

7

AN OVERVIEW OF DRUG USE IN THE UNITED STATES AND ALONG THE U.S.-MEXICO BORDER

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INTRODUCTION

"In the field of behavior and human relations, there are a large number of factors conditioning mental well-being that generate increasingly serious conflicts. Outstanding among these, perhaps, because they are better known or because they affect groups with which man's feelings and emotions are more involved, are juvenile delinquency and drug addiction or dependence."

This quote by Alvarez in the publication "Health Without Boundaries," on the 30th anniversary of this Association reflects not only the recognition of the seriousness of drug dependence, but also the inherent vulnerability of youth. (1)

The National Institute on Drug Abuse (NIDA) was created as a separate Institute in 1974, one-year after this organization's 30th anniversary. Since that time, NIDA has conducted a number of national household surveys on drug abuse, funded the High School Senior Survey, established the Client Oriented Data Acquisition Process (CODAP), a system to collect data from clients in drug abuse treatment, and assumed operation of the Drug Abuse Warning Network (DAWN), a system which collects emergency room cases from hospitals in 26 major metropolitan areas in the United States. In addition, NIDA has funded or is considering funding studies which would help us better understand drug abuse problems among populations prevalent in the Southwest, in particular, the American Indian and Hispanic populations.

Although race/ethnicity have been included in the treatment and hospital emergency room systems by NIDA, minority data from the national surveys has been insufficient to characterize levels of drug use among minority populations. The studies that have focused upon drug use among Hispanics had been confined to drug use in the barrio. For example, a study by Padilla and his colleagues reported that

Resource ID#: 405

Overview of drug use in the United States and along
the U.S.-Mexico border

compared to a national sample, Mexican-American adolescents were at least 14 times more likely to be currently abusing inhalants. The prevalence of alcohol was equal to that found nationally.(2) However, these studies may not reflect drug use in the general Hispanic household population or in areas along the U.S.-Mexico border. Further evidence of high rates of drug use in populations having no fixed residence is provided by a study of drug use among tenants of single room occupancy (SRO) hotels in New York City (3). Results from this study suggested blacks and Hispanics have higher rates of drug use than whites for marijuana, cocaine, heroin, and illicit methadone. This is important since blacks and Hispanics constitute 67 percent of the single room occupancy hotel population compared to 40 percent of the household population in New York City. Further analysis of a matched sample of blacks from the two populations indicated that single room occupancy tenants were three times as likely to have used drugs recently as were New York City household residents. This study lends support to the suggestion that studies based in the barrio may not be an accurate reflection on drug use in the Hispanic household population. Thus, several questions still remain:

--Is the use of drugs among the general population of the Hispanics different than that in the white population?

--Do Hispanics entering drug abuse treatment present different drug abuse problems than their white counterparts?

--Do Hispanic and white clients differ on such sociodemographic variables as age of first use, education and employment?

Today I will review the national trends from the High School Senior Survey, present some data from the National Survey on Drug Abuse, the Hispanic Health and Nutrition Examination Survey, and review treatment data for Texas and four border countries.

The 1985 Survey of High School Seniors was conducted in a nationally representative sample of 132 public and private schools in the United States. Over 16,000 students responded to the survey. It should be noted that this is a survey of graduating in high school seniors and dropouts are omitted.

Alcohol and nicotine (cigarettes), the two licit psychoactive drugs in our society, are also the most prevalent. However, since an increasing number of States have raised the drinking age, the use of alcohol is illicit in this population of high school seniors. Among the illicit drugs, marijuana, stimulants, and cocaine are the most prevalent. The use of inhalants in the past year, for example was about 6 percent versus almost 41 percent for marijuana and 13 percent for cocaine.

In 1985, only inhalants, cocaine, and other opiates exhibited

increases in lifetime prevalence (any use in lifetime) among high school seniors and these increases were not statistically significant. The only statistically significant change in 1985 was a decrease in the use of sedatives by high school seniors and this was due to the decrease in the use of methaqualone which is no longer manufactured or marketed in the United States.

Only cocaine and other opiates had statistically significant increases in annual prevalence or use in the past year while statistically significant decreases were noted for stimulants and methaqualone. For current prevalence or use in the past month, only cocaine and other opiates showed significant increases while stimulants showed a significant decrease.

It should be noted that not only is the use of illicit drugs high in this relatively young population, but that the trend of marijuana which has been consistently downward over the past several years appears to have stabilized, at least for the moment. In addition, the current use of cocaine has increased for the second straight year. This may be of even more concern if the availability of crack which effectively removes the price barrier to cocaine use continues.

The proportion of high school seniors that continue drug use is also of concern. A large proportion, approximately 70 percent, of those who have ever used alcohol have also used it in the past month. In contrast, only 16 percent of those who have ever tried inhalants have used it in the past month.

Current use of alcohol is very high among high school seniors. Cocaine use has been increasing steadily and the downtrend in the current use of marijuana has stabilized. This is of concern since the population at risk of further drug use is drawn from marijuana users.

The trends for lifetime, annual, and current use of marijuana are similar in exhibit an apparent plateauing of what was a continuous downtrend in use which began in 1978 or 1979.

In contrast, lifetime, annual, and current use of cocaine have been escalating after a period of stability. The use of cocaine in the past month increased by more than one-third in the past 2 years. This is significant in that, unlike marijuana which has a relatively low age of first use, cocaine has had a median age of first use closer to 20.

The illicit drug index which reflects the use of any illicit drug within the past 30 days exhibits a pattern similar to that of marijuana. That is, after several years of slow but steady decreases, a plateau seems to have been reached. It should also be noted that half of those who have used an illicit drug in the past month used only marijuana.

The availability of marijuana has not changed substantially for several years, while there has been a steadily increasing availability of cocaine. On the one hand, the continued availability of marijuana, coupled with what had been decreasing trends in marijuana use over the past several years, suggests that strides in reducing drug use can be made in spite of continued availability. On the other hand, the increase in cocaine use may reflect that if a drug is available and the price drops low enough use will increase. As previously noted, the reduction in price through the selling of crack, a form of freebase cocaine at very low prices, may account in part for the increase in cocaine use among high school seniors. The impact of ready availability and low price is now being seen in the devastating effects of increased cocaine use among youth in both Colombia and the Bahamas. This raises the question of what might occur if the increased smuggling of marijuana, heroin, and now cocaine across the U.S.- Mexico border results in increased availability or lower prices in this area. There are already some data which suggests a resurgence of heroin use and increased cocaine use along the border.

Although the use of illicit drugs in the United States is a national problem, there are regional variations. For example, the use of marijuana is high in all regions of the country although it is substantially higher in the Northeast and the West. The same can also be noted for cocaine where the difference is even more dramatic. In contrast, the use of inhalants is more evenly distributed across the four regions of the country. The use of all drugs, especially illicit drugs, appears to be more prevalent among males than females, although the use of alcohol in the past year among high school seniors was similar for males and females. Similar but more dramatic differences are seen in treatment admissions where males account for almost 75 percent of admissions nationally. The prevalence of drug use is consistently higher in urban areas although the gap has been closing slowly over the past several years and drug use now appears to present a significant problem even in rural areas. For example, although the use of marijuana in the past year exceeded 40 percent in urban areas with populations of at least 50,000, 37 percent of high school seniors in non-urban areas reported the use of marijuana in the past year. Similar patterns were noted for other illicit drugs, except that substantially less use of hallucinogens, PCP, cocaine, and heroin was noted in rural areas.

High school seniors data reflect all graduating seniors regardless of race. The few cases in which we have attempted to analyze these data by race or ethnicity have suggested that drug use graduating seniors who are minorities may be less than that among whites. The National Household Survey on Drug Abuse oversampled blacks and Hispanics for the first time in 1985 and estimates of minority drug use will be available in the near future. However, in a previous attempt to analyze drug patterns among Hispanics, data from three national

surveys conducted in 1974-75, 1976, and 1977 were aggregated. These data suggested that the use of illicit substances was generally lower though not significantly so among whites and blacks. A similar pattern was also noted among adults. As with the high school senior data, males generally showed higher use of most substances than females, however, among adults significant differences were noted only for marijuana and inhalants. It should be noted, that even with aggregating 3 years of national survey data, the numbers are quite small. Most recently, NIDA added questions on marijuana, inhalant, cocaine, and sedative use to the Hispanic Health and Nutrition Examination Survey. Preliminary analyses of these data (Table No. 1) suggest that the use of these drugs in the Hispanic population does not differ significantly from use in the general population. If anything, prevalence of drug use appears to be slightly lower.

The high school senior data, as well as the data from the Hispanic HANES Survey, demonstrate that youth are highly vulnerable to the use of illicit drugs. This takes on added significance when we consider that the Mexican-American population is younger than the general population; roughly 25 percent of Mexican-Americans are between the ages of 10 and 17, compared to approximately 19 percent of all Americans. Furthermore, although the Southwest is dotted with hundreds of relatively isolated small towns, data from the High School Senior Survey suggests that this is not a protection from illicit drug use. In a pilot test, (Table No. 2) data were collected from a school located in a small community of 1,200 in the Southwest. These data indicate that in this community there are large differences between Anglo and Hispanic students in the use of drugs. Although data from one small community are not generalizable to all small communities, they do demonstrate that isolation is no longer a protection from illicit drug use. virtually all illicit drugs were available in small isolated communities. (4)

Another pilot study was conducted among 8th and 12th grades in three small southwestern communities. These communities ranged in size from approximately 3,000 to 11,000. These data indicate once again that not only are drugs available, but that even in 8th grade there has been substantial experience with drugs (Table No. 3). It is particularly interesting to note the relatively high prevalence of inhalants in these towns. As might be expected, higher rates of drug use were noted among 12th graders. However, the reported use of inhalants in these towns among high school seniors was lower than among 8th graders. In community one, lifetime prevalence of inhalants was 15.3 percent compared to 19.2 percent in community two, and 21.3 percent in community three. These data suggest the possibility of particularly high dropout rates among inhalant abusers. The higher rate among 8th graders might also suggest increased incidence in a particular year. However, data from school studies conducted in New York in 1978 and 1983, as well as in Massachusetts in 1984, all exhibit the same pattern of lower lifetime prevalence among 12th

graders than among 8th and 9th graders. This lends support to the hypothesis of higher dropout rates among inhalant users.

To summarize, at this time the data prevalence do not suggest levels of use in the Hispanic household population that are substantially different than that of the general household population in the United States. On the other hand, some data from relatively isolated rural communities suggest that drugs are not only available but used by young people in these communities, in particular, alcohol, marijuana, inhalants, and pills.

Thus far, the data presented reflect only lifetime experience or current use of a drug. They do represent consequences associated with drug use. One measure of consequences of drug use is use that results in admission to treatment for the use of a particular drug or drugs. Prior to 1982, the National Institute on Drug Abuse operated a system known as the Client Oriented Data Acquisition Process (or CODAP) which collected information on people admitted to treatment in all federally-funded treatment facilities in the United States. Today, however, of the four States along the border, only California and Texas continue to report treatment data to the National Institute on Drug Abuse. Currently, 15 States and Puerto Rico send treatment admissions data to NIDA (Table No. 4). Eight of the 15 states have Hispanic populations of 4 percent or more. In the Northeast, the Hispanic data tends to reflect Puerto Ricans, in Florida reporting reflects drug use by Cubans, and in the Southwest, in this case California and Texas reporting represents primarily Mexican-Americans.

In 1984, there were 177,000 admissions drug abuse treatment reported to NIDA (Table No. 5). Hispanics represented 21 percent of admissions to treatment. The primary problems reported by Hispanics were heroin, 69 percent, marijuana, 11.5 percent, and PCP, 8.4 percent. Inhalants, a drug, the prevalence of which is quite high in the school surveys reported in the Southwest represented only 1.2 percent of drug abuse treatment admissions. Among whites, the primary drugs reported were heroin, amphetamines, cocaine, marijuana, and alcohol, both alone and in combination. The data for Texas and four border counties reflect a somewhat different picture (Table No. 6). First of all, Hispanics represent approximately 37 percent of admissions. Among Hispanics, heroin and inhalants represent a significantly greater proportion of admissions than they do for whites. The four border counties included in this analysis are Cameron County, which is 77 percent Hispanic, Webb County, 91 percent Hispanic, El Paso County, 62 percent Hispanic, and Hidalgo County is 81 percent Hispanic. The primary drug problems reported by Hispanics in these four counties are heroin, marijuana, and inhalants.

In Texas and the four border counties of Texas included in this analysis, inhalant admissions among Hispanics account for a larger proportion of the Hispanic admissions than in the total system.

Another way of looking at this issue is to examine the proportion of admissions by race/ethnicity for any given drug (Table No. 7). Hispanic admissions account for 21.5 percent of admissions for all drugs in the total system, 33 percent from California, and almost 37 percent from Texas. In the total system, Hispanic admissions exceed the 21.5 percent for inhalants, PCP, and heroin. Here it should be noted that the total system figures are going to be heavily influenced by California which contributes 26,000 out of a total of 38,000 Hispanic admissions. In Texas, Hispanics account for almost 57 percent of heroin admissions and 88 percent of inhalant admissions. It is clear, that based on treatment admissions data, the problem of inhalant abuse is a significant problem for the Hispanic population.

As noted previously, the hispanic population represents a significant majority of the four counties being analyzed and, with the exception of El Paso County, there are relatively few white admissions (Table No. 8). However, among whites heroin, amphetamines, cocaine, and marijuana are the primary problems with virtually no admissions for inhalants. A similar distribution for Hispanics suggests that amphetamines and cocaine use is not as significant a problem among Hispanics as it is among whites, but that inhalant use is a significant problem (Table No. 9). As with marijuana, the age of first use for inhalants is quite young. You will recall the relatively high proportion of 8th graders that had reported experience with inhalants. Similarly, an analysis of treatment admissions indicates that the median age of first use among people admitted to treatment for inhalant abuse is approximately 14 to 15 year old (Table No. 10). It is also interesting to note that for some people the problem of inhalant abuse persists in that the median age of treatment for Hispanic inhalant abusers is 21.

The isolation and relative poverty of some of these rural communities in the Southwest and along the border has already been mentioned. Two indicators of this latter condition are education and employment. Among Hispanics admitted to drug abuse treatment, over 60 percent have less than a 12th grade education compared to whites where approximately one-third have less than a 12th grade education (Table No. 11). Similarly, unemployment rates are quite high for both whites and Hispanic populations. However, unemployment is substantially higher among Hispanic populations.

As has been previously noted based on prevalence data from High School Survey, the Hispanic HANES, and the aggregated data from previous national surveys, the use and abuse of illicit drugs is predominantly male. However, none of the surveys suggests the predominance shown in Texas among Hispanics where 85 percent of the admissions are for males (Table No. 12). This raises a question about the extent to which cultural prohibitions against female involvement in the use of alcohol and illicit drugs limits their abuse of the drugs or the extent to which these cultural prohibitions prevent women from coming forward

for treatment.

Last year, in a telephone survey conducted by a NIDA intern in which representatives from drug abuse prevention or treatment agencies located in 26 counties along the U.S.-Mexico border were contacted, the drugs which were considered to cause the most problems in local communities were alcohol, inhalants, marijuana, and heroin. Amphetamines and cocaine were also reported but not nearly as often as the others. Although alcohol use has not been the focus of this paper, the use of alcohol cannot be ignored. In 1979, a national survey indicated that Hispanics have the highest proportion of heavy drinkers and problems associated with drinking when compared with blacks and whites. In addition, alcohol is often used in conjunction with other drugs and has been cited as a major contributor to overdose deaths associated with heroin use.

In summary, available data suggests that the prevalence of illicit drug use in the general household population of Hispanics may not differ significantly and in fact, may be slightly lower than among whites. On the other hand, data from pilot studies conducted in school surveys located in small southwestern towns indicate that not only is drug use prevalent among youth, but that certain drugs, for example, inhalants, are used far more widely than in the general population. Admission to treatment confirm that inhalant abuse appears to be a significant problem among the Hispanic population. There is also some suggestion that dropouts may be greater among inhalant abusers. For example, although in Texas approximately 65 percent of Hispanics admitted for treatment has less than a 12th grade education, the rate among inhalant abusers was 85 percent.

School surveys in small towns have indicated that the isolation of these communities does not protect against either the availability or the use of drugs. Generally, these towns are small in size, meaning that there are few amenities, few resources, and access to other resources, including health care can mean drives of relatively long distances. In addition, unemployment tends to be high. As Caste has stated in his presentation, Alcoholism Among Hispanics, "Hispanics suffer the full impact of a subculture of poverty in all of its ramifications including low income, unemployment, under-education, poor housing, and overcrowding." (5) That these people are vulnerable to drug use should not be a surprise.

Migration is also a potential factor for increased drug abuse. As previously noted, any of the studies done in barrios have indicated that Hispanics have substantially high rates of drug abuse. Many of the Hispanics on the barrio come from rural environments and it is not likely that some return to the rural environment bringing their experience with drug abuse with them.

Recently, increased smuggling of not only marijuana but heroin and

cocaine across the U.S.-Mexico border has been reported. Again, it is possible that the increased availability of drugs such as cocaine may lead to increased use in these communities. As one example, data from the Drug Abuse Warning Network indicate that emergency room cases associated with the abuse of heroin have been increasing in a number of areas under the influence of the U.S.-Mexico border. These areas include Dallas, Los Angeles, Phoenix, San Antonio, and San Diego. In addition, Texas has reported increased availability of black tar heroin and an increase in heroin deaths exceeding 50 percent from 65 in 1984 to 99 in 1985.

