Marihuana which has an indigenous history in our country is smoked by approximately 20 million Americans. Its main effects are on the brain and they are mediated by the personality of the user and the situation in which the drug is taken. Studies have demonstrated that it is not addictive and that it produces no permanent effects, but since evidence is far from conclusive psychiatrists and physicians do not agree on the meaning of marihuana in our lives. The use of marihuana by the younger generation is part of a cultural change and will continue to increase despite present laws which have made criminals out of numerous youngsters and have led to increased difficulties in law enforcement. In order to help alleviate drug problems we need: (1) research to define the properties of marihuana in the laboratory, clinically and in the community; (2) adequate treatment for drug abuse which must be separated from the limited topic of marihuana; (3) honest and effective drug education programs; and (4) the removal of all criminal penalties from the use, sale, and possession of marihuana, amphetamines, psychedelics, and narcotic drugs. (RSM)
PSYCHIATRISTS, MARIJUANA AND THE LAW: A SURVEY

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There were 20 million Americans smoking marijuana sporadically or regularly in 1969 according to Dr. Goddard, past head of the Food and Drug Administration. In California a third of high school seniors use it (1); in Michigan up to 34% of high school graduates have experience with pot (2); and colleges report a quarter to one-half of the students as users (3,4).

Marijuana has an indigenous history since George Washington grew it at Mount Vernon. It is not known whether he turned on, but the preparation of hemp fiber for rope was a profitable and important business to the commercial aspirations of the 13 colonies. The origins of the female cannabis sativa plant which furnishes the flowering tops and leaves covered by an active resin for the preparation of the cigarette, are lost in antiquity. A Chinese herbal from 2737 B.C. describes the plant and later Chinese literature reports its use as an anesthetic (5). A psychoactive ingredient has recently been identified from among the many substances in marijuana and is known as delta-1-trans-tetrahydrocannabinol (6).

Marijuana as a problem in the United States is fairly recent although it has been used throughout our history. It was first seen as a danger during the thirties following the repeal of the Volstead Act. Due to the efforts of the Federal Narcotics Bureau headed by Harry Anslinger, marijuana was classified as a narcotic and subject to a special Federal tax and license procedure. It was gradually declared illegal by each of the states in the
Marijuana was used by physicians in the Nineteenth Century in the treatment of mood depression, tension, headaches, as an anesthetic, to increase appetite and to suppress cough. It has also been used in childbirth, asthma and fatigue (7,8). These empiric uses have decreased as we have developed other substances to more adequately treat these symptoms and the underlying conditions. However, it is likely that new research and the availability of the active ingredients in pure form may lead to important therapeutic uses. Perhaps the antibiotic, anesthetic and tranquilizing properties will be the first now developments from the complex of substances in the cannabis plant.

The effects of marijuana are dose-related and refer to the mild form smoked in the United States. There are few consistent effects on the body as a whole: dilation of conjunctival blood vessels and the increase of pulse rate, blood pressure and appetite. A dryness of the mouth, mild tremor, some incoordination, increased thirst and frequency of urination are also reported. Pupil dilation with a slowed response to light is reported but a recent study denies this finding (9). Nausea, vomiting and diarrhea are occasional effects of the ingestion of the drug.

The main effects of marijuana are on the brain and are mediated by the personality of the user and the situation in which the drug is taken. The effect of marijuana is due in part to the
placebo effect which determines 24 to 76% of the effect of all drugs (10). The placebo effect is determined by the situation in which the drug is given and the kind of person who takes it. Chemically, isomers of tetra-hydrocannabinol are responsible for many of the plant's effects. One of the isomers was recently synthesized, delta-1-trans-tetrahydrocannabinol. This isomer is the agent primarily responsible for marijuana's effects on the central nervous system. There is evidence that marijuana may have an anti-psychotic effect (11). The effect on intellectual and psychomotor activity among marijuana-naive and regular marijuana smokers was observed recently by Weil (9). Marijuana-naive persons experienced less subjective response than did the regular users who were often "high" while smoking under laboratory conditions. Performance on intellectual and psychomotor tests in the naive group demonstrated impaired performance while the experienced group demonstrated no impairment or improved performance. The LaGuardia report of 1944 (12) and a recent study by Clark (13) reported similar findings. A comparison between the effects of marijuana and alcohol on driving ability was studied by the Bureau of Motor Vehicles of the State of Washington (14). Marijuana was found to cause significantly less driving error than alcohol.
Marijuana produces a fairly rapid effect in the usual smoking situation. Fifteen to thirty minutes or so after the use of two or three cigarettes a dreamy state is induced. Ideas may appear disconnected and the perception of time, space and body image may be disturbed. There is usually a mild mood elevation which may be followed by depression. There are often illusions which are usually pleasant or neutral distortions of the surroundings, however, there is insight that they are not real.

