCOTICS CONTROL, DEPARTMENT OF NATIONAL HEALTH AND WELFARE FOR CANADA AND REGIONS, 1962 TO 1972†

Year	Atlantic	Quebec	Ontario	Prairies	B.C.	Total
1962	4	153	764	208	1886	3015
1963	8	148	753	205	1692	2806
1964	9	133	801	195	1649	2787
1965	8	137	816	179	1862	3002
1966	9	146	816	188	2019	3178
1967	9	147	829	212	2135	3332
1968	7	159	820	210	2259	3455
1969	8	178	827	269	2448	3730
1970	11	210	912	418	3097	4648
1971	27	393	1225	636	4095	6376
1972	51	608	1672	1044	5461‡	8836

Source: Canada, Department of National Health and Welfare, Health Protection Branch, Bureau of Dangerous Drugs, Ottawa.

* Habitual illicit narcotic drug users "include all cases where we [the Bureau of Dangerous Drugs] have record of the person [during the previous 10 years] and where the source was initially illicit. Not all of these persons have been convicted under the Narcotic Control Act." Prior to 1972, the Bureau of Dangerous Drugs referred to these persons in their annual tabulations as "street or criminal addicts".

† Cannabis users have been subtracted from these figures for the years 1962–1966. Cocaine users have been removed for all years.

‡ Includes one person in the Yukon.

TABLE C.2

NUMBERS OF HABITUAL ILLICIT NARCOTIC DRUG USERS* AS A PERCENTAGE OF THE PREVIOUS YEAR'S NUMBER, FOR CANADA AND REGIONS, 1962 TO 1972

Year	Atlantic	Quebec	Ontario	Prairies	B.C.	Total
1962	†	103	105	100	102	103
1963	†	97	99	99	90	93
1964	†	90	106	95	98	99
1965	†	103	102	92	113	108
1966	†	107	100	105	108	106
1967	†	100	102	113	106	105
1968	†	108	99	99	106	104
1969	†	112	101	128	108	108
1970	†	118	110	155	127	125
1971	†	187	134	152	132	137
1972	†	155	137	164	133	139

Source: Canada, Department of National Health and Welfare, Health Protection Branch, Bureau of Dangerous Drugs, Ottawa.

* 'Habitual illicit narcotic drug users' as defined in Table C.1, cannabis and cocaine users removed.

† Base negligible.

narcotics users come to the attention of the police or the Bureau of Dangerous Drugs, and, of those who do, there is usually a considerable timelag between first contact with opiates and becoming 'known' to the B.D.D. Second,

not all of those on the list are necessarily dependent on opiates. A small number are users of cocaine, and a larger number, about five per cent in 1971, were cited as using 'unknown substances'. Since patterns of cocaine use differ considerably from heroin or methadone patterns, we have removed cocaine users from the B.D.D.'s habitual narcotics users figures. For similar reasons, cannabis users (who were recorded by the B.D.D. until 1966) have also been removed. Not all of those who are arrested for a heroin-related offence (particularly a possessional or importing offence) are necessarily dependent, but their names will still be added to the list. In addition, a certain proportion of those on the list will have died, left the country, or their dependence will have remitted in the decade before their names are automatically removed from the list. Thus, not all persons in the known habitual narcotics users files are necessarily dependent on opiates, and not all of those who are dependent are listed as 'known'.

Some additional comments are in order on the significance of these figures. They are used here as an indicator of the number of opiate-dependent persons in Canada. It is generally believed that these figures represent an underestimate of the total number of dependents in the country, but it is usually assumed that when the number of known habitual narcotics users rises it has done so because of an increase in the heroin-dependent population at large and, thus, may be considered to be rising more or less in proportion to this general increase. As indicators, these figures belong to the indirect type of measure discussed in C.1 *Introduction* above, and, as such, are subject to varying interpretations.

If the true number of dependent persons in Canada is a constant function of the number known to the B.D.D., we may still use these figures as an estimate of the actual number of users. However, there is reason to believe that this is no longer the case as the B.D.D. is, apparently, presently collecting some of these names through different channels than it did in the past. The so-called 'new addict' is said to be younger and, unlike traditional heroin dependents, appears for treatment (particularly methadone maintenance) after only a few months or years of use.[53] In the past few years, we have seen an increasing proportion of new names which have been gathered by "retail reports", that is, primarily through methadone maintenance prescriptions.[170] The sudden upsurge in the number of recorded habitual narcotics users in 1970, 1971 and 1972 could, then, reflect the increasing popularity of methadone maintenance as well as the tendency for young users to appear early for treatment.

Nonetheless, a growing number of new names have also been derived from police reports. If, indeed, these new names represent new, young users, it is not unreasonable to assume that many of them reflect changes in law enforcement activity during the past few years. With the rise in cannabis and hallucinogen use, law enforcement officials have become much more aware of youthful drug use, thus increasing the probability that a young person or his residence will be searched. In addition, drug squads across the country

have recently been concentrating on 'hard' drugs, shifting from their earlier focus on cannabis and LSD. Thus, it seems a greater number of opiate users are appearing on the lists of the Bureau of Dangerous Drugs, but we cannot be certain that this increase is proportional to the true increase in use of the population at large.

A study by Oki of Toronto heroin users known to the Addiction Research Foundation of Ontario, the R.C.M. Police, or the Bureau of Dangerous Drugs, indicated that 64 per cent of the combined total were known to the B.D.D.[156] If this proportion holds for all of Canada, there were roughly 10,000 heroin users in Canada in 1971 and 14,000 in 1972 who were likely to be known to some data-gathering agency. However, it must be remembered that heroin users are more likely to be known to treatment personnel in large urban centres like Toronto and Vancouver where treatment programs are readily available. Furthermore, this estimate excludes all those users who were not known because they had not yet come into contact with law enforcement officials or had not sought treatment.

A preliminary Commission analysis of heroin- and methadone-related deaths in Canada from 1970 to early 1972 revealed that a little over 50% of the dead had been unknown to the Bureau of Dangerous Drugs as opiate narcotic users. These data imply that the number of habitual opiate narcotics users known to the B.D.D. in 1970–71 represented only about one-half of the actual opiate-using population (which suggests an estimate of almost 13,000 such users in 1971). We do not have adequate information for 1972, but we suspect that the proportion of opiate narcotics users known to B.D.D. may have recently changed as a result of the expansion of their information acquisition network, changes in patterns of drug use and other factors.

When the Commission conducted its field studies in May 1972, it received high and low estimates from "knowledgeable persons" in major cities of Canada as to the numbers of daily users of heroin and methadone.[104] These estimates are highly impressionistic, even though they represent some of the best informed opinions in the cities which were surveyed. High and low estimates were made for the major regions of Canada, and the result was a low daily user estimate for the country as a whole of 7,525 and a high of 14,800. The R.C.M. Police, on the other hand, have estimated that in the fall of 1972 there were between 12,400 and 14,410 'heroin addicts' in the country, and although their regional breakdown differed somewhat from that derived from our survey of knowledgeable persons, the high totals are not significantly different.

Because of the relative 'invisibility' of occasional users, our field workers' estimates of the size of this population are even less reliable, but suggest numbers in the 15,000 to 30,000 range for the year 1972. Smart, Fejer and White[242] found that 4 per cent of Toronto high school students reported use of opiates in the six months prior to their 1972 survey, and that 1.9 per cent (some or all of whom may have answered the 'opiates' question affirmatively) claimed to have used heroin during the same period of time.

While there is no reason to doubt the findings of this Toronto survey, it would be unwise to project these figures to the country as a whole as Vancouver is probably the only other Canadian city with comparable heroin availability. However, based on what little is known about the relationship between opiate-dependent and non-dependent using populations, it is not unreasonable to assume that in 1972 Canada's approximately 15,000 daily heroin and methadone users were complemented by an additional 50,000 occasional users of these drugs. An unkown proportion of this latter group is, of course, at risk to dependence.

Heroin dependence has been concentrated in British Columbia for many years. Tables C.3 and C.4 indicate that the proportional rate of increase in habitual narcotics users on the lists of the Bureau of Dangerous Drugs between 1961 and 1972 is highest for the regions with the smallest proportions of known users, particularly the Atlantic region and the Prairies.

The Commission's field studies of May 1972 indicate that methadone use resulting from careless prescribing by physicians in Halifax accounted for most of the increase in opiate use in the Atlantic region.[104] Montreal has witnessed a similar phenomenon. There has been an increase in heroin use in Ontario, primarily in the populations traditionally associated with its use, and mainly along the Toronto-Windsor axis where there is a good deal of contact between American and Canadian drug users. In the west, British Columbia has experienced an increase in heroin use, and more particularly in occasional (and not necssarily intravenous) heroin use among young people. British Columbian heroin-using patterns tend to diffuse to Alberta, where, in the past five years, there has been a marked increase in the number of known opiate users: from 123 in 1968 to 614 in 1972.[46] The extent of heroin use in Saskatchewan and Manitoba has also increased, but not as

TABLE C.3

PERCENTAGE OF HABITUAL ILLICIT NARCOTIC DRUG USERS* BY REGION OF CANADA, 1962 TO 1972

Year	Atlantic	Quebec	Ontario	Prairies	B.C.	Total
1962	.1	5.1	25.3	6.9	62.6	100
1963	.3	5.3	26.8	7.3	60.3	100
1964	.3	4.8	28.7	7.0	59.2	100
1965	.3	4.6	27.2	6.0	62.0	100
1966	.3	4.6	25.7	6.0	63.5	100
1967	.3	4.4	25.0	6.4	64.1	100
1968	.2	4.6	23.7	6.1	65.4	100
1969	.2	4.8	22.2	7.2	65.6	100
1970	.2	4.5	19.6	9.0	66.6	100
1971	.4	6.2	19.2	10.0	64.2	100
1972	.6	6.9	18.9	11.8	61.8	100

Source: Canada, Department of National Health and Welfare, Health Protection Branch, Bureau of Dangerous Drugs, Ottawa.