Long-term commitment is needed, as the High School Senior Survey indicates, progress can be made but it may be slow and can stop any time.

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3. Frank, B et al. Drug use among tenants of single room occupancy (S.R.O.) hotels in New York City. New York Division of Substance Abuse Services: June, 1983.
4. Personal communication, Dr. Eugene R. Oetting, Ph.D., Colorado State University, Department of Psychology, Fort Collins, Colorado.
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TABLE NO. 1

LIFETIME PREVALENCE OF USE FOR MARIJUANA, INHALANTS,
COCAINE OR SEDATIVES (NON-MEDICAL USE)

Southwest Hispanic HANES Data

| | 12-18 | 19-24 | 25-34 | 35-44 |
|---|--------------|--------------|--------------|--------------|
| Percent ever using any drug listed above | 35.3 | 59.8 | 49.3 | 30.0 |
| Percent who have never used any drug listed above | 64.7 | 40.2 | 50.7 | 69.9 |
| T O T A L : | 100.0 | 100.0 | 100.0 | 100.0 |
| ----- | | | | |
| Percent of ever users who have used: | | | | |
| -- Marijuana only | 73.3 | 56.2 | 61.1 | 64.6 |
| -- Marijuana plus other Drug | 23.2 | 42.0 | 35.6 | 29.5 |
| -- Other drugs ony | 3.5 | 1.9 | 3.4 | 5.9 |
| T O T A L : | 100.0 | 100.0 | 100.0 | 100.0 |
| ----- | | | | |

NOTE: Since drug information for respondents between the ages of 45 and 74 was retracted to only marijuana and the non-medical use of sedatives, data for those age groups are excluded from this table. It was estimated that 14.4 percent of the 45-54 age group and 7.8 percent of the 55-74 age group have used marijuana and/or sedatives non-medically at least once during their lifetime.

Source: Hispanic HANES, weighted Mexican data.

TABLE NO. 2

**COMPARISON OF ANGLO AND HISPANIC 7TH - 12TH GRADE
STUDENTS IN A SMALL SOUTHWESTERN TOWN**

| TYPE OF DRUG | Percent Tried | |
|-------------------|---------------|----------|
| | ANGLO | HISPANIC |
| Alcohol | 83.8 | 85.1 |
| Cigarettes | 39.8 | 66.0 |
| Smokeless tobacco | 55.9 | 57.4 |
| Marijuana | 18.4 | 45.7 |
| Uppers | 11.0 | 19.6 |
| Diet pills | 9.6 | 19.6 |
| Stay-awake pills | 11.0 | 25.5 |
| Downers | 3.7 | 13.0 |
| Cocaine | 2.9 | 6.4 |
| Inhalants | 8.1 | 12.8 |
| Hallucinogens | 3.0 | 6.4 |
| Tranquilizers | 5.9 | 17.0 |
| Quaaludes | 5.1 | 8.5 |
| Heroin | 1.5 | 6.4 |
| PCP | 0 | 6.4 |

TABLE NO. 3

**COMPARISON OF THE PERCENT OF 8TH GRADE
SMALL TOWN YOUTH HAVING EVER TRIED DRUGS**

| TYPE OF DRUG | COMM. I | COMM. II | COMM. III |
|---------------|---------|----------|-----------|
| Alcohol | 91.1 | 92.7 | 92.9 |
| Marijuana | 14.0 | 31.7 | 26.2 |
| Uppers | 8.4 | 22.2 | 17.9 |
| Downers | 3.4 | 12.2 | 4.3 |
| Tranquilizers | 3.4 | 8.5 | 3.5 |
| Quaaludes | 2.8 | 4.9 | 4.3 |
| Heroin | 0.6 | 3.7 | 2.4 |
| Cocaine | 5.0 | 8.5 | 6.0 |
| Inhalants | 27.4 | 45.1 | 23.3 |
| PCP | 2.2 | 8.5 | 8.3 |
| LSD | 5.0 | 9.9 | 7.2 |

TABLE NO. 4

ESTATES REPORTING ADMISSION DATA TO NIDA

| STATE | NUMBER OF ADMISSIONS | PERCENTAGE OF ADMISSIONS | PERCENTAGE OF HISPANIC IN POPULATION* |
|---------|----------------------|--------------------------|---------------------------------------|
| CA | 80,126 | 45.0 | 19.2 |
| CO | 1,374 | 0.8 | 11.8 |
| CT | 14,371 | 8.1 | 4.0 |
| FL | 8,574 | 4.8 | 8.8 |
| GA | 1,325 | 0.7 | - |
| IL | 7,565 | 4.2 | 5.6 |
| MA | 2,067 | 1.2 | - |
| MD | 10,427 | 5.9 | - |
| MO | 19,759 | 11.1 | - |
| NC | 1,332 | 0.7 | - |
| NJ | 10,221 | 5.7 | 6.7 |
| NV | 123 | 0.1 | 6.7 |
| OR | 1,821 | 1.0 | - |
| PA | 7,144 | 4.0 | - |
| PR | 5,205 | 2.9 | SR |
| TX | 6,646 | 3.7 | 21.0 |
| TOTAL : | 178,080 | 100.0 | |

* States having 4% or more Hispanic population.

TABLE NO. 5

**DISTRIBUTION OF TREATMENT ADMISSIONS BY
PRIMARY DRUG AND RACE/ETHNICITY - 1984**

| PRIMARY DRUG | WHITE % | HISPANIC % | OTHER % | TOTAL % |
|---------------------------|---------------|---------------|---------------|----------------|
| Heroin | 39.2 | 69.2 | 49.4 | 48.2 |
| Other Opiates | 4.9 | 0.8 | 2.3 | 3.4 |
| Sedatives | 1.6 | 0.4 | 0.8 | 1.1 |
| Amphetamines | 6.0 | 1.0 | 1.9 | 4.0 |
| Cocaine | 8.1 | 4.0 | 12.7 | 8.3 |
| Marijuana | 12.7 | 11.5 | 9.4 | 11.7 |
| Hallucinogens | 0.7 | 0.2 | 0.2 | 0.5 |
| Inhalants | 0.3 | 1.2 | 0.1 | 0.5 |
| OTC | 0.1 | - | 0.1 | 0.1 |
| Tranquilizers | 1.1 | 0.3 | 0.4 | 0.7 |
| Others | 0.3 | 0.1 | 0.6 | 0.3 |
| PCP | 1.6 | 8.4 | 5.1 | 3.8 |
| Alcohol in Combination | 17.2 | 2.1 | 13.7 | 13.2 |
| Alcohol Alone | 5.3 | 0.6 | 3.1 | 3.8 |
| Total Percentages: | 55.6 | 21.4 | 23.0 | 100.0 |
| Admissions: | 98,609 | 37,993 | 40,832 | 177,434 |

TABLE NO. 6

PERCENT DISTRIBUTION OF TREATMENT ADMISSIONS BY PRIMARY DRUG
FOR WHITES AND HISPANICS FROM TEXAS AND BORDER COUNTIES - 1984

| PRIMARY DRUG | T E X A S | | | BORDER COUNTIES | | |
|---------------------------|--------------|---------------|--------------|-----------------|---------------|--------------|
| | WHITE % | HISPANIC % | TOTAL % | WHITE % | HISPANIC % | TOTAL % |
| Heroin | 19.6 | 48.6 | 31.5 | 33.7 | 43.1 | 40.7 |
| Amphetamine | 29.1 | 5.5 | 18.3 | 20.1 | 4.7 | 8.2 |
| Cocaine | 8.9 | 3.2 | 6.9 | 16.0 | 4.3 | 6.5 |
| Marijuana | 25.9 | 25.6 | 25.3 | 27.3 | 33.3 | 32.5 |
| Inhalants | 1.0 | 12.1 | 5.1 | 2.4 | 13.8 | 11.3 |
| PCP | 0.2 | 0.1 | 0.2 | - | 0.3 | 0.2 |
| Alcohol in Combination | - | - | - | - | - | - |
| Alcohol Alone | 0.1 | 0.2 | 0.1 | - | 0.4 | 0.3 |
| Other | 15.2 | 4.7 | 12.1 | - | 0.1 | 0.2 |
| T O T A L : | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| ADMISSIONS: | 3,141 | 2,430 | 6,607 | 169 | 766 | 995 |

TABLE NO. 7

PERCENTAGE OF TREATMENT ADMISSIONS BY RACE/ETHNICITY ACCORDING
TO PRIMARY DRUG FOR TOTAL SYSTEM CALIFORNIA AND TEXAS - 1984

| PRIMARY DRUG | TOTAL SYSTEM | | TOTAL CALIFORNIA | | TOTAL TEXAS | |
|-----------------|--------------|----------|------------------|----------|-------------|----------|
| | White | Hispanic | White | Hispanic | White | Hispanic |
| Heroin | 45.9 | 31.2 | 48.6 | 35.9 | 29.5 | 56.7 |
| Marijuana | 60.7 | 21.3 | 62.6 | 20.8 | 48.7 | 37.3 |
| Barbiturates | 71.5 | 9.5 | 62.8 | 14.1 | 40.7 | 38.9 |
| Inhalants | 38.4 | 55.9 | 32.8 | 59.0 | 9.2 | 87.5 |
| PCP | 23.0 | 47.2 | 13.5 | 56.4 | 50.0 | 20.0 |
| Other | | | | | | |
| Hallucinogens | 79.7 | 11.9 | 64.4 | 28.1 | 52.6 | 42.1 |
| All Drugs | 56.0 | 21.5 | 49.2 | 33.1 | 47.5 | 36.3 |

TABLE NO. 8

**PERCENT DISTRIBUTION OF TREATMENT ADMISSIONS BY PRIMARY
DRUG AMONG WHITES IN FOUR TEXAS BORDER COUNTIES**

| PRIMARY DRUG | EL PASO % | WEBB % | HIDALGO % | CAMERON % | TOTAL CONDADO % | TEXAS % |
|---------------------------|--------------|--------------|--------------|--------------|-----------------------|--------------|
| Heroin | 27.7 | 100.0 | 36.0 | 30.3 | 33.7 | 19.6 |
| Amphetamine | 21.9 | -- | 16.0 | 12.1 | 20.1 | 29.1 |
| Cocaine | 15.1 | -- | 20.0 | 12.1 | 16.0 | 8.9 |
| Marijuana | 26.9 | -- | 16.0 | 33.3 | 27.8 | 25.9 |
| Inhalants | 0.8 | -- | -- | 9.1 | 2.4 | 1.0 |
| PCP | -- | -- | -- | -- | -- | 0.2 |
| Alcohol in Combination | -- | -- | -- | -- | -- | -- |
| Alcohol Alone | -- | -- | -- | -- | -- | 0.1 |
| Other | 7.6 | -- | 12.0 | 3.1 | -- | 15.2 |
| T O T A L : | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| " N " | | 5 | 25 | 33 | 169 | 3,141 |

TABLE NO. 9

**PERCENT DISTRIBUTION OF TREATMENT ADMISSIONS BY PRIMARY
DRUGS AMONG HISPANICS IN FOUR TEXAS BORDER COUNTIES**

| PRIMARY DRUG | EL PASO % | WEBB % | HIDALGO % | CAMERON % | TOTAL COUNTY % | TEXAS % |
|---------------------------|--------------|--------------|--------------|--------------|-------------------|--------------|
| Heroína | 49.5 | 89.6 | 34.5 | 6.7 | 43.1 | 48.6 |
| Amphetamine | 4.8 | 1.5 | 7.3 | 1.7 | 4.7 | 5.5 |
| Cocaine | 2.0 | 1.5 | 11.9 | 1.7 | 4.3 | 3.2 |
| Marijuana | 22.4 | 6.0 | 29.4 | 61.1 | 33.3 | 25.6 |
| Inhalants | 13.3 | -- | 8.5 | 21.1 | 13.8 | 12.1 |
| PCP | 0.5 | -- | -- | -- | 0.3 | 0.1 |
| Alcohol in Combination | -- | -- | -- | -- | -- | -- |
| Alcohol Alone | -- | -- | 0.6 | 1.1 | 0.4 | 0.2 |
| Other | 7.5 | 1.4 | 7.8 | 6.6 | 0.1 | 4.7 |
| T O T A L : | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| " N " | 398 | 67 | 177 | 180 | 766 | 2,430 |

TABLE NO. 10

DISTRIBUTION OF MEDIAN AGE OF FIRST USE BY PRIMARY DRUG FOR
WHITES AND HISPANICS IN TEXAS AND SELECTED BORDER COUNTIES

| PRIMARY DRUG | T E X A S | | BORDER COUNTIES | |
|---------------------------|---------------------|-----------|---------------------|-----------|
| | Median Age in Years | | Median Age in Years | |
| | Whites | Hispanics | Whites | Hispanics |
| Heroin | 20 | 20 | 19 | 20 |
| Amphetamine | 19 | 19 | 19 | 18 |
| Cocaine | 20 | 22 | 19 | 22 |
| Marijuana | 14 | 14 | 15 | 15 |
| Inhalantss | 15 | 14 | 15 | 15 |
| PCP | -- | -- | -- | -- |
| Alcohol in Combination | 21 | 17 | -- | -- |
| Alcohol Alone | 13 | 13 | -- | -- |

TABLE NO. 11

PERCENT DISTRIBUTION OF ADMISSIONS TO DRUG ABUSE
TREATMENT FOR TEXAS AND SELECTED BORDER COUNTIES
BY EDUCATION AND EMPLOYMENT - 1984

| PRIMARY DRUG | % WITH <12TH GRADE EDUCATION | | PERCENTAGE EMPLOYED | |
|-------------------------|---------------------------------|----------|------------------------|----------|
| | White | Hispanic | White | Hispanic |
| | Total System | 34.5 | 60.6 | 38.2 |
| Texas | 33.3 | 64.6 | 53.1 | 36.2 |
| Four Border Counties | 35.4 | 64.6 | 34.2 | 20.3 |
| El Paso | 40.4 | 65.0 | 22.9 | 12.0 |
| Webb | 60.0 | 56.9 | 40.4 | 29.23 |
| Hidalgo | 19.0 | 60.9 | 76.2 | 35.3 |
| Cameron | 22.2 | 75.2 | 51.9 | 24.07 |

TABLE NO. 12

PERCENT OF TREATMENT ADMISSIONS WHO ARE MALE ACCORDING TO
RACE/ETHNICITY AND PRIMARY DRUG FOR TOTAL SYSTEM
CALIFORNIA AND TEXAS - 1984

| PRIMARY PRIMARIA | TOTAL SYSTEM % MALE | | TOTAL CALIF. % MALE | | TOTAL TEXAS % MALE | |
|---------------------|------------------------|----------|------------------------|----------|-----------------------|----------|
| | White | Hispanic | White | Hispanic | White | Hispanic |
| Heroin | 59.9 | 71.9 | 57.7 | 69.2 | 63.1 | 82.7 |
| Marijuana | 78.6 | 91.6 | 74.0 | 81.8 | 82.2 | 89.1 |
| Barbiturates | 60.8 | 86.2 | 47.5 | 81.5 | 47.8 | 90.9 |
| Inhalants | 81.9 | 88.2 | 86.4 | 74.7 | 74.2 | 89.1 |
| PCP | 61.7 | 66.9 | 49.3 | 66.3 | 40.0 | 100.0 |
| Other | | | | | | |
| Allucinogens | 82.3 | 75.9 | 80.9 | 58.5 | 75.0 | 90.5 |
| All Drugs | 68.2 | 75.0 | 59.4 | 69.6 | 68.7 | 85.2 |

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SOCIOECONOMIC IMPACT OF IMPLEMENTING VEHICLE EMISSION STANDARDS IN CIUDAD JUAREZ

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In many places the indiscriminate use of automotive vehicles is considered to be the principal cause of air pollution produced by man; this is the case in Ciudad Juarez, located on the northern border of the State of Chihuahua.

As early as March 3, 1978, part of the city of El Paso adjacent to the border was declared to be "in violation" of the maximum permissible levels of carbon monoxide and ozone concentrations. This determination was based on readings made at continuous monitoring stations located in El Paso; with data on the concentrations in Ciudad Juarez unavailable, it could only be established that emissions generated in that city contributed in one way or another to the levels recorded in El Paso.

Based on studies made by various research institutions in the area, including the Ciudad Juarez Technological Institute (ITCJ) and the University of Texas at El Paso (UTEP), it became possible to quantify the magnitude of the problem and its upward tendency in both cities.

One of the most recent studies was an inspection made by the ITCJ of about 1,000 vehicles in Ciudad Juarez during the summer of 1984. It consisted of determining the carbon monoxide (CO) and hydrocarbon (HC) contents found in the exhaust gases of various vehicles chosen at random. In this study, various types of data were gathered, such as: type of vehicle, age of the vehicle, mileage, type of gasoline used, license plates, and the concentrations of CO and HC detected. This paper is based on the results of that study.

The high concentrations of CO found in Ciudad Juarez are consistent with the initial expectations. The close link between vehicle traffic and variations in the CO concentrations recorded at various places in the city has been clearly established. Figure No. 1 shows the average hourly concentration of CO and vehicle traffic at a centrally-located corner in the city. Approximate information has also been obtained for the whole zone, as can be seen in Figure No.