The chronic state of indolence or lack of interest that has been ascribed to marijuana is primarily a function of the person who is using it rather than the drug itself. The occurrence of an emotional disturbance or a psychosis related to marijuana in the United States is extremely rare: four instances in the 15 years of the operation of the Lafayette Clinic among 5,000 admissions and a quarter of a million out-patient appointments. In contrast, the more potent hashish, the resin from the African cannabis caused 230 admissions to a Nigerian mental hospital for psychosis during a four year interval (15).

The effects of continued use were studied by a British Commission in 1894 in India where observations were made on lifelong users (16). It was determined that marijuana was not an addictive drug and it produced no permanent effects. This kind of effort was repeated by New York City in 1944, the La Guardia Study (12) and by a Presidential Commission in 1967 (17). Summaries of current information are the textbook of pharmacology edited by Goodman and Gilman (18) and the reports by Weil (9) and Grinspoon (11).
Marijuana is not a narcotic and it is not addicting although it has some mild analgesic effects. Narcotics are addicting because you need an increasing amount of them to produce the desired sedative and tension-reducing effect. Thus, we have the increasing tolerance and ever-larger dose requirements of the narcotic addict. Narcotics effect the enzymes in the cells of the body so that an illness with symptoms develops when the narcotic is withdrawn. These symptoms include abdominal pain, nausea, vomiting, diarrhea, restlessness, tremulousness, dehydration and weakness. Withdrawal effects are physiological and can be reproduced in animals. The abrupt discontinuation of marijuana does not produce these effects in man nor can a withdrawal illness be created in animals.

What about habituation or psychological dependence? This is a conditioning effect. We drink coffee in the morning because it is a habit based on a physiological habituation or conditioning. However, the dependence on coffee is less than the dependence on alcohol or tobacco. Sporadic social use is the characteristic pattern of the young marijuana user in the United States today. This differs from some patterns that have been observed among older adults and also among people that have used it extensively throughout their life. It is important to realize that marijuana does not require an increasing amount or frequent use. If a marijuana smoker appears to use more and more, it is the person
rather than the drug. Keniston (19) expresses a similar view when he speaks of campus drug users as tasters, seekers, or heads. Tasters try marijuana or another drug occasionally; seekers look for a mystical world via drugs and so try marijuana and other substances for a while; heads enter the drug subculture. The relationship of marijuana to crime or violence is a negative one rather than a positive one. This differs markedly from alcohol where a clear positive relationship to crime is present although it would not be true to say that alcohol causes crime. The comparison of marijuana to alcohol is striking. We have 20 million marijuana users. We have 90 million drinkers and 6.5 million alcoholics in the United States (20). One male in 13 over 20 years of age is an alcoholic. Traffic accidents related to marijuana are virtually unknown. Each year alcohol plays a causative role in over half of the 50,000 fatal traffic accidents (21). Marijuana has no effect on the life span; alcohol reduces the life span of the alcoholic on an average of 12 years through a host of illnesses effecting the liver, the central nervous system and the heart and blood vessels (22). Deaths due to marijuana are unknown but this may be compared to tobacco mortality. One male in ten will die of lung cancer if he uses over two packs of tobacco cigarettes a day (23).

The use of marijuana by the younger generation in the United States is part of a cultural change and will continue to increase for a while despite present laws. The struggle to change the laws and the penalties are part of the student power movement. The
initial interest in marijuana is part of an older cultural phenomena which began with jazz. This continued with the new forms in music from the Beatles to rock to John Cage; the new developments in art including psychedelic advertising, Rauschenberg, Merce Cunningham and Once; the new mixed media of art, science and communication; the changes in sexual, family and life style as well as increasing mobility and automation. A poet of the alternate culture, John Sinclair, now in prison for violation of the Michigan marijuana laws, put it more simply, "rock and roll, dope and fucking in the streets", when he spoke at the Student American Medical Association national meeting in 1968.