* "Habitual illicit narcotic drug users" as defined in Table C.1, cannabis and cocaine users removed.

TABLE C.4

HABITUAL ILLICIT NARCOTIC DRUG USERS* PER HUNDRED THOUSAND POPULATION, 1961 AND 1971, AND 1971 RATE AS A PERCENTAGE OF 1961 RATE, CANADA AND REGIONS

	Atlantic	Quebec	Ontario	Prairies	B.C.	Total
Addicts per hundred thousand population						
1961	0.3	3.8	12.6	6.6	113.5	16.7
1971	1.4	6.6	16.1	18.5	187.3	29.8
1971 Rate as Percentage of 1961 Rate	467	174	128	280	165	179

Source: Canada, Department of National Health and Welfare, Health Protection Branch, Bureau of Dangerous Drugs, Ottawa.

* "Habitual illicit narcotic drug users" as defined in Table C.1, cannabis and cocaine users removed.

dramatically as is the case with Alberta.[104] Provincial patterns of heroin distribution are presented in Appendix B.2 *Sources and Distribution of Opiate Narcotics.*

There is a consensus among Canadian observers that opiate use is increasing, but no one claims to know the rate of increase. As well, no authority feels able to predict when the increase in heroin use will peak or reach a stable plateau, if ever. One United States researcher, John Newmeyer of the Haight-Ashbury Free Medical Clinic, on the basis of a survey of drug-dependent young people in San Francisco, suggests that a plateau has been reached there, and believes that use will peak throughout the United States by 1974.[182, 183] The random samples of identifiable populations available for Canada have not permitted any broad generalizations about whether or not this possibility applies to this country as well.

AMPHETAMINES AND AMPHETAMINE-LIKE DRUGS

We are concerned here with 'pep pills', 'diet pills' and 'speed'. These are preparations of amphetamine, dextroamphetamine, or methamphetamine (the last of these being the drug of choice of 'speed freaks'), and the amphetamine-like drugs such as phenmetrazine and methylphenidate. The critical distinction for our purposes is not the particular chemical used but, rather, the dose level, frequency of use, and whether it is taken orally or intravenously. The physical, psychological and social concomitants of these different using patterns are reviewed elsewhere in this report; a discussion of the extent of both oral and intravenous types of use follows.

INTRAVENOUS SPEED USE

The intravenous use of speed (methamphetamine) is commonly associated with the 'speed freak' phenomenon, but may occur in other drug-using subcultures as well. The term 'speed freak' denotes not only the use of a

substance (speed), but also the level-of-use (chronic high-dose use) and the mode of administration (intravenous). No survey of a Canadian population has asked its respondents whether or not they are speed freaks. Rather, they survey, in order of increasing specificity, whether they have used 'stimulants', 'amphetamines', 'speed', or 'methedrine' (methamphetamine). A few ask for the mode of administration. Published results, therefore, often do not allow us to distinguish speed freaks from others who may occasionally use speed intravenously, or intravenous users from oral users. Both the Commission's national survey of high school students and the Narcotic Addiction Foundation of British Columbia's study of Vancouver high school students [180] indicate that a fraction of amphetamine users in those populations have used speed intravenously, but most of these probably used only on an experimental basis.

The numbers of chronic, regular, high-dose, intravenous amphetamine users probably reached its peak in the summer of 1970. All told, based on participant-observation studies and interviews with knowledgeable persons in Canada's major cities, we estimate that there were between 2,000 and 3,000 such individuals at that time, concentrated very largely in the centres of Toronto, Montreal and Halifax. There were perhaps another 3,500 to 4,500 who used high doses intravenously, but not on a regular basis. By the summer of 1971 the numbers in the centres of all of these cities combined fell to perhaps not much more than 1,000 to 1,500 persons. But intravenous users of speed, particularly those involved in intermittent patterns of use, had increased markedly in the suburbs of these cities and in a number of smaller cities in southern Ontario, western Quebec and the Maritimes.[103]

In the summer of 1970, many intravenous amphetamine users used the drug on a regular basis—several injections a day for up to two weeks at a time with only a few days between such 'runs' (see C.4 *Patterns of Use*). This is still the pattern for a much smaller proportion of the total intravenous amphetamine-using population. In addition, however, there now appears to be a population of high-dose, intravenous users who take the drug for only brief periods of time, on weekends or on an episodic basis. If the totals of both these types of users are combined we would estimate that the number of high-dose users was about the same in the summer of 1972 as it was two years earlier, or perhaps marginally larger. Because very few persons regularly use speed for more than a couple of years (see C.4 *Patterns of Use*), there is a continually high rate of withdrawal from the intravenous speed-using population which limits the growth of this phenomenon to the difference between new recruits and new abstainers. This difference is presently such that Canada's speed-using community appears to be more or less numerically stable, although it is a much more dispersed population than was the case two or three years ago.

Oral Use of Amphetamines and Amphetamine-Like Drugs

While Canada's speed freak population appears to have numerically stabilized, the oral use of amphetamines and amphetamine-like drugs has

continued to grow. There has doubtless been a degree of 'pill popping' for functional purposes for many years among such people as waiters and waitresses, athletes, students, business executives and entertainers. This phenomenon was still increasing at the time of the new amphetamine regulations of January 1, 1973. Reports from some regions suggest that some tavern-goers, particularly younger ones, have established a pattern of consuming oral amphetamines or amphetamine-like drugs together with alcohol. Reports from all regions indicate that oral use of these drugs is particularly popular among university students, especially during exam periods.[104]

Surveys of Canadian populations, primarily involving high school samples, that have asked about any amphetamine or stimulant use (the level-of-use being defined in almost all cases as any in the last six months) have found prevalence of use rates that are remarkably uniform (ranging from five to nine per cent) and that show no sign of significant change from 1968 to 1972.[6, 17, 32, 34, 42, 78, 80, 81, 82, 108, 114, 115, 154, 180, 205, 225, 240, 241, 251, 258, 272, 273] The Commission-sponsored surveys, conducted in the spring of 1970, found the non-medical use of 'pep pills' reported by three per cent of high school students, six per cent of college and university students and three per cent of the national adult sample. 'Diet pills' had been used non-medically by one per cent of the high school and adult samples, and by three per cent of the college and university sample. 'Oral speed' use was reported by three per cent of high school and less than one per cent of college and university students. Combining the high school use rates reported by the Commission surveys allows us to suggest a representative figure for the prevalence of non-medical use of any amphetamine or amphetamine-like drugs in Canadian high schools of seven per cent. Josephson, *et al.*, in their May 1971 national survey of American youth aged 12 to 17, found that nine per cent had used amphetamines at some time, which tends to support our estimate for Canada.[128] Between 15 per cent and 20 per cent of the high school students who use amphetamines or amphetamine-like drugs (generally defined as 'pep pills' or 'diet pills') use them more than once a month.[143, 243]

The Commission's national survey indicates that four per cent of Canadian adults at some time orally used amphetamines or amphetamine-like drugs non-medically. The one other random survey of Canadian adult use of psychoactive substances, that of Fejer and Smart, indicates roughly similar results: as of the spring of 1971, four per cent of Toronto adults had used "stimulants" medically or non-medically during the previous 12 months.[82] We note later that only ten per cent of Toronto adult users of barbiturates or tranquilizers obtained them without a prescription. By contrast, more than a third of the stimulant users in this same study obtained these drugs without a prescription.

Among adult "stimulant" users, Fejer and Smart found that 51 per cent of their Toronto sample used these drugs daily, seven per cent used them between two and five times per week, and about 19 per cent used them between once a week and once a month.[82] Thus, 77 per cent of those

Toronto adults who used stimulants (whether medically or non-medically) did so at least once a month. The Commission's national adult survey found that an almost identical proportion of those respondents using 'diet pills' or 'pep pills' at the time of the study did so once a month or more.

If we accept the Commission and Toronto survey findings regarding the incidence of adult use of amphetamines and amphetamine-like drugs (i.e., about four per cent), and if we assume that about one-third use these stimulants without benefit of prescription at least some of the time, then we would estimate that 1.3 per cent of Canadians 18 years of age and over have used stimulants non-medically in the past year, or approximately 171,000 persons. If we apply the high school estimate of seven per cent to Canadian youth, we have 182,000 users, for a total of 353,000 Canadian users of amphetamines and amphetamine-like drugs for non-medical purposes in the past twelve months. The majority of this use would be of the occasional or experimental variety.

CAFFEINE

Caffeine and related xanthines, in the form of coffee, tea, cocoa and cola drinks and various over-the-counter preparations (for example, No Doz®), is the most commonly used stimulant in Canada. Canadians drink 33 million cups of coffee and 30 million cups of tea every day. Canada's tea consumption is only one-quarter that of the United Kingdom or Ireland on a per capita basis, but it is three times that of the United States.[281] Canada's per capita coffee consumption is slightly below that of the United States.

The Pan-American Coffee Bureau surveys coffee consumption in Canada for an 'average winter's day' when use is presumably at a maximum, and the following statements are about use on such a day. The data are for 1970, but the phenomenon appears sufficiently stable to allow us to apply them to the present. Sixty-four per cent of Canadians ten years of age and over drank coffee on an 'average winter's day', drinking an average of three and one-tenth cups each. Complete data on levels-of-use are not available for Canada. In the United States, however, the 20 per cent of the population who used coffee most frequently each consumed an average of seven and one-half cups of coffee on this typical day. Fifty-three per cent of Canadians drank tea on an 'average winter's day'. We do not have adequate information to comment on the consumption of xanthine-containing cola and cocoa drinks.

HALLUCINOGENS

An impressive array of substances have hallucinogenic properties in greater or lesser degree, including certain varieties of morning-glory seeds, nutmeg, mandrake, belladonna, sweet flag, yagé, a number of mushrooms, including the fly agaric, panaeolus, and psilocybe (the source of psilocybin), the peyote cactus (the source of mescaline), DMT, DET, DOM (STP),

PCP, MDA, and, of course, LSD. Only the last three of these have any currency in the Canadian illicit drug market, and street samples alleged to contain more esoteric hallucinogens are almost always found, on analysis, to be PCP, MDA or LSD, or some combination of these drugs. Those who buy these substances have little control over or knowledge of the quality and purity of their purchases. Because of this uncertainty of identity, we will not attempt to distinguish among substances here. It should be remembered, however, that there is great variation in the potency of these materials, and that some unidentifiable proportion of use will involve low potency drugs or even inert substances that users will report as true hallucinogens. These problems are further discussed in Appendix A.5 *Hallucinogens and Their Effects* and Appendix B.5 *Sources and Distribution of Hallucinogens.*

Information derived from Commission field studies in May 1972 suggests that the number of current hallucinogen users has numerically stabilized, with as many people stopping use as beginning it.[104] This is in accord with an observation made by Goode several years ago about hallucinogen use in the United States: ". . . probably more than any other drug in use the drop-off after the first experience is precipitous. There [is] typically little desire to continue beyond the experimental first few instances."[100]

The Commission surveys (which are the only national surveys to ever have been conducted in Canada) indicate that by the spring of 1970, four per cent of high school students and eight per cent of university students had at some time used hallucinogens. Use in the adult population was only about 0.6 per cent. However, other Canadian surveys, primarily conducted in metropolitan areas, suggest that these figures understate use in 1970.[6, 17, 34, 42, 81, 88, 108, 114, 115, 133, 154, 180, 205, 219, 225, 239, 240, 241, 242, 251, 258, 272, 273] These studies indicate a current incidence of use of five to ten per cent in high school populations, and over ten per cent in university populations. There was a dramatic increase in hallucinogen use between 1968 and 1970, with use doubling every year. We can assume that the rate of increase has been much slower from 1970 to 1972. Evidence from the United States, usually a bell-wether for North American drug use, supports this assumption. In a national survey of American college students, the proportion of students claiming to have ever used LSD rose from 11 per cent in 1970 to 13 per cent in 1971.[197] Furthermore, a recent longitudinal survey conducted among Toronto high school students has found that the prevalence of LSD use in the previous six-month period declined from 8.5 to 6.4 per cent between 1970 and 1972, while use of "other hallucinogens" rose only slightly from 6.7 to 7.2 per cent during this same two-year period, thus indicating a relatively stable incidence of hallucinogen use.[242] Nationally, there has probably been a slight increase from 1970 to 1972 in the proportion who have ever used hallucinogens. The proportion among high school aged youth across Canada who have ever used these drugs is probably not over ten per cent, and we will use that as a maximum estimate for persons between 12 and 17 years of age.

The Toronto adult survey indicates that 2.6 per cent of this population had used LSD in the twelve months preceding the spring of 1971.[239] This figure is in line with that for New York State of a year earlier[52] and with that for adults in two San Francisco Bay area communities surveyed in 1967 and 1969.[159] It is likely, however, that adult hallucinogen use is higher in metropolitan than rural areas. It does not, therefore, seem appropriate to use the Toronto figure above as a norm for the entire Canadian population over 17 years of age. We have, rather, chosen a figure between the Commission survey's 0.6 per cent ever used rate and the Toronto study's 2.6 per cent current rate of use, namely 1.5 per cent, as a conservative estimate of the proportion of adults who have ever used hallucinogens. This estimate, combined with that for persons between 12 and 17, indicates that approximately 470,000 Canadians have at some time used hallucinogens, which is about three per cent of the Canadian population aged 12 and over. As indicated above, the number of current users appears to be stable.

It appears that hallucinogens are used more than once a month by about 15 to 25 per cent of the Canadian high school students who use these drugs.[241, 242, 243] It is not possible, at present, to make a definite statement concerning the frequency of hallucinogen use among Canadian college students and adults because of the paucity of reliable level-of-use data about these populations.

ALCOHOL

Alcohol use is widespread in western society. Use has been increasing in Canada (and also in the United States), particularly among young adults and adolescents. This trend was observable even before the recent lowering of the legal drinking age throughout much of Canada.

Canadian surveys of local high school populations record alcohol consumption by anything from 40 to 87 per cent of students, despite the fact that such consumption is illegal for almost all of them.[6, 17, 80, 81, 108, 115, 180, 219, 225, 240, 241, 242, 251, 272, 273] The Commission's high school survey, which provides the only national data, gives the lowest proportion of any Canadian high school survey for those who have ever drunk alcohol: only 33 per cent. Thirteen per cent of this sample, a little over one-third of all high school drinkers, had had a drink more often than once a month in the previous six months, as of the spring of 1970.

Surveys of university students in Canada and the United States yield estimates of between 80 and 97 per cent as having ever had a drink.[17, 154, 198] The Commission's college and university survey found that 83 per cent of students reported ever having had a drink as of the spring of 1970, and that 59 per cent of the students claimed to have drunk more than once a month during the previous six months. The Commission's national adult survey indicates that 66 per cent of Canadian adults have had a drink at some time, with one in five Canadian adults (or 2,780,000 persons) claiming to drink alcohol

more than once a week. De Lint, Schmidt, and Pernanen[75] found that, in 1969, 80 per cent of the Ontario population aged 15 and over, or 82 per cent of the Ontario population aged 20 and over, were alcohol drinkers.

Because the use of alcohol is increasing and because the legal drinking age has recently been reduced through much of the country, we feel that the national Commission survey findings of 66 per cent drinkers among Canadian adults and 33 per cent drinkers among Canadian adolescents are not reliable reflections of current alcohol-using rates in these populations. Instead, we will use a figure between the Commission's findings and those of the Ontario survey, namely 75 per cent, as an estimate of the prevalence of alcohol use among Canadians aged 18 and over, and an estimate of 50 per cent, which is likely conservative, for use among Canadian adolescents. These two estimates yield about 11,716,000 Canadians who have had a drink at some time. (The Addiction Research Foundation of Ontario[1] estimated that there were 11,612,000 alcohol drinkers over 14 years of age in Canada in 1969.) Approximately one in ten Canadian drinkers is drinking illegally because he is under age. It has been estimated that 5.31 per cent of Canada's drinking population (that is, about 617,000 persons) consumed a 'hazardous' amount of alcohol per day in 1969.[1] On the basis of liver cirrhosis mortality data, the Addiction Research Foundation of Ontario has estimated that there were 308,200 alcoholics in Canada in 1967, or about 2.8 per cent of all alcohol drinkers in that year.[1]

The de Lint, Schmidt and Pernanen[75] 1969 survey of Ontario drinking habits found that about 15 per cent of Ontario residents (or 19 per cent of Ontario's non-abstaining population) drank alcoholic beverages (in most cases beer) more frequently than twice a week. Daily alcohol drinkers accounted for less than six per cent of Ontario residents, or about seven per cent of all Ontario drinkers. Of those Ontario residents who drank alcohol in the week preceding their interview (71 per cent of the non-abstaining population), by far the majority (76 per cent) consumed less than 21 centiliters of absolute alcohol during that week (or less than three centiliters a day), while only about three per cent of this group (or less than two per cent of the total Ontario population over 14 years of age) consumed more than 70 centiliters of absolute alcohol during the surveyed week (or more than 10 centiliters of absolute alcohol per day).

BARBITURATES, MINOR TRANQUILIZERS AND OTHER SEDATIVE-HYPNOTICS

Here we are concerned with the barbiturates (such as Seconal® and Nembutal®), non-barbiturate sedative-hypnotics (such as Mandrax®), and the minor tranquilizers (for example, Librium® and Valium®). We omit the major tranquilizers as they are rarely employed for non-medical purposes. These preparations are known by a variety of names in the argot of drug users, but are generally classed together as 'downers' because of their sedating

effects. Certain substances that could be treated under this heading are usually used for their hallucinogenic or inebriant, rather than sedating, qualities. Among these are alcohol (which was discussed above), *Datura innoxia* (thorn-apple), *Datura stramonium* (Jimson weed), and certain belladonna alkaloids such as scopolomine. These last three are only rarely used, and are omitted from this account for want of information.

The Commission's surveys suggest that about one-third of Canadian adults had taken 'sedatives' at some time by 1970, whether medically or non-medically, that about one-quarter had taken 'sleeping pills', and one-quarter 'tranquilizers'. These three groups overlap to some extent. Current and frequent use is less common. For each of these three substances, roughly one Canadian adult in 20 had used it more often than once a week in the previous six months, whether for medical or non-medical purposes.

About one-fifth of Canadian college and university students had used each of 'sedatives', 'sleeping pills' and 'tranquilizers' by 1970, while 15 per cent of high school students had used 'sedatives', and 11 per cent had used each of 'tranquilizers' and 'sleeping pills'. The proportions of current users in high schools and universities are lower than those of adult users of these drugs.

In December 1971, Sidney Cohen (head of the Center for the Study of Mind-Altering Drugs at the University of California, Los Angeles) predicted that 1972 would be the "year of the downer".[235] Field studies conducted by the Commission in May 1972 suggest that this prediction may well have been a valid one. Our reports indicate that the non-medical use of barbiturates, as well as the non-barbiturate sedative-hypnotics (particularly those containing methaqualone), are gaining in popularity in Quebec, Ontario and British Columbia. Reports from the Prairies indicate that the non-prescription use of tranquilizers is also increasing in popularity in this region, but that non-barbiturate sedative-hypnotics are generally not available for non-medical consumption.[104]

Studies of drug use in Canadian high school populations do not suggest any significant change in the extent of use of sedatives and hypnotics from 1968 to 1971. These studies found that, depending on region, between three and eight per cent of high school students had used barbiturates in the previous six months and that between eight and ten per cent had used tranquilizers during this period of time.[6, 17, 78, 80, 81, 108, 114, 115, 180, 223, 240, 241, 251, 272, 273] While a very recent Addiction Research Foundation of Ontario survey has reported a considerable increase (from 4.3 per cent to 18.2 per cent) in the use of barbiturates among Toronto high school students between 1970 and 1972, the rewording of the barbiturate question in the 1972 survey to include "painkillers" may account for the entire increase. As the authors note: "The results from this question should be treated with caution until further data are available."[242]

The importance of specifying level-of-use is evident from the data presented in these surveys. A common measure of high frequency use in these

studies is more than once a month in the last six months. With considerable uniformity, about one-fifth of those who have used these substances in the last six months have used them once a month or more. This level-of-use could be described as at least occasional, although some unknown proportion of these students may well be heavy regular users. Thus, by 1971, roughly one per cent of high school students in Canada were at least occasional users of barbiturates, and two per cent were at least occasional users of tranquilizers.

A survey of Toronto adults over the age of 17 in the spring of 1971 revealed that nine per cent had used barbiturates in the previous 12 months and 13 per cent had used tranquilizers. This use could be either medical or non-medical use. Thirty-eight per cent of these tranquilizer users and 24 per cent of those who used barbiturates used these drugs every day.[82]

What proportion of the nine per cent of adults using barbiturates and the 13 per cent of adults using tranquilizers in Toronto use these substances non-medically, at least some of the time? There is no direct measure of this, but there are indirect indicators. We know that about ten per cent of the users, or one per cent of the total population, did not obtain these drugs by prescription. This proportion is similar to the percentage of persons in the Commission-sponsored national adult survey who reported use of tranquilizers without a doctor's supervision: about ten per cent of all tranquilizer users, or two per cent of the total population. However, the Commission survey collected *ever used* data while the Toronto study was concerned exclusively with use in the previous 12 months. On the basis of these surveys, we may very tentatively suggest that about ten per cent of those Canadians who currently use barbiturates and minor tranquilizers use them without benefit of prescription. This is equivalent to roughly one per cent of the Canadian adult population.

Combining the estimates for high school students (those between 12 and 17) and adults (those 18 and over) yields about 1,380,000 Canadians who have used barbiturates in the past year, and approximately 2,040,000 who have used minor tranquilizers during this same period of time. Of these current adult sedative users, about 180,000 have used tranquilizers and 125,000 barbiturates without a doctor's prescription. Unfortunately, there is insufficient data to estimate the number of Canadian adolescents who have used these drugs non-medically or without a doctor's supervision. However, it is probable that more Canadians use these drugs on a daily medical basis, with a prescription, than use them at all non-medically.

These estimates are based on surveys and, consequently, will under-represent some categories of drug users, for example, heroin or amphetamine users. These persons are known to use barbiturates and minor tranquilizers more frequently than the general population, both non-medically and for self-medication of drug effects. However, their numbers are small compared to those of non-medical users of barbiturates and minor tranquilizers who are available to surveys.

VOLATILE SUBSTANCES: SOLVENTS AND GASES

Volatile substances have always been primarily a pre- and young adolescents' form of intoxicant. These drugs have never been highly regarded in other drug-using circles, and as other drugs (particularly cannabis and alcohol) become available to the 'sniffer', he is likely to shift his preference to them. Glue is no longer the most commonly used solvent. Certain brands of nail polish remover are reported by observers in a number of Canadian cities to be the solvent of choice among these users. Solvent use is now considered an important or increasing drug problem in several parts of Canada, including Nova Scotia and some western provinces. Whether there has been an actual increase in use, or whether this phenomenon has simply become more visible with the increasing attention paid to drug use among young adolescents, is not yet clear.[104]

Surveys of solvent use among high school students suggests a stabilization or decline in use between 1968 and 1972.[17, 82, 108, 241, 242, 251, 258, 272, 278] These studies suggest that between five and six per cent of high school students had used solvents in the previous six-month period. Unfortunately, almost all of these surveys are of populations in central Canada. The Commission surveys found that two per cent of high school students had ever used 'glue' for psychotropic purposes by the spring of 1970. Other surveys of the same period suggest that about twice that proportion would have said they had used 'other solvents' if that question had been asked. Of the students in the Commission's high school survey who indicated that they had used glue at some time, three-quarters had not used it in the preceding six months. This suggests a much lower rate of current use of solvents (including glue) than the other surveys, i.e., about 1.5 per cent. Considering the findings of other surveys and the date of those conducted by the Commission, we feel that a safe maximum figure for current use of solvents among adolescents is four per cent. Current use of solvents among adults is considered negligible.

About 20 per cent of these solvent-using students report use of this drug that averages out to more than once a month. In three major eastern Canadian cities, it was found that 62 per cent of student solvent users sniffed 'glue' less than three times in the six months preceding the study, while 20 per cent did so seven times or more during the same period.[243] A 1972 Toronto survey of high school students found that about one-third of the students who had sniffed 'glue' or other solvents had done so more than one or two times in the six months preceding the study. Less than five per cent of the users reported use of these substances more than 50 times, or an average of at least twice a week, during this same period of time.

TOBACCO

The following table indicates the smoking habits of Canadians 15 years of age and over in 1965 and 1972. During this period there appears to have been a modest decline in the proportion of Canadians smoking cigarettes

daily, but the percentage of heavy smokers (those who smoke more than 25 cigarettes a day), if anything, has risen very slightly during these same seven years.

The distribution of cigarette smoking is somewhat atypical as consumption is concentrated at one level-of-use. Almost everyone who smokes cigarettes at all smokes every day, and about 65 per cent of those who smoke at all smoke between 11 and 25 cigarettes a day.

TABLE C.5

CIGARETTE CONSUMPTION FOR THOSE 15 YEARS OF AGE AND OVER, CANADA 1965 AND 1972, AND DIFFERENCES BETWEEN THESE YEARS*

	1965		1972		Differences: 1965–72	
	%		%		%	
No use or less than daily	57.2		60.2		+3.0	
Daily (total)	42.8		39.8		−3.0	
1–10 a day		11.5		9.7		−1.8
11–25 a day		27.8		26.3		−1.5
25+ a day		3.5		3.8		+0.3
Total	100		100		—	

* Estimates prepared by the Department of National Health and Welfare from data obtained from the Labour Force Survey Statistics Canada as based on the civilian non-institutional population 15 years of age and over, exclusive of residents of the Yukon and Northwest Territories, Indians living on reserves, inmates of institutions and members of the armed forces.

There is little reliable data on the incidence of tobacco use among persons under 15 years of age. However, high school surveys conducted in Montreal and Halifax[243] in 1969, in Ottawa[108] in 1970, and in Toronto[242] in 1968, 1970 and 1972 indicate at least some tobacco use by about 25 per cent of grades seven and eight students and by about 45 per cent of grades nine and ten students. The Ottawa survey, which provides the most complete tobacco use by grade data, shows that 65 per cent of the grades seven and eight smokers consume less than one pack of cigarettes a week, while only about four per cent smoke seven or more packs a week (i.e., at least one pack a day). Among grades nine and ten tobacco-using students, 36 per cent smoke less than one pack a week and about six per cent smoke seven or more packs a week, or at least one pack a day. The Montreal, Halifax and Toronto data do not allow level-of-use analysis by grade or age, but do indicate that between 50 and 60 per cent of the tobacco smokers in these high school populations consume less than one pack, or 20 cigarettes, a week.

Current data regarding the consumption of other tobacco products were not available to the Commission at the time of writing. However, 1964 figures indicate that about 16 per cent of Canadians aged 15 years and over smoked pipe tobacco, and one-half of these persons did so on a daily basis. Similarly, 16 per cent of the 1964 Canadian population smoked cigars, but less than one-fifth did so on a daily basis.