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GUEST EDITORIAL

Substance Abuse in the Republic of Croatia and National Program for Drug Control

Slavko Sakoman

Government Center for Prevention and Outpatient Treatment of Addiction, Sisters of Mercy University Hospital, Zagreb, Croatia

Aim. To establish the proportions of drug abuse problem in Croatia, with special reference to illicit drugs abuse, in order to assess the quality of implementation of National Program for Drug Control on the basis of relevant indicators.

Method. Collection and review of data on the extent of particular drug abuse among adolescents (aged 13-19), epidemiological data on treated drug addicts, and the data from the police and justice.

Results. Drug abuse epidemic in Croatia started with the beginning of the war in 1991. Tobacco smoking and alcohol consumption among adolescents have also become more frequent. In the last 10 years, the number of illicit drug addicts increased from 1.0 per thousand population in 1991 to 2.7 in 1999. The extent of drug use varies within the country. The situation is most serious in the coastal area. Data for 1999 indicate a possible cessation of the epidemic spread, but on the high level of incidence (around 1,500 new drug addicts per year, out of whom 85% are heroin addicts).

Conclusion. Although a lot was done due to the initiative of the experts in the Government Commission for Suppression of Drug Abuse and the Government Center for Prevention and Outpatient Treatment of Addiction, many measures on the National Program agenda were not carried out due to the insufficient political support and scarcity of mobilized resources. Since the illicit drug abuse is the most serious problem among the adolescents today, it must be set high on the list of national priorities.

Key words: *addictive behavior; adolescent behavior; alcohol drinking; Croatia; drug costs; drug and narcotic control; heroin dependence; marijuana abuse; opioid-related disorders; program evaluation; smoking; tobacco*

Drug abuse and substance addiction is a high-risk, unacceptable, and unhealthy way of complying with the natural human need for satisfaction. The quality of life, even in well-organized Western consumer societies, has led to a significant increase in drug demand. It is partly a consequence of a life philosophy followed by a large number of people who believe that the meaning of life is in social prestige, money, power, and hedonism. Satisfying family needs, especially children and adolescents' needs, is pushed into the background (1). Moral crisis and eroded value system of Croatian society, difficult economic situation, and inadequate functioning of the rule of law (2) have contributed to the increase in drug supply as well as in drug demand among the part of unsatisfied, frustrated, or hedonism-inclined, yet uninformed youth (3) aspiring for satisfaction.

Extent of Substance Abuse among Adolescents

Surveys carried out in schools (4) as well as other research (The Institute of Social Sciences "Ivo Pilar", 1998; and Ministry of Education and Sports, 1999; unpublished data) confirmed that the interest in drug use among the youth and the number of adolescent drug users in Croatia increased. Over 30% of adolescents have had some experience with illicit drug use before finishing high school. This number would have probably been larger if the adolescents who terminated their education had been included in surveys.

In 1999, on the initiative of the Ministry of Education and Sports, over 160,000 high school pupils and seventh and eighth graders in elementary schools were surveyed. The survey data

Table 1. The percentage of elementary school and high school pupils who smoked tobacco in 1999[a]

Frequency of smoking	Pupils	
	elementary school	high school
Do not smoke on a regular basis	13.0	13.2
Smoke up to 5 cigarettes per day	10.0	9.6
Smoke between 6-15 cigarettes per day	1.8	21.3
Smoke more than 15 cigarettes per day	2.5	23.4
Do not smoke	72.7	32.5

[a]Research conducted by the Ministry of Education and Sport in 1999 on 160,091 pupils in 7th and 8th grade of elementary school and 1st-4th grade of high school.

Table 2. Percentage of parents who smoked in 1999 (N=160,091)[a]

Parents smoking	Parents of pupils in	
	elementary school	high school
Neither	28.0	20.5
Only father	16.0	17.7
Only mother	26.0	15.4
Both	25.0	24.9

[a]Research conducted by the Ministry of Education and Sport in 1999 on 160,091 pupils in 7th and 8th grades of elementary school and 1st-4th grades of high school.

Table 3. Percentage of high-school pupils (N=2,823) who reported alcohol consumption (once or more) in 1999[a]

Alcohol consumption	Grade				Croatia total
	1st	2nd	3rd	4th	
In the month period before survey	51.7	63.1	66.9	68.3	62.5
In the last 12 months before survey	70.8	82.6	86.0	89.3	82.2
Ever in life	81.8	88.6	90.6	92.0	88.3

[a]Research carried out by the Institute of Social Sciences "Ivo Pilar" in 1998 on a sample of 2,823 high school pupils in Croatia.

showed a slight decrease in drug use in 1999. The research revealed that around 18% of high school pupils had used the illicit drugs at least once in their life. In comparison with the percentage from 1998 (21%), it is a 3% decrease. However, more than 50% of high school pupils (aged 15-19) and 15% of 7th and 8th graders in elementary schools (aged 13-15) smoke tobacco on a regular basis (Table 1), which is a considerable increase in comparison with the research results obtained 4 years earlier (4). A high percentage of pupils' parents smoke (Table 2). Only 25% of pupils live in families in which neither parent smokes. Among the parents of 7th and 8th graders in elementary school, 40% of fathers and even 50% of mothers smoke, whereas the percentages of smokers among fathers and mothers of high school pupils are 43% and 41%, respectively.

The results of research carried out by the Institute of Social Sciences "Ivo Pilar" show that a large number of high school pupils consume alcohol. In a month period before survey, around 63% of pupils consumed alcohol (Table 3) whereas 11% took drugs (Tables 4 and 5), in most cases –cannabinoids (Table 6). Other research confirmed these findings (4-7).

Drug Abuse: Epidemiologic Situation in the Republic of Croatia in 1999

The extent of drug abuse in Croatia has reached the level of some West European countries. On the basis of epidemiological data (Fig. 1) and the data obtained from repressive law enforcement system and the judiciary, the number of people addicted to illicit substances in Croatia is estimated at 13,000 (rate of 2.7 per 1,000 population). This estimate is based on calculations, which also show that there is one non-treated on each treated heroin addict (around 6,000). The 1:1 ratio corresponds with calculated ratios in other countries, in which heroin type of addiction prevails and Methadone treatment has broader application. Moreover, the Dutch experts think that, due to the Methadone application in the program (together with all other available forms of treatment), it is possible to attract and thereby register up to 70% of opiate addicts (8). When the number of heroin addicts is concerned, the rate in Croatia is even higher then in some west European countries, since 80% of addicts in Croatia are treated for heroin addiction. For all illegal substances, the rate of addicts per 1,000 population is 1.7 in the Netherlands, 4 in Switzerland, 4.7 in Italy, 2.7 in France, and 2.5 in Slovenia (8-10). In 1999, the rate in Croatia was 1 addict per 1,000 population (unpublished data, Government Center for Addiction). With the beginning of the war and transition period in 1991, the substance abuse epidemic started and the prevalence of drug addiction continuously increased until 1999 (Fig. 1). The rate of 2.7 per 1,000 population in 1999 indicates a considerable increase in the number of addicts (unpublished data, Government Center for Addiction).

Situation in the Counties

Table 7 shows the data on all first time admitted clients and opiate addicts as respective rates per 100,000 population. Out of 9,346 addicts treated in the Republic of Croatia in 1990-1999 period, 4,066 were treated in the Government Center for Addiction in Zagreb. Such a high rate of addicts treated in Zagreb does not imply equally high level of drug use in Zagreb. The explanation lies in the greater availability of the treatment adjusted to the needs of addicts which is the result of a years-long work of Government Center for Prevention and Outpatient Treatment of Addiction. This accounts for significantly higher ratio of treated to untreated addicts in Zagreb than in other counties. The number of

Table 4. Extent of drug use among high school pupils (N=2,823) in different counties in Croatia in 1998: the percentage of respondents who reported using drugs (once or more)

Drug use	The city of Zagreb	Central Croatia	Eastern Croatia	Southern coastal area	Northern coastal area	Gorski Kotar and Lika	Croatia Total
In the month period before survey	14.6	4.0	5.7	18.6	10.6	0.5	11.3
In the last 12 months before survey	22.7	8.8	11.8	25.3	23.3	3.1	18.9
Ever in life	26.7	11.3	15.3	29.0	25.1	4.1	22.2

[a]Research carried out by the Institute of Social Sciences "Ivo Pilar" in 1998 on a sample of 2,823 high school pupils in Croatia.

treated opiate addicts is highest in the Istria county, then in Zadar and Split-Dalmatia counties, whereas Zagreb is fourth on the list. Due to great war sufferings of the population in Eastern Slavonia and Dubrovnik and Neretva valley area, these regions are believed to be at especially high risk of greater epidemic spread unless the community responds with suppression programs of adequate quality and intensity. Of course, this also applies to the whole county.

Special research and calculations are needed to determine more precisely the real extent of opiate addiction in a particular county population. The research is also necessary for the assessment of the extent of drug addiction in the counties in which the number of treated addicts is very low, primarily due to the lack of treatment system, although it is obvious from other data sources (i.e., Ministry of Internal Affairs) that the problem exists and increases.

When compared with the rate on the state level, the rates of treated heroin addicts in 3 coastal towns (Pula, Zadar, and Split) are considerably higher (Table 7). The lack of treatment system has contributed considerably to this very difficult epidemiological situation. Differences among counties are great (Table 7). There are indices that the situation in Eastern Slavonia is getting worse. But, since the system of organized treatment of addicts in that county had not started functioning before the beginning of 2000, there are no relevant data on the actual state of affairs.

Drug Supply and Financial Aspects of Addiction in the Republic of Croatia

Data obtained from the repressive law enforcement agencies (Ministry of the Internal Affairs, unpublished) and through the daily therapeutical work with addicts indicate that the supply of amphetamine and its derivatives (Ecstasy) is getting better organized. The derivatives of cannabinoids (mostly from domestic sources and of low price), heroin (on streets), and cocaine (accessible to consumers of greater purchasing power) on illegal market are already highly available. It seems that amphetamine drugs are being increasingly used in the "intermediate stage" of addiction, between marijuana and heroin.

The prices of drugs that can be purchased on the streets in Croatia (Table 8) are similar to those in majority of West European countries, whereas the prices of drugs with a stimulative effect are even

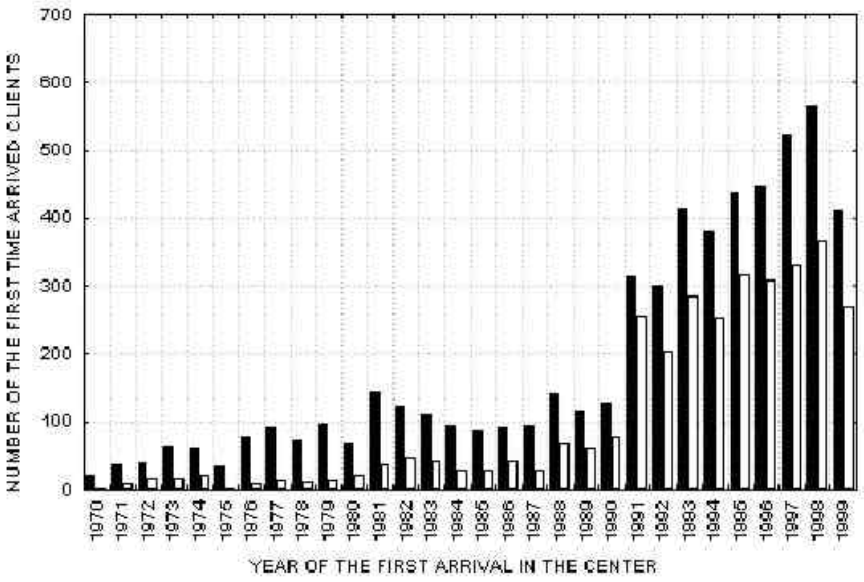

Figure 1. The increase of substance abuse in Croatia 1970-1999. First time arrived addicts to the Center for Addiction Treatment at the Sisters of Mercy University Hospital, Zagreb, Croatia, since it opened in 1970, according to the year of their arrival. Closed bars – all clients (all substances included); open bars – clients on opiates.

Table 5. Percentage of high school pupils (aged 15-19) who reported using drugs (once or more)[a]

Drug use	Grade				Croatia total
	1st	2nd	3rd	4th	
In the month period before survey	7.9	9.0	12.8	15.4	11.3
In the last 12 months before survey	11.1	17.1	20.2	27.0	18.9
Ever in life	11.8	19.3	25.1	32.7	22.2

[a]Research carried out by the Institute of Social Sciences "Ivo Pilar" in 1998 on a sample of 2,823 high school pupils in Croatia.

Table 6. Percentage of pupils taking various opiates during 12 months before the survey. Data according to school grade and type of opiate[a]

Substance	School grade			
	1st	2nd	3rd	4th
Marijuana	10.8	15.7	20.7	30.1
Hashish	4.5	7.1	12.1	17.8
Solvents	7.1	6.4	6.9	3.8
Amphetamine	3.0	2.9	5.3	4.7
Ecstasy	3.2	3.3	4.6	5.7
LSD/halucinogenes	2.5	2.7	3.5	3.6
Cocain	1.0	1.2	2.2	1.0
Heroin	1.3	1.0	2.0	2.4

[a]Research carried out by the Institute of Social Sciences "Ivo Pilar" in 1998 on a sample of 2,823 high school pupils in Croatia.

higher (11-13). Due to the immense difference in gross national income between Croatia and West European countries, the relative money outflow into the gray market (organized crime) in Croatia is many times greater than in the West European countries. Besides, addicted children in Croatia use up their parents' financial resources quite quickly due to the fact that Croatian families live under financially unfavorable conditions. Therefore, without highly accessible treatment programs on a local level, over 30% of young addicts, if not treated, will start with a small-scale drug dealing on the streets to maintain and finance their addiction (14). Around 1,000 new heroin addicts were treated in Croatia in 1999 (Table 9), and if we add the number of unregistered addicts calculated with standardized methods of calculation (15), the estimated total number of heroin addicts comes to around 1,500. The consequence of such a situation – around 500 new small-scale heroin dealers per year – contributes to the more rapid spread of drug epidemic and to the further crime rise as well as to the increase in the number of "contaminated" youth.

Using standardized methods to calculate the annual income which organized crime earns by trafficking in illicit drugs (15) demanded on domestic market, we got the sum of US$100 million (Table 8). Together with the profits from drug transit and participation of Croatian citizens in smuggling through Croatia larger amounts of drugs in-

Table 7. All first time arrived addicts and opiate addicts registered in the treatment system in each county of the Republic of Croatia between 1990-1999[a]

County	First time arrived patients[a]			
	all substances[b]		opiates only	
	No.	rate per 100,000[c]	No.	rate per 100,000[b]
Zagreb	219	78.2	116	41.3
Krapina-Zagorje	48	32.0	19	12.7
Sisak-Moslavina	62	24.8	24	9.6
Karlovac	49	25.8	18	9.5
Varaždin	248	130.5	109	57.4
Koprivnica-Križevci	40	30.8	18	13.9
Bjelovar-Bilogora	18	12.9	5	3.6
Primorje-Gorski Kotar	582	181.9	312	97.5
Lika-Senj	11	12.2	7	7.8
Virovitica-Podravina	24	21.8	13	11.8
Požega-Slavonija	128	128.0	72	72.0
Sl. Brod-Posavina	84	46.7	61	33.9
Zadar	698	332.4	652	310.5
Osijek-Baranja	117	31.6	83	22.4
Šibenik-Knin	307	204.7	251	167.3
Vukovar-Srijem	101	43.9	84	36.5
Split-Dalmacija	2,000	425.5	1,293	275.1
Istra	777	388.5	699	349.5
Dubrovnik-Neretva	146	112.3	68	52.3
Međimurje	243	202.5	101	84.2
City of Zagreb	3,236	414.9	1,956	250.8
Unknown[d]	24	0	16	0
Total in the Republic of Croatia	9,162	191.7	5,977	125.0
Foreign citizens	184	–	123	–
Total	9,346	–	6,100	–

[a]Data of the Croatian Institute of Public Health and Government Center for Prevention and Outpatient Treatment of Addiction.
[b]Opiates included.
[c]Rates per 100,000 population are calculated on the basis of the 1991 census.
[d]Data on the addicts of unknown residence.

tended for other countries' illegal markets (to the final, street level of distribution), the total sum is rather large. Part of that money is used for personal needs of the participants in the chain of illegal drug sale. In the last several years, drug traffickers in higher positions have been able to invest the drug money, without "money laundry" needed (since there was no control over money resources and financial transactions in Croatia), in various business projects and thus increase their earnings.

The analysis of the Government Commission for Suppression of Drug Abuse data shows that drug money was laundered in usual ways very "successfully", partly because the possibilities provided by the law to prevent such illegal activities were not used. Afterwards, the laundered money was used in illegal transactions and investments, which not only represented a disloyal competition to those who earned their money in a hard and legal way but also went hand in hand with

Table 8. Estimated amounts of drugs used in Croatia in 1999 and estimated money outflow into the organized narco-crime[a]

Sorts of drugs	Average No. of consummation per day	Average No. of doses per day	Total amount per year	Price (US$/g)	Total value per year (US$)
Canabinoides (marijuana and hashish)	35,000	35,000	12,000 kg	4	45.000,000
Heroin	7,000	10,000 of 0.15 g	500 kg	50	25.000,000
Cocain	1,000	2,000 of 0.2 g	150 kg	75	11.250,000
Ecstasy	2,000	2,000	730,000 tablets	12	9.125,000
Amphetamines	1,500	1,500×0.3 g	180 kg	20	3.375,000
LSD	500	500	180,000 doses	US$12/dose	2.250,000
Illegal heptanon and other drugs	500	500 (10 tablets=1 dose)	180,000	10 tablets=US$12	2.250,000
Total		51,500			98.250,000

[a]Estimates by the Government Center for Prevention and Outpatient Treatment of Addiction.

Table 9. Total number of clients, consumers of any substance, and opiate users who arrived first time in the Centers for Addiction in the Republic of Croatia in 1999[a]

Centers	Total number of clients	All the fist-time arrived	Opiates (first-time arrived)
Poreč	102	55	35
Split	1,239	344	164
Čakovec	72	41	15
Šibenik	262	144	65
Rijeka	331	183	74
Pula	428	166	120
Zadar	422	131	103
Varaždin	152	73	59
Dubrovnik	70	39	9
City of Zagreb	421	380	59
Government Center – Zagreb	1,719	402	271
Karlovac	36	24	0
Total	5,254	1,982	974

[a]Data of the Government Center for Prevention and Outpatient Treatment of Addiction.

corruption. Actual damages that drugs cause to the society are considerably greater because the costs of the secondary crime committed by addicts (especially stealing and then reselling the stolen goods for a pittance), the costs of law-enforcement activities and treatment system, as well as the decrease in productivity of thousands of families whose children have become drug addicts (16), should be added to the mentioned sum. The damages done by the individuals driving under influence of drugs are considerable, too (17).

The US Government, aware of these large sums, encourages other countries to invest in programs for drug addiction prevention. In consistence with NIDA (National Institute on Drug Abuse, USA) suggestions, over US$17 million from the American federal budget is additionally set aside per year for the improvement of the National program. Although programs for addiction treatment are very expensive, the US Government holds that by investing US$1 in the addict treatment it saves around US$10 (18).

Addiction Treatment Organization and Costs

All institutions treating drug addicts in 1999 (centers for outpatient treatment of addiction, health care institutions of psychiatric type, general physicians, penal institutions, residential therapeutic communities) both treated and kept under control, more or less successfully, around 6,500 addicts as well as many other young drug consumers. Drug consumers are defined as persons who use drugs up to several times per month, but have not developed addiction. A drug addict on the street and controlled by narco-mafia (15) is the most expensive addict for a society. It is estimated that the amount of purchased heroin decreased by 500 kg due to the addiction treatments, which saved the community around US$25 million. If we reckon in the reduction in damages that would be caused by other forms of criminal activities, the saved amount is US$63 million. However, the actual savings are considerably larger, because we did not take into account the costs of crimes that would be committed by the addicts if they were left on the street and completely without supervision, the number of new adolescent addicts whom they would involve in their circles, the number of new cases of hepatitis, etc. If we had financial resources provided for high-quality hospital programs and for the development of Centers network, we would have more teams, better treatment, and larger capacities, which would allow us to save larger number of addicts and drug consumers from the street (19,20). If that were the case, the treatment could result in almost 70% reduction in drug use. This would call for a doubled number of expert teams (at least 70 experts working full time, which would demand additional US$500,000). The estimate (Table 10) showed that the average daily heroin use of 0.5 grams (22,23) among the addicts before starting treatment dropped by 50% after they entered the treatment programs in the Centers. As for the addicts treated in therapeutical communities, it was calculated that they took around 1 gram of heroin of street-purity per day,

whereas they were not tak ing her oin while in commu nity and 6 months af ter the treat ment. Cal cu lations for imprisoned addicts and those treated in hos pi tals gave sim i lar re sults. How ever, for the addicts who were in prison, it is estimated that they were caus ing US$81 in dam ages per day, and were not taking drugs for two months after being released (Table 10). The money outflow to the "underground cir cles" was re duced by around 17 dollars per each dollar invested in the treatment of a drug ad dict.

Cen ters for Out pa tient Treat ment of Addiction

The system for prevention and treatment of ad dic tion has been con tin u ously de vel oped at the Sisters of Mercy University Hospital in Zagreb since the beginning of 1970, and in other cities since 1994. Due to an adequate, modern, and adjusted-to-addict approach, a large number of the cli ents and their fam i lies has sought help from the ther a peu tic teams at the Sis ters of Mercy Cen ter. In spite of the great increase (at especially high rate since 1991) in the number of addicts, the needs, and the mag ni tude of drug ad dic tion prob lem, neither have the ca pac i ties been en larged nor has the number of engaged experts increased. Since there were no special programs for addiction treatment in the Re pub lic of Croatia be fore 1994, a large part of the Government Center capacities was engaged in helping the addicts from the broader Zagreb area. In 1991, due to the initiative of the Center, the development of outpatient special programs be gan in other Cro atian cit ies. Since the most se rious situation was in Split, a special unit was first formed in that city. It started with the im ple men tation of sub sti tute pro grams in as early as 1992. In a short period (until the Special Center for Out patient Treatment of Addicts opened in 1996), almost 700 heavy heroin addicts, "therapeutically neglected" and consecutively crime-involved in high per cent ages (Ta ble 11), called in for help. Every year, the number of county centers increased and, cor re spond ingly, so did the num ber of treated addicts. By further analysis of the data collected routinely from the addicts at their first arrival for treatment (unpublished data, Government Center for Addiction), we established that the largest num ber of ad dicts, newly reg is tered be tween 1991 and 1999, started with the her oin use af ter 1991. In only 3 Cro atian cit ies – Split, Pula, and Zadar, the number of later treated addicts who started with her oin use in the late 1980's was sig nif i cant. This ac counts for the older age of the ad dicts from these 3 cit ies at their first ar rival for treat ment as well as for their long-lasting ad dic tion, crim i nal be hav ior, and hepatitis B and/or C infection in more than 70% of the cases. In spite of the increasing extent

Table 10. Number of opiate addicts treated and rehabilitated in 1999 for heroin addiction according to the type of program, price of a program, and money saved on the account of reduced heroin use – the estimates of the Government Center for Prevention and Outpatient Treatment of Addiction

Type of program	No. of treated addicts	State expenditures (US$) for program financing	US$ saved due to reduced heroin use[a]
Centers for Prevention and Outpatient Treatment of Addiction	4,500	Government budget – 250,000 Counties, cities – 437,500 Primary health care – 1.000,000, CIPH[b] Total – 1.687,500	20.500,000
NGO (therapeutic communities) for addicts citizens in the Republic of Croatia	200 (in 1999, 130 persons completed the program)	375,000 (?)[c]	5.450,000
Therapeutic communities outside the country	500	0	10.875,000
Hospital programs	600 1,800 hospitalizations 20,000 hospital days (per day in average around 60)	475,000	3.700,000
Prisons (pretrial detention) Penal institutions	1,200 (in prison per day on average 300×365=109,500 days)	Accomodation: 109,500 days×US$5 total: ~625,000[d]	12.500,000
Drug abstainers in previous years	1,000	125,000 (?)	9.125,000
Total	~6,500[e]	~3.375,000	~63.000,000

[a]Estimates were cal cu lated by use of the stan dard ized tech nique for cal cu la tion of ex pen di tures con nected with drug abuse.
[b]Croatian In sti tute for Pub lic Health.
[c]The bud get state used to fi nance only 2 out of 7 pro grams in to tal in 1999 (that was the case of co-financing com mu ni ties Encoun ter and Un ion – it is es ti mated that these two pro grams com pleted the re ha bil i ta tion of 35 ad dicts in to tal in 1999). Other pro grams were "self-financing".
[d]The re pres sive sys tem work costs are not in cluded in ex pen di tures. The sum spent on the re pres sive sys tem ac tiv i ties (po lice, State At tor ney Of fices, courts, ex pert opin ions) in re spect of re duc tion of street drug dis tri bu tion is prob a bly much greater than US$63,000,000.
[e]Around 700 ad dicts were in cluded in sev eral pro grams dur ing the same year. That is the rea son why the to tal num ber of treated per sons is es ti mated at 6,500.

Table 11. Number of all clients and the number of opiate addicts (op. ad.) treated in the period from the establishment of the Centers for Addiction Treatment in the Republic of Croatia until the end of 1999[a]

Centers	Year of establishment	No. of clients	
		total	op. ad.
Poreč	1995	125	113
Split	1996/1992	2,000	934
Čakovec	1993	243	101
Šibenik	1997	307	166
Rijeka	1996	582	312
Pula	1996	652	586
Zadar	1996	698	652
Varaždin	1997	248	103
Dubrovnik	1996	146	67
City of Zagreb	1998	462	70
Government Center – Zagreb	1972	5,558	3,301
Karlovac	1999	36	0
Total		11,051[b]	6,405

[a]Data of the Government Center for Prevention and Out patient Treat ment of Ad dic tion.
[b]Some patients were treated in two or more Centers at the same time, so the real num ber of treated per sons is smaller.

Table 12. The number of heroin addicts who were administered methadone during the treatment or who were in the long-term methadone maintenance program in the Centers for Addiction Treatment in the Republic of Croatia in 1999

Centers	Methadone program			Total
	quick D[a]	slow D[b]	maintenance[c]	
Poreč	4	7	16	27
Split	350	314	106	770
Čakovec	8	9	15	32
Šibenik	11	43	25	79
Rijeka	7	63	34	104
Pula	42	40	65	147
Zadar	6	22	83	111
Varaždin	12	15	32	59
Dubrovnik	6	11	18	35
City of Zagreb	–	–	–	–
Government Center – Zagreb	245	459	408	1,112
Karlovac	0	0	0	0
Total	691	983	802	2,476

[a]Quick de tox i fi ca tion (D) – up to 45 days of meth a done treat ment.
[b]Slow de tox i fi ca tion (D) – 45 days to 6 months of meth a done treatment.
[c]Maintenance – per ma nent meth a done treat ment.

of drug addiction, the first time admitted addicts have been of younger age in the last several years due to better treat ment pos si bil i ties and im proved intervention measures. For example, the average age of ad dicts in Zagreb is 22, with one year du ration of heroin addiction (unpublished data, Government Center for Addiction).

Center for Addiction Treatment at the Sisters of Mercy University Hospital has participated in the treatment of over half of the addicts ever treated in Croatia (Table 11). In some Centers, a smaller number of addicts was recorded in 1999 then in 1998 (i.e., Split, Zadar, Zagreb, and Pula). That was the first time af ter 8 years of con tin ual increase that the num ber of ad dicts dropped. Also, at the state level, this was a sign that the drug epidemic was coming to a halt. Furthermore, the fact that addicts have started seeking treatment in the earlier stage of their addiction indicates the improve ment in the early de tec tion mea sures as well as successfulness of the treatment "policies". Methadone was used in a long-term treatment in only 18% of the heroin addicts treated in Centers in 1999 (Ta ble 12), a sig nif i cantly lower per cent age than in Great Brit ain, USA, or The Neth er lands. In these countries, around 50% of the addicts under treatment are included in the methadone main tenance pro gram (24,25). World Health Or ga ni za tion suggests that the criteria for the application of methadone in injection drug users should be less strict, and experts at National Institute on Drug Abuse (NIDA, USA) emphasize that the administrative measures are not to determine the upper limit of meth a done daily dose (26,27). Con trary to the un founded crit i cism in the me dia about methadone being "a drug under state ownership" and used too widely, teams in the Centers favor a "drug-free" approach in the therapy whenever possible. However, when we are forced to choose be tween two al ter na tives – one, keep ing ad dicts in the program under supervision and control of the health care ex perts, and the other, leav ing them to the street where they would solve their prob lem by giv ing money for her oin to the crim i nals, – there is no dilemma (28). However, it is necessary to improve the quality of substitutional programs implementation in respect of psychotherapeutical work (performed by the teams in the centers) as well as the services offered to the addicts by general practitioners, under whose direct control addicts are supposed to take methadone. To achieve these goals, more con crete en gage ment of the Ministry of Health is needed (for supervision) as well as better education of general practitioners and sub stan tial num ber of ex perts in the Cen ters.

Residential Therapeutic Communities

We estimated that the residential therapeutic communities for a long-term treatment were daily ac com mo dat ing 600 to 700 ad dicts on av er age. Major ity of these ad dicts was treated in other coun tries (Spain and It aly) and the Re pub lic of Croatia had no expenditures for their treatment. Only 180 to 200 addicts on average were accommodated in Croatia. The capacities of self-financing and co-financing programs in residential therapeutic communities could be enlarged, allowing "our" addicts to undergo re ha bil i ta tion and to work at the same time in their own coun try. That way they would be at lower risk of HIV infection, which is several-fold higher abroad, where the number of HIV positive addicts and addicts with AIDS they get in contact with is greater than in Croatia (27,29).

Table 13. Number of persons who underwent crime investigation for drug abuse and admitted to use drugs according to counties and type of drug they used in 1999[a]

County	Opiates (heroin)		Halucinogene and canabinoid type of drugs		Psychostimulative drugs		Total
	M	F	M	F	M	F	
Bjelovar-Bilogora	4	1	9	1	29	2	46
Slavonski Brod-Posavina	4	1	12	1	2		20
Dubrovnik-Neretva	12	4	247	23	26	4	316
Istria	40	12	388	105	27	3	575
Karlovac			65	2			67
Koprivnica-Križevci	1		34	2	3		40
Krapina-Zagorje			59	3	1	1	64
Lika-Senj	7	7	106	13	5	1	139
Međimurje	1	1	8	2	3		15
Osijek-Baranja	14	4	100	6	10		134
Požega-Slavonija	5		101	9		1	116
Primorje-Gorski Kotar	61	15	603	134	61	16	890
Sisak-Moslavina	9		72	8	8	3	100
Split-Dalmatia	137	12	606	36	4	2	797
Šibenik-Knin	7	1	39	4			51
Varaždin	9	1	56	12	2		80
Virovitica-Podravina	1		31	6		1	39
Vukovar-Srijem	2		28		1		31
Zadar	17	3	131	13	8	1	173
Zagreb	122	13	786	48	7	0	976
Total	453	75	3,481	428	197	35	4,669
	528		3,909		232		

[a]Data of the Min is try of the In ter nal of the Re pub lic of Croatia.
M – male; F – fe male.

Ac cord ing to the data of the Gov ern ment Center for Prevention and Treatment of Addiction, only 10% of ad dicts can be mo ti vated to join a res idential therapeutic community, especially if it is of fered as an ini tial treat ment pro gram. The greatest num ber of ad dicts con tact ing the ex pert teams in residential therapeutic communities, whose task is to prepare addicts for life in a community, gives up during the procedure because there are too many demands put upon them. Expert teams in Cen ters and hos pi tals are try ing to mo ti vate addicts who want to overcome the addiction but have not suc ceeded in main tain ing the ab sti nence in as large num bers as pos si ble and also to pre pare them for the residential type of treatment. The concept of work in residential communities eventu ally lim its the num ber of in di vid u als com plet ing their treatment pro gram per year, be cause the duration of their planned accommodation in a commu nity is from 2 to 4 years. So, the num ber of in dividuals released from all the programs in Croatia in the last year is es ti mated at 100 at the most – an insignificant number in comparison with the needs on the one hand and the effects of dif ferently conceived programs on the other. However, since that is the only way to help a cer tain num ber of addicts, developing such a type of treatment pro gram should be sup ported. But the type of program in which the ad dicts them selves would cover their expenses and needs by working should be pre ferred and the state should sup port it by spe cial tax policies and various privileges. The National Strategy suggests establishing the professionally conducted therapeutic communities, as in sti tutions of the Ministry of So cial Care and Jus tice, to which addicts would be referred in alternative to penal sanctions.

Importance of Treatment of Addicts

Addiction is defined as a serious, chronical, recidivating disease, which should be treated not only for important economical and other reasons but for human and medical reasons, just as many other, even incurable diseases are treated (30). Spending US$ 50,000 on liver transplantation to save one life is an action worth appreciation. It also in di cates the state-of-the-art med i cine. But, at the same time, letting 1,500 young people turn into addicts every year, with 600 of them getting hep a ti tis C or B in fec tion and dy ing young be cause of the liver cirrhosis, can be considered a major fail ure in the or ga ni za tion of the health care, es pecially in an economically weak country such as Croatia.

Early detection, adequate therapeutic in ter ven tion, and im ple men ta tion of school pre ven tive programs are the most important activities of the National Program strategy. Modern therapeutic sys tem saves the so ci ety enor mous sums of money and contributes greatly in counter-balancing all the factors and reasons that lead youth into drug addiction. As a form of approach, the treat ment of young people who consume drugs pays off much better than the re pres sion (31). There fore, it is necessary to restore a balance between the funds invested in the repressive system (drug supply reduc tion pro grams) and the funds put in the sys tem

for drug demand reduction (primary and secondary prevention, rehabilitation and social reintegration programs, harm reduction programs) (32). It is illusory to expect excellent results from the treatment of several thousand heavy and very demanding addicts, if only a few dozens of experts are involved in the therapy process. At the same time, the repressive system engages over 300 people in their combat with drug-related problems (33).

If we are going to focus on therapeutic approach, we have to improve the legislative (avoiding penal sanctions for juveniles consuming drugs). Changes of the Law will give us one reason more to enlarge the treatment system capacities as soon as possible, primarily county and city Centers' capacities, but also hospitals' capacities specialized for detoxification of the addicts and residential therapeutic communities. It is unacceptable, for instance, that the city of Split and the whole coastal area still do not have any specialized program for inpatient hospital detoxification, while hundreds of addicts are waiting in vain for any place where such an intervention could be carried out. It is impermissible that many more addicts get treatment in Italy or Spain than in their own country, and far more tragic that several times more addicts are in prisons than in hospitals (34,35).

We have to point out that the prevention of HIV infection has been very successful (less than 1% of intravenous addicts have HIV infection) (36). Well-organized and expert interventions in ambulance services, emergency departments, and intensive care units of the internal medicine departments have saved lives of many over dosed addicts. Engagement of greater number of general practitioners in the treatment of addicts (especially in substitution therapy programs) has helped in keeping the number of overdose victims around 40 cases a year in spite of the increased number of addicts. By contrast, Norway, a country with 4,200,000 inhabitants, has around 200 deaths of overdose per year (20).

Repressive Law Enforcement System – Activities and Data

Police and State Attorney's office data. In 1999, while carrying out the planned activities for street drug supply reduction, police forces recorded 4,699 new drug consumers (Table 13), 400 of whom were heroin users.

Data in Tables 14, 15, and 16 show a rapid increase in the number of both addicted adults and adolescents who were charged, convicted, and sentenced for a criminal offense of drug abuse under Article 173 of the Penal Law (37). Since 1994, their number has increased ten times, with especially rapid increase in the number of convicted offenders. In most cases (74%), they were charged with crime offense under paragraph 1 (unauthorized possession of drugs). This increase is partly due to the change in legislative by which a crime offense of possession of drugs became a felony, and partly to intensified police activities on the street level, predominantly aimed at young drug consumers and addicts. A 60% increase in the number of the underaged who committed a crime under Article 173 in 1999 (in comparison with 1998) is especially disturbing. Unauthorized possession of marijuana (usually very small amounts) accounts for almost 80% of these criminal offenses. In only a year, mostly due to the intensified police activities, the number of registered criminal offenses under Article 173 increased by 28%.

On the other hand, Centers for Treatment of Addiction recorded around 2,000 first time arrived clients (which is not a definite number, because part of the addicts and consumers were treated in other programs), including around 1,000 heroin addicts. This indicates that the largest number of police "clients" were marijuana consumers (who seldom seek any kind of treatment spontaneously). Police data show that the drug-related problems concentrate in certain cities (Zagreb,

Table 14. Adults reported, charged, and sentenced for all modalities of crime offence of narcotic drug abuse under Article 173 of the Penal Law, which refers to drug abuse, 1994-1999[a]

	No. of persons per year					
Action	1994	1995	1996	1997	1998	1999
Reported	612	700	1,922	2,865	4,101	5,254
Charged	356	434	947	1,901	2,515	3,122
Sentenced	180	224	405	1,038	1,257	2,282

[a]Data of the Croatian State Attorney's Office.

Table 15. Number of adults reported, charged, and sentenced for all modalities of crime offence of narcotic drug abuse under paragraph 1, Article 173 of the Penal Law (narcotic drug possession) 1996-1999[a]

	No. of persons per year			
Action	1996	1997	1998	1999
Reported	1,057	1,846	2,844	3,890
Charged	429	1,316	1,798	2,039
Sentenced	154	703	895	1,605

[a]Data of the Croatian State Attorney's Office.

Table 16. Juveniles reported for crime offence of narcotic drug abuse under Article173 of the Penal Law 1996-1999[a]

Article and paragraph of the Penal Law[b]	No. of persons per year			
	1996	1997	1998	1999
Art.173. §.1 PL	87	138	261	478
Art.173. §.2, §3, §4, §5 PL	45	54	125	146
Total	132	192	386	624

[a]Data of the Croatian State Attorney's Office.
[b]Art. 173.§.1 PL – unauthorized possession of drugs; Art. 173.§.2 PL – unauthorized production, manufacturing, and sale of drugs; Art. 173.§.3 PL – organizing the network of drug retailers or middlemen; Art. 173.§.4 PL – unauthorized production, purchase, possession, and turning over raw materials or substances intended for narcotic drugs production for use; Art. 173.§.5 PL – misleading a person to use drugs or providing drugs to another person for use.

Split, Zadar, Rijeka, and Pula). In some counties (in which treatment system is obviously not functioning yet), a significantly larger number of cases is recorded by the police forces than by the therapy programs. This proves that the illegal drug market covers evenly the entire country, but the intensity of police fieldwork does not correspond with the needs of particular county. For example, the treatment system in Šibenik has recorded 144 new cases (65 of which were opiate-related), and the police have recorded only 51 (8 opiate-related). Similar disproportion can be seen in Čakovec. On the other hand, police in Dubrovnik recorded 316 cases, whereas the Center for Treatment of Addiction recorded only 39 new cases.

Beside detecting "new" consumers, police have contacted several thousand formerly recorded cases. Regardless of how many were further processed, such an action has a positive preventive influence on youth in general, particularly if coordinated with the treatment system on the local level. The final result of such joint efforts should be the discouragement of adolescents from taking drugs. Over 300 newly recorded consumers of psychostimulative drugs indicate the change in sort of drugs used in the society and the necessity to develop technology which would cut down the danger from these drugs that adolescents are exposed to. Ecstasy is distributed more frequently in schools and places where young people with a taste for techno music crowd to have fun until early morning hours (38). Along with the resourcefulness of the education programs, the repressive system is also expected to intensify its work to stop the increase in drug supply.

Possibilities to improve the work of the repressive system. There is no adequate analysis of the structure of criminal offenses under Article 173, paragraph 2 (production, manufacturing, and resale of drugs), including the felonies which represent a great danger to a society and in particular the felonies committed by non-addicts. Also, to improve (by use of the state-of-the-art technology and methods) constant monitoring systems for keeping track of the organized crime groups involved in drug trafficking (entirely hidden highly positioned criminal system) would be of great value, and so would continuous analysis of all the factors leading to and supporting the fact that the largest number of dealers known to the police is still free.

As far as a possession of minor quantities of drugs for consumer's personal use is concerned, taking initiative for modification of the legal basis for sanctioning criminal offenses under paragraph 1, Article 173, is justifiable. National Strategy holds that adolescent addicts and drug consumers should be maximally protected from stigmatization and criminalization (a form of which is their referring to penal institutions). This attitude is in accordance with the national strategies of other European countries. For example, the position the German national strategy takes is that treating addicts is better and cheaper than punishing them (39). The repressive system should take the most active part in detecting and punishing felonies which represent larger, i.e., enormous social danger (predominantly well hidden and organized crime). The penal policy as well as law enforcement policy should be so conceived to direct the repressive system activities towards young population inclined to drug use. Thereby, the final result would be redirection of drug consumers to adequate systems of treatment as fast and as cheep as possible, and in the less stigmatizing way. Addicts should primarily be regarded as patients and victims of narcomafia, and the repressive system should be in the service of their protection. If the future Law on Unauthorized Use of Illicit Drugs (which should be enacted as soon as possible) would contain an article that would sanction unauthorized possession of "minor quantities" of particular kinds of drugs for personal use as (only) an offense, then, by changing (improving) paragraph 1, Article 173, a felony of possession of drugs would refer to the cases of possession of drugs in amounts larger than "minor". The term "minor quantity" of drugs, as well as changes in paragraph 1, Art. 173, should be defined after thorough discussion and consultation with all the relevant experts. Thereby, the legislature (as an important basis of National Program implementation) would be even better adjusted to the National Strategy guidelines and, at the same time, would not infringe the principle of legitimacy in the repressive system actions.

The repressive system in the law-governed state is expected to be more engaged in tracking down the hidden organized (international) narcocrime and cutting off the drug smuggling routs. Otherwise, no greater reduction in drug supply can be expected. Hitting the top of organized crime pyramid and punishing severely the criminals in that category are the only ways by which general prevention can be achieved. Bringing the criminal system under pressure would force criminals to give up this, for a society most fatal form of crime. Without taking such actions, more significant reduction in drug availability (supply) cannot be expected.

Discussion

National Strategy for Suppression of Drug Abuse in the Republic of Croatia

National Strategy for Suppression of Drug Abuse in the Republic of Croatia was accepted by Croatian Parliament in 1995 (30). Basic framework of the National Strategy is continuous and balanced implementation of organized measures to decrease drug supply (drug availability on illegal market) and drug demand among the population at risk, while adopting the special approach to drug addicts and consumers by which the damaging consequences of their behavior upon their health and society in general would be reduced. Operative implementation of the National Strategy is directed at 3 segments of the population: 1) the healthy, who should be protected from drugs; 2) consumers and addicts, who have to be attracted to the treatment programs; and 3) individuals involved in drug-related crime, who should be prevented in their activities by repressive programs (Fig. 2).

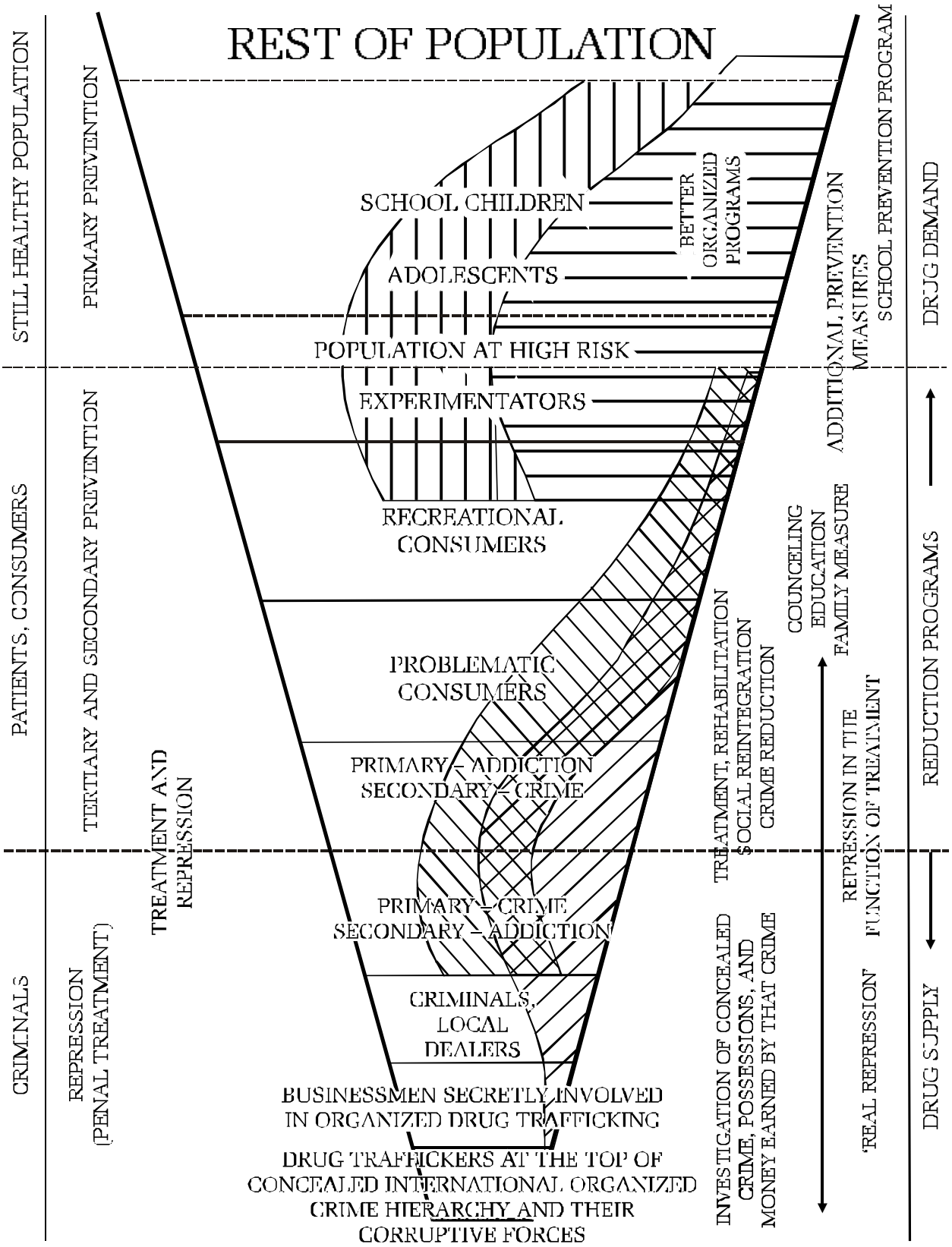

Figure 2. The Scheme of National Strategy for Suppression of Drug Abuse of the Republic of Croatia. Population at different levels of risk and actual or potential involvement in drug abuse approached in respect of specific measures. Description of shadings: horizontal lines – the proportion of "healthy" population efficiently covered by prevention; vertical lines – the proportion of population covered by prevention but without visible results; slanted lines from bottom left to top right – criminals revealed and affected by repression; slanted lines from top left to bottom right – consumers affected by repression.

The social factors causing the increase in supply and demand of drugs are very complex. They cannot be directly influenced on the global level, even by the best-conceived National Strategy, because the pace of modern civilization is impossible to change. The task of the experts responsible for creating the addiction prevention strategy is to suggest to the state and its institutions to take very concrete, specific, and realizable measures against addiction, which are already encompassed by the National Program. These strategies should represent a very complex social intervention (Fig. 2) aimed at the reduction of drug supply and drug demand, by which the phenomenon of drug abuse would be held within the limits acceptable to the society (40).

National Strategy for Suppression of Drug Abuse in the Republic of Croatia and the implementation program based on it (30) have followed the guidelines of the United Nations International Drug Control Program (UNDCP) "Global Plan of Action" (41) and the achievements and experiences of the national strategies of many European countries, USA, Council's of Europe "Working Group on Drugs", and European Union (EU) programs (42). At the top of the list of basic principles and goals of Council's of Europe strategy for addiction prevention, it is stated that "a drug problem should be of the utmost priority for the internal and external activity of European Union" (40). National Program implementation basically lies within the responsibility of the state and its institutions. All initiatives and programs undertaken and carried out by the system of non-governmental organizations have to be in concordance with the National Strategy, in order to act upon the complementary part of the National Program.

Assessment of the Implementation of Measures Planned in the Implementation Program for 1999

Due to the intensity and high quality of the National Program implementation in 1999, further increase in the number of new cases was slowed down (Fig. 1). However, in respect to the unacceptably high incidence, we should not rest content with maintaining the extent of addiction at today's level. We should try hard to reduce the number of newly affected persons by intensifying and improving the quality of National Program implementation. The Government Commission for Suppression of Drug Abuse insisted on both the support from the top politicians and provision of funds, which should have allowed the implementation of high-quality program to be started in as far back as 1995 (Expert Commission of the Ministry of Health has insisted upon it since 1991), but the support they got was inadequate. This slowed down the development of the program and had an adverse effect upon the quality of its implementation. A small number of experts put great efforts in the development of the drug abuse prevention system. Nevertheless, the epidemic during and after the war and "transitional" period could not be stopped. Finally, the spread of the epidemic came to a halt in 1999, but on the impermissibly high level of incidence (estimates of the Governmental Center for Addiction: around 1,500 new addicts per year).

The quality of National Program implementation, beside social causes of addiction phenomenon (drug supply and drug demand), also had a significant influence on the course of drug epidemic. Although politicians had directly and indirectly put limits on the program implementation, and the Government Commission of the Republic of Croatia and the experts in the field had not had much influence, a lot was done. After taking into account the number of experts who were engaged in the program implementation, the basic infrastructure they worked in, the funds they had, and the quality of political support, we can be proud of their work. The blueprint for School Preventive Program was made and the Program was introduced in regular school program plans in all Croatian schools. A network of Centers for Prevention and Outpatient Treatment of Addiction was formed and the number of general physicians included in the program increased. The network of communities for addiction treatment and rehabilitation (non-governmental) has been developed as well as the network of the units for harm reduction programs (needle exchange for the prevention of HIV and hepatitis infection). The system for coordination between primary and secondary preventive work and the repressive system activities on the county (or city) level has been developed. The public has become better informed and more sensitive to the problems related to drugs and addiction. The epidemiological follow-up system has been developed, and the collaboration between Croatia and international (especially European) systems for drug control is continuously improving (42).

National Program Measures which Slowed the Increase in the Number of Drug Addicts

There are many reasons which had a positive influence on the decrease in the number of addicts and helped prevent the epidemic of even larger proportions.

The implementation of primary prevention was significantly improved through the school system. School preventive programs, comprised of the chain of measures for protection of the healthy youth from drugs, have become integral part of the educational system.

In the inter-sector approach to the National Program implementation, the coordination on the county level has been improved (the work of county coordinative bodies) and all counties have established their boards (interdisciplinary teams).

The repressive law enforcement system has intensified the work on the street drug offer reduction. Around 1,000 young people have been directed to the State Attorney's offices and expert services, whose work can be assessed as positive and very useful. Based on the principle of opportuneness, it has resulted in having the major ity of adolescents directed into the treatment system (to the Centers for Prevention and Treatment of Ad-

diction), whereby the "criminalization" of the youth that committed a crime under the paragraph 1 of Article 173 (unauthorized possession of drugs) was prevented.

The expert teams in the Centers for Outpatient Treatment of Addiction, in cooperation with teams of general physicians, offered help to a large number of heavy addicted persons and to many young drug consumers. As a result, their criminal activity and consummation of illicit drugs was reduced (small-scale street drug dealing) and so was the consequent money outflow into the world of organized crime. On the other hand, the health protection of addicts improved and the risk of HIV and hepatitis B and C infection became lower (43). In the treatment communities established by non-governmental organizations, the capacities for rehabilitation of addicts enlarged.

Many law enforcement officers were educated and trained (partly within the project of United Nations International Drug Control Program, UNDCP) and so were the experts in educational and health systems, social care system, and the justice. This education was mostly provided by the team of experts from the Government Center for Addiction at the Sisters of Mercy Hospital, who constantly and expertly supervised the work of all the Centers and who prepared the opening of the Centers in Vinkovci, Slavonski Brod, and Osijek. Centers in Osijek and Vinkovci are active.

Scientific research on socio-pathological phenomena in youth, including drug addiction, and the epidemiological follow-up of the drug problem have been significantly improved. The research results are being used in constant reevaluation and consequent improvement of the program. Due to the activities of the Government Center for Addiction, the Republic of Croatia has been included in the Council's of Europe (Pompidou Group) (44) program for the epidemiological follow-up of drug-related problems.

Croatian Red Cross (along with "Help" programs in Split and Dubrovnik) engaged into programs for harm reduction and thus helped to slow down considerably the spread of the risk of HIV and hepatitis B and C infection.

Very good collaboration with international system for drug control has been established (European Council, UNDCP).

The quality of the contribution of many non-governmental institutions and associations in the protection of the youth from "hitting the road to addiction" and offering help to the addicts to "hold on on their journey out" is being improved.

Factors Threatening the Quality of National Program Implementation

In 1999 (as in the years before), the following factors have had an especially negative influence on the quality of the National Program implementation.

The "Law on Unauthorized Use of Illicit Drugs" was not passed, though the Government Commission for Suppression of Drug Abuse had made a blue print of it in as early as 1998. It has not even been put through a procedure. Other legal improvements consistent with National Strategy were not made either. The purpose of the Law was to fulfill one of the obligations Croatia has towards the international community and to regulate certain activities, such as the control over drug precursors, improvement of the control over opiate production and traffick, obligation of the society towards the youth and their protection from drugs, obligation of the State to provide the treatment and rehabilitation programs for addicts, and improvement of the drug addicts recording system.

The balance between the repressive system and the system for prevention and treatment of addiction, in respect of the number of experts and resources engaged, was not reached. The system for addiction prevention and treatment is still in a far worse position, although the results of cost-benefit analyses show that, in a long run, more can be achieved by investing in prevention and treatment than in the repression in general or punishment of the addicts (17).

Neither the question of organization was solved, nor the additional facilities for the Government Center for Prevention and Treatment of Addiction were provided, although the Croatian Parliament had referred such a request to the Ministry of Health in as early as 1997. The conditions under which the expert team at the "Sisters of Mercy" hospital worked were absolutely inappropriate (on top of it, the Commission headquarters is in that hospital). But, in spite of bad conditions, 6 experts in cooperation with general practitioners were providing care for the greatest number of heavy addicts (almost 2,000 addicts per year) from Zagreb and its broader area. Without this team, which successfully carried out numerous tasks in only a year time, we could not talk at all about the National Program in Croatia today. The amount of money spent on the entire Government Center program in 1999 was US$105,805.

Legal frame of the network of Centers for Prevention and Outpatient Treatment of Addiction which forms the basis for National Program implementation was not regulated. That was the reason why the adequate equipment and sufficient number of expert teams were not provided. We must emphasize here that, among other things, the balanced strategy also implies the number of experts in treatment system to be approximately equal to the number of experts in the repressive system.

Repressive system activities in total did not produce the decrease in the street drug supply in our cities. The greatest results were achieved in the field of control over the heroin market, but yet there is lot to be done to significantly reduce the drug supply in the cities and to stop the rise in cannabis, ecstasy, amphetamines, and cocaine supply.

In 1999, more effective and efficient actions were expected from the customs control and the repressive system in general in respect to the drug

import control. Tracking down the criminals in international organized crime, fighting corruption, and cutting the regular drug routes should have been more efficacious because it would certainly have led to a significant reduction in street drug supply in Croatia.

The possibilities offered by the law to prevent money laundering were not adequately utilized. By detecting and sanctioning illegal financial transactions and possessions acquired in illegal way, possible drug dealers could have been identified. In this respect, more efficient engagement was expected from the financial police. Protection of the children and adolescents' health could have been considerably improved, if the money and other material goods that criminals had earned in illegal way were confiscated and invested in prevention programs.

Capacities for specialized hospital treatment of addicts were not enlarged. Split, Rijeka, Pula, Zadar, and Osijek still do not have specialized facilities such as inpatient hospital departments for detoxification program. Local hospitals neither showed any interest in providing such facilities by themselves nor were prompted to do so. Also, it is still very difficult to provide the adequate therapy for hundreds of addicts with hepatitis C. In addition, the administrative obstacles for addicts to realize their rights on health protection represent one more the reason why many of them stay on the streets for a long time with their health deteriorating. Too small number of addicts was vaccinated against hepatitis B on time.

There were no facilities for rehabilitation and social reintegration of addicts within the state institutions (social care). If such programs had existed, it would have justified passing the measure of obligatory treatment as an alternative to penal sanction more often.

The treatment quality of addicts in prisons and penal institutions was unsatisfactory. Measures of post-penal care of addicts were not well provided.

Budget allocated for National Program implementation was too small (especially finances at disposal to Commission), since the basic system for treatment of addicts in the counties had to be financed from that budget.

The activities for improving the measures for early intervention and protection of adolescents at high risk were not realized (of adolescents who dropped out or were thrown out of school).

Out-reach work with addicts on the streets was not organized, which was a social service obligation.

There was no adequate support from the political top in carrying out the National Program, but some of the local governments and self-governments also denied help.

Greater and better participation of Croatian television was expected in respect of its specific preventive effect on adolescents and in respect of public follow-up and estimation of the quality of National Program implementation.

The Croatian Government (ministers) did not thoroughly implement or take into account seriously enough the decisions made by Croatian Parliament, i.e., the decision on passing the "Law on Unauthorized Use of Illicit Drugs", or the suggestions of the international systems for drug control. Furthermore, they did not adequately take the recommendations of the Government Commission for Supression of Drug Abuse, which is the highest expert-consultant and coordinative body in the state and without which the National program could not be carried out efficiently enough.

Decreasing the Number of Addicts in Future

Ministry of Education and Sports accepted the implementation of school preventive programs, which are the most important part of primary prevention, as an integral part of its program. Now, it is necessary to improve the cooperation between the school system and all the resources of local communities used for providing for the interests of children and adolescents. The treatment and rehabilitation programs for addicts as well as enforcement of early intervention measures, which would target the population who just began with drug consummation, could provide the additional help in stopping the epidemic and reducing the number of the newly addicted. The basis of the addiction treatment and rehabilitation system should be an integral part of the state health care and social care institutions.

Such an approach would bring multiple benefits to the community and swerve the epidemiological trend into positive direction, because of the following reasons:

1. An early detection and adequate treatment of as large number of addicts as possible would stop the disease to progress to more severe or incurable stage (22), reduce the risk of HIV and hepatitis infection (27), reduce the number of traffic accidents, and prevent addicts to turn to crime.

2. Removing the addicts from the organized crime milieu is possible only if the treatment is adequate and on time. Thereby, it would be possible to reduce the criminal activities of the addicts by 70%, and to cut down the financial profits of criminals. If more addicts were in the treatment system, less of them would be on the streets and without supervision. Also, it would lessen the secondary crime and lower the risk of spreading the drug epidemic on new consumers.

3. The need for the law enforcement to be engaged on the street level would be smaller due to the drop in the secondary crime caused by the fact that many more addicts would be included in treatment programs. Today, the police is trying to keep control over several thousands of non-treated addicts of criminalized behavior, whereas the institutions of law-governed state have to solve more and more cases every day. The number of addicts in the penal system is rising.

4. The demands imposed on the law enforcement resources would be less, if they did not have to deal with the addicts who should have been actually taken care of by health and social care systems in the first place; more attention could be paid to detecting, identifying, and preventing the highly positioned drug dealers from supplying the drug market. Together with the work on the street drug supply reduction, the final result would be a considerable decrease in drug availability on the street level, by which the primary prevention measures would also be eventually improved.

With the approach described above, some countries have significantly improved their epidemiological situation during the last years (i.e., Switzerland) (9,45,46). Secondary and primary preventions are functionally inseparable, that is, primary and secondary prevention measures add to each other's effects, therefore must be program-connected.

Those measures in which we have failed should be improved, whereas those not realized at all should be organized and implemented. In addition, improvement of the National program in accordance with the UN "Global Plan of Action" (41), Council's of Europe guidelines, and EU program is suggested. The improvement would be carried out through the realization of several special programs:

1) Protection of the adolescents who are out of school (expelled, dropped out) and at high risk of taking drugs. This project was suggested within the framework of "Treaty on Stability" programs (47).

2) A special program for the protection of university pupils.

3) Gradual development of the system for drug control of drivers (17).

4) Inciting the development of the program for prevention of drug abuse in workplace (firms, manufacturing organizations).

5) Control of anabolic steroids (doping) and drug use in sports and fitness centers.

6) The build-up of the program for drug control in the Croatian Army.

7) Improvement of the social care of adolescents by use of possibilities offered by the Family Law and the Law on Tobacco and Tobacco Products.

8) Providing various programs for children and adolescents in our cities to spend their free time in a healthy and risk-free way (among other things, there should be as many small, generally available, and open sport areas as possible), and making the city catalogues of offers for building such facilities. At the same time, the law enforcement system should reduce the distribution and consummation of drugs (especially ecstasy and amphetamines) at the places where many adolescents come together and have fun (38).

9) Intensifying the positive influence on adolescents through media (including Internet) in respect of dissuading them from taking any substance of addiction (alcohol, tobacco, and drugs).

10) Making a curriculum for postgraduate education of teachers and professors working in elementary and secondary schools which would form the basis of their education and training in implementation of School preventive programs in future. Such a plan is being discussed with the experts at Pompidou Group of the Council of Europe within its Drug Demand Reduction Staff Training Program (DRTSP II) (49).

11) Providing additional education of general practitioners (family physicians) to improve their contribution in prevention, early detection, and treatment of addiction in a family. A broad epidemiological research, conducted by use of epidemiological follow-up questionnaire at the Center for Prevention and Treatment of Addiction in Zagreb, showed that a general practitioner is the first to detect the problem and refer the addict to treatment in only 5% of the cases (our unpublished data). Since this is a consequence of inadequate undergraduate education of physicians, a new curriculum should be created, by which all the necessary theoretical and practical knowledge in regard to the prevention and early detection of drug abuse in families would be provided to the future physicians. The curriculum should also provide training in modern approaches to addiction treatment and prevention (50).

12) Taking into account amount of work, number of tasks, and daily administrative work, the Government Commission for Suppression of Drug Abuse should have its own office with the team of experts and necessary administrative service. This office could gradually grow into a special Government Office for dealing with all the questions connected with the National program implementation. The office should be located close to Government Center to prevent it from turning into another expensive administrative body separated from operative section.

Croatian National Program as a Part of European Strategy

Substance abuse is the most serious public heath problem of our adolescents today. Therefore, solving that problem must be set high on the list of national priorities.

European Union countries are trying to coordinate their strategies and drug control programs according to the obligations they took by signing UN conventions and accepting the "Global Plan of Action" of UN Commission on Narcotic Drugs. Their plan is to develop more effective, joint EU system for drug traffick control by linking closer all the elements in their repressive law enforcement systems (customs, police, justice) by the year 2004. With the systematic exchange of information and joint actions, it would be easier to intervene in international organized crime, corruption, money laundry, precursor control, etc. Enough space is left to each country to adjust the implementation of numerous measures to their own specificities and abilities. Croatia's strivings to become a member of EU will impose even more demands on the

state to adjust its drug control programs to European standards. Therefore, passing the "Law on Unauthorized Use of Illicit Drugs" as soon as possible is of the utmost importance.

Neither the problem with drug epidemic between 1991 and 1999 in Croatia was within the expert doctrine, nor has the strategy basis, built in 1995, changed. The problem was that the quality of National program implementation was a political rather than expert issue.

In spite of all the problems, a lot has been done and that is the reason why the epidemic in our country is not more severe than in other transition countries, such as Slovenia, the Czech Republic, Slovakia, and Bulgaria (51). With providing prerequisites for high quality National Program implementation through well-designed structure and several interconnected networks of experts (which must form the basis of National Program), and all the potentials of non-governmental organizations (treatment communities and other programs) from state to basic local level, Croatia can considerably reduce the drug abuse in a short period. All that will have a strong impact on the number of registered new heavy drug addicts, which is the main indicator of the quality of National Program implementation.

To follow the changes in epidemiological situation as well as in possibilities and needs for program realization, the implementation of programs based on National Strategy must be readjusted every year. The effects of readjustments must reach a basic local level, because more primary preventive work will be needed in one area than in some other, secondary prevention measures will have to be improved in one place more than in another, and repressive law enforcement system will be expected to do more in one part of the country than somewhere else. With such an approach, the extent of the addictive substance abuse among the youth and whole population could be reduced on the national level. Health problems and other harmful consequences that drug abuse causes to individuals, families, and community in entirety would be lessened.

References

1 Sakoman S. Zloporaba droga u Hrvatskoj i pristup njezinu suzbijanju. In: Schwebel R, editor. Reći ne nije dovoljno. Zagreb: SysPrint; 1995. p. XI-LXXXVII.

2 Heath I, Haines A, Malenica Z, Oulton JA, Leopande Z, Kaseje D, et al. Joining together to combat poverty. Croat Med J 2000;41:28-31.

3 Sakoman S. Droge u ratu: stanje, program suzbijanja. Zagreb: HVIDRA; 1997. p. 33-6.

4 The European school survey project of alcohol and other drugs. In: Hibell B, Andersson B, editors. The 1995 ESPAD Report. Stocholm: ESPAD; 1997.

5 Sakoman S, Kuzman M, Šakić V. Pušačke navike zagrebačkih srednjoškolaca [Zagreb high-school students smoking habits]. Društ istraž 1997;4-5:513-35.

6 Sakoman S, Kuzman M, Raboteg-Šarić Z. Čimbenici rizika i obilježja pijenja alkohola među srednjoškolcima [Risk factors and characteristics of alcohol consumption among high-school students]. Društ istraž 1999;2-3:373-96.

7 Sakoman S. Liječenje ovisnosti, važna aktivnost u programu suzbijanja zloporabe droga u zajednici. In: Pozaić V, editor. Od beznađa do nade. Zagreb: Tipotisak; 1999. p. 65-119.

8 Ministries of foreign affairs, health, welfare, sport, justice, and interion. Drug policy in the Netherlands. Continuity and change. Rijswijk: The Central Information; 1995.

9 Muscat R, Bless R. Mediterran rapid drug assessment survey. Strasbourg: Council of Europe; 2000.

10 Government Office against Drugs. Drug policy in the Republic of Slovenia 2000. Ljubljana: Government Office against Drugs; 2000.

11 McDermott P, Matthews A, O'Hare P, Bennet A. Extasy in the United Kingdom: recreational drug use and subcultural change. In: Heather N, Wodak A, Nadelmann E, O'Hare P, editors. Psychoactive drugs and harm reduction: from faith to science. London: Whurr Publishers; 1993. p. 230-47.

12 Council of Europe. Multy-city network on drug misuse trends. Strasbourg: Council of Europe; 1997.

13 National institutes of health and human services. Proceedings of the community epidemiology work group I. Bethesda (MD, USA): Community Epidemiology Work Group; 1999.

14 Power R, Mimica J, Sakoman S. Zlouporaba droga u Hrvatskoj i pristup njezinu suzbijanju. In: Schwebel R, editor. Reći ne nije dovoljno. Zagreb: SysPrint; 1995. p. XI-LXXXVII.

15 Council of Europe. Estimating the prevalence of problem drug use in Europe. Luxembourg: Office for Official Publications of the European Communities; 1997.

16 Council of Europe. Calculating the social cost of illicit drugs (method and tools for estimating the social cost of use of psychotropic substances). Strasbourg: Council of Europe; 2000.

17 Council of Europe. Road trafic and drugs. Strasbourg: Council of Europe; 1997.

18 White House. National drug control strategy. Washington (DC): Office of the National Drug Control Policy; 1996, 1997, 1998.

19 Sandwell Drug Action Team. Action plan 1995-98. West Midlands (UK): Sandwell; 1995.

20 European Monitoring Centre for Drugs and Drug Addiction. Annual report on the state of the drugs problem in the European Union. Lisboa: The Centre; 1996.

21 National Institute on Drug Abuse. Diagnostic source book on drug abuse research and treatment. Rockville (MD, USA): National Institutes of Health; 1996.

22 Maremmani I. Treating heroin addicts,i.e. "Breaking through a wall of prejudices". Heroin Addiction and Related Clinical Problems 1999;1:1-8.

23 National Institute on Drug Abuse. Thirteen principles of effective drug addiction treatment. Rockville (MD, USA): NIDA Notes 1999;14:15.

24 Best SE, Oliveto AH, Kosten TR. Opoid addiction: recent advances in detoxification and maintenance therapy. CNS Drugs 1996;6:301-14.

25 Dole VP. Methadone maintenance. Comes of age. Heroin Addiction and Related Clinical Problems 1999;1:13-7.

26 Mathias R. NIH panel calls for expanded Methadone treatment for heroin addiction. Rockville (MD, USA): NIDA Notes 1997;12:6.

27 World health organisation. Principles for preventing HIV infection among drug users. Strasbourg: Council of Europe; 1998.

28 Uchtenhagen A, Dobler-Mikola A, Gutzwiller F. Medical prescription of narcotics – background and intermediate results of a Swiss national project. European Addiction Research 1996;2:201-7.

29 Sakoman S. Ovisnost o drogama i HIV-infekcija. In: Beus I, Begovac J, editors. AIDS: HIV-bolest. Zagreb: Graphis; 1996. p. 231-42.

30 Sakoman S. Nacionalna strategija suzbijanja zloporabe droga u Republici Hrvatskoj. Zagreb: Komisija za suzbijanje ovisnosti Vlade Republike Hrvatske; 1995.

31 Leshner AI. National study offers strong evidence of the effectiveness of drug use treatment. Rockville (MD, USA): NIDA Notes 1997;12:3-8.

32 Springer A, Uhl A, editors. Evaluation research in regard to primary prevention of drug abuse. Luxembourg: Office for Official Publications of the European Communities; 1998.

33 Leshner AI. The state of the art in drug addiction treatment. Rockville (MD, USA): NIDA Notes 1999; 14:3-4.

34 Council of Europe. Drug-misusing offenders in prison and after release. Strasbourg: Council of Europe; 2000.

35 Council of Europe. Drug treatment in prison and aftercare: a literature review and results of a survey of European countries. Strasbourg: Council of Europe; 2000.

36 Katalinić D, Kuzman M, Rajačić D. Izvješće o bolnički i ambulantno liječenim osobama s dijagnozom "ovisnosti o drogama" (MKB F11.0-F19.9) u Hrvatskoj u 1998. godini. Zagreb: Hrvatski zavod za javno zdravstvo; 1999.

37 Croatian Association of Criminal Sciencies and Practice. The Croatian criminal code and the criminal procedure act. Zagreb: Croatian Annual of Criminal Law and Practice 1999;6:82-3.

38 World Health Organisation. Amphetamine-type stimulants. Geneva: Division of Mental Health and Prevention of Substance Abuse; 1997.

39 German Federal Ministry for Health and Ministry of the Interior. National program on drug abuse control. St. Martin (Germany): Typo Print; 1992.

40 Council of Europe. European union drug strategy (2000-2004). Strasbourg: Council of Europe; 1997.

41 United Nations. Political decleration and global programme of action. New York (NY, USA): United Nations decade against drug abuse 1991-2000; 1990.

42 Pompidou group. Handbook prevention – alcohol, drugs, and tobacco. Strasbourg: Council of Europe & Jellinek Consultancy; 1998.

43 Tišler Z, Seme K, Poljak M, Čelan-Lucu B, Sakoman S. Prevalence of Hepatitis C and G virus infections among intravenous drug users in Slovenia and Croatia. Scand J Infect Dis 1999;31:33-5.

44 Council of Europe. Treated drug users in 23 European cities, data 1997. Strasbourg: Council of Europe; 1999.

45 Bundesamt für Gesundheit. Die Heroingestützte Behandlung. Geneve (Switzerland): Bundesamt für Gesundheit; 1999.

46 Council of Europe. Conférence ministérielle: rapport national Suisse. Tromsr (Norway): Council of Europe; 1997.

47 Republika Hrvatska, Ministarstvo vanjskih poslova. Lista projekata RH za radni stol o sigurnosnim pitanjima Pakta o stabilnosti. Zagreb: Ministry of Foreign Affairs; 1999.

48 Sakoman S. Zloporaba droga, strategija i suzbijanje s posebnim osvrtom na studentsku populaciju. Anali Studentskog centra u Zagrebu 1999;1:119-41.

49 Council of Europe. Pompidou group demand reduction staff training project (DRSTP II): multidisciplinary staff training project for administrators and practising professionals from central and eastern European countries. Strasbourg: Council of Europe; 1999.

50 Department of Health. The role of the general practitioner in community methadone maintenance programmes. Dublin: Expert Group on the Establishment of a Protocol for the Prescribing of Methadone; 1993.

51 Council of Europe. Multi-city network eastern Europe. Strasbourg: Council of Europe; 1997.

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Correspondence to:

Slavko Sakoman
Government Center for Prevention and Outpatient Treatment of Addiction
Sisters of Mercy University Hospital
Vinogradska 29
10000 Zagreb, Croatia
renata.glavak@zg.tel.hr