Psychiatrists do not agree on the meaning of marijuana in our lives. At the 1968 Boston meeting of the American Psychiatric Association, 163 volunteer psychiatrists filled out a form which included 17 questions on marijuana (see Appendix). The group was 94% male, 54% from the East Coast, 80% U.S. born and the median age was 30 to 39 years. There were 71% who said laws on sale and possession of marijuana should be abolished or made less severe, 20% wished no change or were undecided, while only 9% said they should be made more severe. There were 54% who said that marijuana should be available with no more restriction than alcohol, while 46% disagreed. There were 12% for whom marijuana use is a definite sign of psychopathology; 72% said it may indicate psychopathology; and the other 16% said marijuana use is rarely or never a sign of psychopathology or were undecided. The excessive use of alcohol is more dangerous than marijuana excess according to 42% while
half as many, 21%, held the reverse opinion and the remaining 37% said there was no difference or didn't know. The number that said that marijuana frequently or sometimes leads to the use of narcotics, 49%, was almost equal to those who think this never or rarely happens, 45%, and the rest, 6%, were not sure. A majority, 80%, felt that marijuana frequently or sometimes leads to LSD use while 12% said this rarely or never happens and 8% were undecided. A majority, 57%, said that marijuana frequently or sometimes has a role in the precipitation of emotional disturbances, while 36% felt that happened rarely or not at all, and 7% didn't know. The psychiatrist subjects include 87% who use alcohol and 52% who use tobacco. In the sample there were 120 psychiatrists who had no experience with marijuana and 43 psychiatrists, 27%, who have tried marijuana at some time, among whom 15 (9%) smoke it regularly. The 15 doctors who use it regularly are those who smoked marijuana in the preceding month and who have smoked it over six times. These doctors are mostly under 40 years of age. The diversity of viewpoints about marijuana among psychiatrists suggests the need for more education of psychiatrists as well as further research.

A similar survey of 70 physicians in many different specialties, at a 1969 Wayne State Medical School alumni meeting in Detroit, showed nine, 13%, who used marijuana. In contrast, among 325 medical students surveyed in 1969 there are 46% with marijuana experience. These
medical students averaged 23 years of age. There were 175 surveyed from the freshman and sophomore classes at Wayne State University while 150 completed the questionnaire at the 1969 Student American Medical Association meeting in Chicago and were from 80 different schools. (24)

There is a kind of theological fury about marijuana in many circles. The warning of some is pot, heroin, dirty sex, rape, murder, Communism and death. I shall not dwell on this except to point out the counter-mythology of pot, LSD, continual orgasm, perfect love, peace, art-beauty and total world consciousness.

A most serious effect of the marijuana laws of the states has been to make criminals out of thousands of young people. Arrests for marijuana offenses in Detroit increased 400% in the ten-year period between 1958 and 1968 (25). Possession is a felony with a minimum ten-year sentence in Michigan, while sale, including giving someone a joint, is a minimum 20-year sentence. Only first-degree murder in Michigan has a more severe penalty. The use of criminal penalties in crimes without victims involves the legislation of morality in sex, abortion, gambling, narcotics and marijuana. These laws not only fail but create criminals and lead to the corruption of the body politic as law enforcement, attorneys and the courts are under the cloud of bribery, informers and deals. The fundamental values are the right to pursue happiness, the right to be left alone as well as other basic human and
Constitutional rights. Health professionals have a responsibility to speak to the public on issues which involve freedom, health and human behavior.

What can be done? We need research to define the properties of marijuana in the laboratory, clinically and in the community. We must remove the restrictions which currently hamper LSD and marijuana research which are directly related to the fear and anxiety and purient interest of people including government. Obstacles to using marijuana and LSD for research as reported from California, Texas, Lafayette Clinic, the University of Michigan, the University Of Iowa and Boston University must be overcome.

We need adequate treatment for drug abuse which is an increasing health problem and must be separated from the limited topic of marijuana which is not a drug abuse problem. Drug abuse is an illness characterized by individual and group pathology in an addicted society.

We need an honest and effective drug education and information program among young people beginning in first or second grade. Maybe this is already too late for children whose mothers and fathers are dependent on alcohol, tobacco, sleeping pills and tranquilizers. A continuing health education program must present facts and varying opinions to adults and children and avoid moralizing, hypocrisy and falsehood.

Finally, we need to remove all criminal penalties from the use sale and possession of marijuana, amphetamines, psychedelic and
narcotic drugs. Only large importers and distributors of drugs which are subject to abuse such as heroin would be open to criminal penalties. Possession of dangerous drugs would not be a criminal matter unless it involved a large supply. Use would never be a crime. Sale of dangerous drugs would not be a criminal concern unless large amounts were sold. This is consistent with the 1968 Convention of Medical Committee for Human Rights which recommended the removal of criminal penalties for the use and possession of drugs, including marijuana, psychedelics and narcotics. The social problems of drug use which include crime to obtain drugs, the social degradation of the drug user, profit by the crime syndicate, persecution of the drug users by the police and the creation of new drug users by the temptation of the forbidden would largely vanish without the criminal penalties. We would be left with the medical and psychiatric problems of drug use. Alcoholism did not vanish with the repeal of prohibition but much of the social pathology of prohibition did. Repeal of laws governing sexual relations between people of the same sex in Illinois did not change the frequency of homosexuality but removed some of the social stigma. We do not prevent suicide with criminal penalties for those who attempt it.

Many of these changes will come about gradually from the will of the citizens, the work of innovative legislators and the advice of scientists. A significant step was the recommendation of the American Civil Liberties Union to remove the criminal penalties
for possession and use of marijuana in 1968. A different approach would be legislation permitting and regulating the legal distribution of marijuana with a maximum tetrahydrocannabinol (THC) content of 3% in contrast to the more potent forms. Social reform may come by judicial decision against the cruel and unusual punishment of state laws for marijuana users in cases now before the courts. I predict that legalization will lead to a short-term increase in marijuana use which will then decrease to present or lower levels. Even while illegal, LSD use has increased and then decreased (26). As marijuana spreads across age and social class lines it will be less a teenage initiation rite and more a part of the alternate culture.

The right to marijuana can be the beginning of a re-examination of all laws, customs, education, research, treatment and behavior about drugs and drug abuse. Let us seize this opportunity as health professionals to extend health and freedom!
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APPENDIX
QUESTIONNAIRE ON MARIJUANA

Do not give your name.

AGE: [ ] SEX: [ ]

OCCUPATION:

BIRTHPLACE:

RESIDENCE: (city and state)

HOW SHOULD THE LAWS OF YOUR STATE ABOUT THE POSSESSION AND SALE OF MARIJUANA BE CHANGED?

NO PENALTY [ ] GREATER PENALTIES [ ]
LESS PENALTY [ ] NO CHANGE [ ]

SHOULD MARIJUANA BE AVAILABLE WITH RESTRICTIONS SIMILAR TO ALCOHOL AND TOBACCO?

YES [ ] NO [ ] UNDECIDED [ ]

DOES THE USE OF MARIJUANA INDICATE PSYCHOPATHOLOGY?

ALWAYS [ ] SOMETIMES [ ] RARELY [ ] NEVER [ ]
UNDECIDED [ ]

HOW DOES THE FREQUENT USE OF MARIJUANA IN LARGE AMOUNTS COMPARE TO EXCESSIVE ALCOHOL INTAKE?

MARIJUANA MORE DANGEROUS [ ] UNDECIDED [ ]
ALCOHOL MORE DANGEROUS [ ] NO DIFFERENCE [ ]

HOW OFTEN DOES MARIJUANA PLAY A ROLE IN THE PRECIPITATION OF EMOTIONAL DISTURBANCE?

NEVER [ ] RARELY [ ] SOMETIMES [ ] FREQUENTLY [ ]
UNDECIDED [ ]
DOES MARIJUANA LEAD TO THE USE OF LSD AND OTHER HALLUCINOGENS?
NEVER _____ RARELY _____ SOMETIMES _____ FREQUENTLY _____
UNDECIDED ________

DOES MARIJUANA LEAD TO THE USE OF NARCOTICS SUCH AS HEROIN?
NEVER _____ RARELY _____ SOMETIMES _____ FREQUENTLY _____
UNDECIDED ________

DO YOU SMOKE TOBACCO?YES _____ NO _____
DO YOU USE ALCOHOL?YES _____ NO _____
HAVE YOU SMOKED MARIJUANA?YES _____ NO _____

IF YES, HOW MANY TIMES HAVE YOU SMOKED MARIJUANA? ________________

WHEN WAS THE LAST TIME YOU SMOKED MARIJUANA? ________________

WHAT WAS YOUR REACTION TO SMOKING MARIJUANA?

COMMENTS: