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A SUBSTANCE ABUSE PREVENTION PLAN  
PROPOSAL FOR THE STATE OF MICHIGAN

by

William Lucien MacLeod III

A Thesis  
Submitted to the  
Faculty of The Graduate College  
in partial fulfillment  
of the  
Degree of Master of Arts

Western Michigan University  
Kalamazoo, Michigan  
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William Lucien MacLeod III

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## GOALS

The goal of this paper is to present a viable Substance Abuse Prevention Plan for the state of Michigan.

A corollary to this goal is to present substance abuse in a non-emotional, rational manner as a solvable social problem, and to proffer pragmatic solutions based on current resources that may be implemented with little or no delay.

The Michigan Comprehensive Substance Abuse Plan (Revised April 1975) recognized the need for a Substance Abuse Prevention Plan and stated: "The action plan for prevention is to enhance the social and economic welfare of Michigan residents by reducing the incidence and impact of misuse and abuse of alcohol and other drugs. The goal is to formulate a set of action recommendations which will prevent habituation, addiction, and episodic abuse of substances by persons and to formulate means of implementing the action recommendations.

The plan, when implemented, is expected to have the following effects:

- (a) Mobilize and direct adequate financial, organizational and human resources to achieve the goals of prevention activities.
- (b) Create new statutes and organizational policies, plans, programs, practices and procedures designed to meet prevention goals.
- (c) Modify or eliminate existing laws and organizational policies, plans, programs, practices which inhibit the accomplishment of prevention goals.
- (d) Change personal practices, values and attitudes which lead to substance addiction and abuse.

The plan further delineated the tasks necessary to achieving these effects as:

- (a) Formulate a clear and specific concept of "substance abuse prevention", including definitions of what "substances" will be included, what constitutes "abuse" and what "prevention" is considered to be.
- (b) Describe Michigan's current state of achievement in terms of the concept "substance abuse prevention."
- (c) Formulate recommendations for changes to be made in the "impact areas" described above.
- (d) Formulate a series of recommended actions which can bring about the desired changes in the impact areas.

These tasks coincide with the goals presented above and have been incorporated in this treatise.

#### HISTORICAL OVERVIEW--THE USE AND ABUSE OF SUBSTANCES

"Perhaps the greatest feature which distinguishes man from the other animals," Sir William Osler once said, "is his desire to take medicine." He might well have added that an equally distinguishing characteristic of man is his tendency to concern himself about drug taking--especially the drug taking of others (Josephson & Carroll, 1974).

History is replete with man's use of psychoactive substances. It is unlikely though, that the nature or result of man's earliest experimentation in this area will ever be known to us. Early man was a food gatherer, and as such, no doubt tried at some time to consume everything that appeared to have any potential for being edible. The quest for food undoubtedly led man to consume some plants that contained psychoactive substances. We can only surmise that these early encounters with psychoactive substances, while probably not satisfying his hunger, at least left the experimenter



unconcerned about the hunger. So, we may not unreasonably hypothesize that man's first encounter with drugs was stimulated by a fundamental human need, and that to some degree that need was alleviated. The very dramatic, potentially extremely frightening, and often unpredictable effects of consuming some of these plants probably led prehistoric man to avoid, rather than seek out, this type of vegetation. Additionally, the departure from reality that such substances could effect could leave the ingestor fatally indefensible in a rather hostile environment.

A milder, and thus less dangerous, form of intoxication was probably experienced when early man first consumed a mash of fruit or berries, perhaps mixed with a little rain water, that had been left to the action of airborne yeast in a warm climate and had naturally fermented into wine. The pleasant effects of this early alcohol consumption probably hastened the progression from accidental discovery to purposeful production of alcoholic beverages. Since the production of alcoholic beverages would require far more raw materials than man would ordinarily need to sustain life, it would not be unrealistic to presume that this development was instrumental in converting man from a mere gatherer to a cultivator of food stuffs. These primitive agriculturists should not be underestimated. To produce the enzyme necessary for converting the starch in grains to fermentable sugar to produce beer, they chewed some of the grain and then spit it into the vessels of prepared mash--their saliva providing the necessary ingredient. Early man soon discovered that a large variety of plant products, besides fruits and grains,

such as cacti, the saps of trees, flowers, and even milk and honey, could be fermented into alcoholic beverages (United States Department of Health, Education, and Welfare, 1971).

The oldest known use of alcohol supported by archeological evidence was in the form of beer made from malted grain and a crude wine made from hackleberries about 6400 B. C. (Blum, 1969). We also know that by 2400 B. C. ritualistic beer drinking was common in both Egypt and Babylonia (Kramer, 1956). Control over alcohol use evolved as civilization developed into cities and rudimentary nation states. Evidence of this is given by one of the earliest legal documents of which we are aware, the Code of Hammurabis which dates from 1800 B. C., restricted the sale, use and price of wine (Blum, 1969). Indeed, throughout recorded history and around the world, from the Egyptians, Romans and Hebrews, to the Japanese and Chinese, we find restrictions on the consumption of alcohol (Keller, 1970; McKinlay, 1959; Moore, 1948). During the 15th Century, distillation became popular in Europe and introduced a new and more potent alcoholic beverage--the spirit of wine. This was soon followed by the spirit of any fermented fluid--grains, tubers, berries and fruits were all soon to be used as ingredients (Roueché, 1960). Beverages containing 50% or more alcohol were now available in place of the beers and wines that probably contained between 6% and 14% alcohol. Distillation, and the industrial revolution that was just around the corner, were probably the two most influential factors in the significant incidence of alcoholism that was to develop throughout the 18th, 19th, and 20th Centuries (Blum, 1969).

The next psychoactive substance whose use is substantiated by archeological records is opium. The use of opium dates to about 4000 B. C. where it was used in religious rituals in Egypt and Sumeria (Blum, 1969). It appears to have had similar uses in Crete, Cyprus and Greece around 3000 B. C. Its use in Persia has been dated by Fort (1965) at about 850 B. C. Hippocrates described the early medicinal use of opium as a treatment for a variety of ailments in the 4th Century (Ferguson, 1975). The use of opium was spread throughout Asia and Africa by the Arabs who used it in commerce to trade for goods. The climate of India was soon found to be quite conducive to the cultivation of opium, and it was not too long after that the Chinese began to import their opium from India. By 1781 the Chinese demand for opium had grown so large that the British East India Company decided to exploit the market and started shipping opium to China. The detrimental effects of this trade on both the Chinese people and the Chinese Treasury eventually led to the "opium war" of 1848 (Segal, 1967).

The Chinese brought opium to the United States as they emigrated to the west coast, primarily to the San Francisco area. The use of opium spread rapidly among the rest of the population there and soon a number of entrepreneurs started blending it into "all purpose" folk remedies. These remedies, and the advent of the Civil War, during which many soldiers became addicted to morphine, brought widespread use of opiates to the United States (Griffenhagen, 1970).

Cannabis Sativa L., or what is popularly called marijuana, appears to date back to 2737 B. C. by its inclusion in a Chinese treatise on pharmacology which was attributed to the Emperor Shen

Nung. The veracity of this first reference is somewhat doubtful though, as Shen Nung was a mythical figure and the treatise actually dates much later than 2737 B. C. (Walton, 1938).

The first authenticated reference to marijuana was made in the Atharva Veda from India which may date to the second millennium B. C. (Brecher & the Editors of Consumer Reports, 1972). Assyrian cuneiform tablets, which date from about 650 B. C. also make reference to marijuana--but these cuneiform descriptions are generally held to be copies of much older texts (Walton, 1938).

The ancient Greek, Herodotus, writing in about the 5th Century B. C., makes reference to other peoples' use of marijuana for its intoxicating effects. An urn dating from about the same time, that was discovered near Berlin, Germany, was found to contain both marijuana leaves and seeds (Walton, 1938). Although we cannot be certain of the use of marijuana at this time, there are accounts from the 14th Century which clearly show that the Europeans were aware of marijuana's use both in weaving and as an intoxicant (Solomon, 1966).

The use of marijuana for its intoxicating effects also has an early history in India and Africa. But it appears that it was not until 1629, that marijuana was introduced into what is now the United States. Marijuana was obviously first cultivated in this country for its fiber. References from George Washington's diary of 1765, strongly suggest that the plant was also grown for its intoxicating or medicinal properties. Marijuana has been cultivated continuously in the United States since that time for rope, bird

seed, and an illicit intoxicant (Brecher et al., 1972; Grinspoon, 1971).

Man's use of stimulants dates about as far back as his use of marijuana. Tea drinking in China dates to around 2700 B. C. (Blum, 1969) where it was used both in ritual practices and for medicinal purposes (Ikakura, 1968). Tea was not introduced in Europe until 1610 when the Dutch started to praise its stimulating abilities. The British soon entered the tea trade and by 1700 had monopolized Indian tea production. The American colonies were heavy consumers of tea and, as was evidenced by the Boston tea party, feelings ran high concerning its taxation. After the Revolutionary War though, Americans began consuming more coffee and established a trend which continues through the present day (Blum, 1969).

The only other natural stimulant in common use, cocaine, was isolated from the coca leaf in 1858. The introduction of cocaine in the United States was similar to opium--primarily it was pedalled as an ingredient in the numerous cure-all tonics of the late 1800's (Blum, 1969). The balance of psychoactive substances in use today--synthetic stimulants, hallucinogens, and depressants--are products of 20th Century chemistry which had their initial introduction to society through legitimate medical avenues.

#### WHAT IS SUBSTANCE USE? - WHAT IS SUBSTANCE ABUSE?

An extensive review of the literature concerning substance use and abuse was performed in an effort to discover some consensus of,

if not what substances were acceptable for use, at least what level of use in itself was acceptable. A problem with this approach soon became apparent when it was discovered that the penalty for becoming intoxicated from alcohol in some societies was death, while the penalty for not becoming intoxicated (during certain religious activities) in other societies was also death. Although the circumstances in which the intoxication occurred were, admittedly, somewhat different between the two societies, nonetheless, drinking to the point of gross intoxication was viewed quite differently between the societies (Moore, 1948). This wide disparity of treatment as a consequence for the use of substances was not confined to alcohol. Capital punishment has been used as a threat to suppress the use of various substances including coffee, tea, opium, tobacco, and, in the United States--marijuana (Blum, 1969; Brecher, 1972; Ferguson, 1975; Fort, 1969; Robinson, 1893). This imposition of the ultimate penalty is mute testimony to the significance that was attached to the use of these various substances by the controlling members of the different societies. Particularly noteworthy is that in some societies, such as the United States at present, use of some of the above mentioned psychoactive substances is actively encouraged, while the user of some of the other substances is subject to the most severe penalties. Even within the United States there exists a great range in the acceptable amount of use of these substances depending upon the particular subculture of the society (Bales, 1946; Blacker, 1973; Skolnick, 1958; Straus & Bacon, 1953). An examination of the use and abuse of psychoactive substances in various cultures and

societies yields the fact that there is little or no consensus between cultures on which substances should be permitted use. Since there is such a wide diversity concerning the permissible substances between societies themselves, it is readily apparent that even a wider gap exists on the question of what constitutes use and what constitutes abuse of a substance.

Since neither history nor a cross cultural study of the use of psychoactive substances can provide an answer to what constitutes use or abuse of a substance, we are left with a deceptively simple conclusion that each society must define for itself what it intends to accept as parameters of substance use. These parameters cannot be rigid, but as with the people they apply to, must be alterable to conform to the wishes and consensus of the people. As the uses of some substances appear to have a deleterious effect upon the society, the society should form proscriptions against them. Conversely, as the use of some substances appear innocuous, and to have no ill effects upon the society, the society could only do itself harm by mandates against them.

The United States is presently faced with the dilemma of defining substance abuse for its populace. The dissension centers around both what substances should be available for use, and what levels of use should be acceptable. The uniquely heterogeneous components of American society contribute to the problem of reaching a consensus on this very complex and controversial issue. Another factor in the resolution of this issue is the unique form of government and guarantees of individual rights and personal freedom to

the constituents. So the question of substance use or abuse in the United States transcends the question of whether or not the use of a substance is detrimental to an individual's health. The question in such a society is rightfully limited to the effects of the use of such a substance on the society as a whole, or to the protection that must be afforded other non-user members of that society.

The United States then, in keeping with its traditional democratic foundations, could have two definitions of substance abuse. On the one hand there would be the use of a substance, or manner of using a substance, such that proved injurious to the individual user, but which had no implications for the society as a whole, and thus would be beyond the province of the government. On the other hand would be the use of a substance, or using a substance in such a way, that proved detrimental to the society itself and thus would come under the jurisdiction of the society. This guarantee to the individual does not prevent the definition of substance abuse, it merely requires a more careful delineation of that definition. Since the intended goal of this paper is to offer a substance abuse prevention plan, it is necessary to have some definition of what constitutes substance abuse for our purpose. The definition offered here is made with full consideration of all the above mentioned factors and is as follows: substance abuse is use of any psychoactive chemical in such a manner as to grossly impair ones physical, mental, emotional or social functioning.



## ETIOLOGIES OF SUBSTANCE ABUSE

Any rational prevention policy must first concern itself with the origins of what it intends to prevent. An attempt to proceed without this knowledge would be but to follow blindly ones preconceptions and perhaps groundless speculations. A study of the origins of substance abuse must concern itself, to at least some degree, with the individual substance abuser since it is only with an individual that the problem may start. And such a problem is never anymore than a number of individuals added together.

There are three primary viewpoints from which to approach this area--the psychological, the sociological, and the medical (physiological)--each with its own particular and unique contribution. The psychological approach tends to look at the individual with his own immediate environment, both internal and external, and the effects that they have in determining his behavior. The sociological approach tends to look at the individual more as one of a number of people in similar circumstances, from a similar environment, and with similar broad influences affecting his life. The medical approach sees the individual more as reacting to the influence of chemicals that have been introduced to his internal environment and what these reactions may imply in terms of future use of these chemicals. With these prejudices in mind we will now explore the etiologies of substance abuse. As one reviews the literature in this area it becomes readily apparent that the majority of work has been done in the area of the etiologies of alcohol abuse. The second most investigated area seems to be the etiologies of heroin addiction with investigations

of the other psychoactive substances following far behind. At first this may appear to be a distinct obstacle to reaching any conclusions with regard to the abuse of the other substances. But, as knowledge of the etiologies of substance abuse is compared, it becomes more and more apparent that there are fewer differences in these origins than would initially be expected. Testimony to this phenomenon was recently given by E. M. Jellinek, founder and Director of the famed Jellinek Klinik in Amsterdam. Jellinek, in response to a direct question from a member of the New York State Commission Task Force to evaluate the drug laws, stated that he could perceive no differences between the etiology of narcotic addiction and that of alcoholism (New York State Commission to Evaluate the Drug Laws, 1974). As we look at what we call alcoholism, alcohol addiction or alcohol dependence, we see that no one theory has been able to explain this phenomenon. It seems that actually alcoholism reflects a combination of psychological, sociological, and physiological factors interacting within an individual and his environment. The only evident common factor that does seem to appear among the alcoholic population is a pattern of repeated alcohol abuse. Although extensive research has been directed toward finding a single cause (with a resulting specific treatment) for alcoholism, the best conclusion to date is that alcoholism results from a combination of the above factors (United States Department of Health, Education, and Welfare, 1971).

Perhaps the best place to start in an attempt to understand the abuse of psychoactive substances in our society is with the realization that obviously a person cannot become a drug abuser without

first being a user of a drug. We live today in a drug ridden, drug saturated society in which, from infancy, we have learned that there is some substance, be it a pill, a drink or a cigarette that we can take which will relieve any problem, real or imagined pain, or trouble that we may feel we have. We are bombarded daily by television, radio, newspaper, and billboard advertisements that promise we will be made happy, sexy, virile, successful in any endeavor, sleepy, alert, relaxed, happy, unconstipated, or just about anything else. This campaign is due to the millions of dollars that is spent daily by the ethical drug industry in the United States to promote their products. The tobacco and alcohol beverage industries themselves "spend between one and two million dollars every single day in the United States alone to promote and encourage the earliest possible use of their drugs by the greatest number of people, and hopefully in large quantities (Fort, 1969, p. 194)." Thus, we are induced and taught to use drugs from birth to solve our slightest discomfort or assuage our most trivial concerns. The measurable response, due in part to the efficacy of Madison Avenue advertising campaigns, was that in 1971 Americans consumed almost 4.5 billion gallons of beer, wine and distilled spirits, or \$24.2 billion worth. The per capita consumption in gallons of beer, wine and distilled spirits among persons of drinking age worked out to 30.6 gallons for 1971 (National Commission on Marijuana and Drug Abuse, 1973). The next most widely used and abused psychoactive substance in the United States is the nicotine in tobacco cigarettes. An estimated \$10.5 billion was spent for cigarettes in 1970. This means that the daily per capita

consumption of people 18 years and older in the United States was 11 cigarettes. Since about 40% of the population smokes, this means that the average smoker consumed over 22 cigarettes a day. The breakdown of the 214 million prescriptions issued for psychoactive drugs in 1970, worth an estimated \$972 million in retail sales, shows that 28.6% were for barbiturates and barbiturate substitutes, 39% were for anti-anxiety agents, 13.2% for stimulants, 10.2% for anti-psychotics, and 9% for anti-depressants. Additionally, there was almost \$33 million spent that year for over-the-counter non-prescription drugs and an unknown amount for caffeine stimulants (National Commission on Marijuana and Drug Abuse, 1973).

A breakdown of the incidence of use of illegal drugs and incidence of non-medical use of legal drugs for 1972, for adults in the United States gives the following percentages: alcohol (use within past seven days) 53%, over-the-counter preparations 7%, prescription stimulants 5%, prescription sedatives 4%, minor tranquilizers 6%, marijuana 8%, LSD or hallucinogens 1.5%, cocaine 1.6%, heroin .1% (National Commission on Marijuana and Drug Abuse, 1973). In spite of overwhelming and unchallengeable evidence concerning the serious physical harm wrought by use of alcohol and tobacco, these drugs are used by over half our population. Perhaps a more graphic example of the incidence of alcohol abuse is the fact that there are more alcoholics in the City of San Francisco than there are heroin addicts in the entire United States (Fort, 1969). The loss to society for the year 1971, from the economic effects of alcohol related problems was estimated at over \$25 billion. This

estimate was based on six areas identified as sources of significant economic costs related to the misuse of alcohol. These areas were lost production \$9.35 billion, health and medical costs \$8.29 billion, motor vehicle accidents \$6.44 billion, with the remaining three areas all being under \$1 billion each, (The United States Department of Health, Education and Welfare, 1974). Approximately 50,000 people are killed on American highways every year. A significant amount of alcohol is found in either the driver or the victim in about half of these cases (Bacon, 1973). Conclusive, but less dramatic evidence showing cigarette smoking to be the most important cause of lung cancer and a major factor in deaths from coronary heart disease, emphysema, chronic bronchitis, and other diseases has had little effect on the abuse of this drug in the United States (Brecher, 1972).

Probably the greatest injustice done to consumers of alcohol and nicotine is to not adequately inform them of the addictive nature of these drugs prior to their initial experimentation with them. It is possible that so forewarned they would still choose to experiment with the substances, but they would at least be under no delusion as to the difficult, if not impossible, task of terminating their use of these substances after an extended period of time.

A child raised in the United States today, even if in a family that abstains from the use of any psychoactive substances, will be subject to the barrage of the media as well as modeling by most of the significant people in his life. He will probably witness tobacco smoking behavior by many of the adults he comes into daily contact

with--including his teachers, policemen, and possibly even his medical doctor. The fact that most of these people probably consume alcoholic beverages will not be kept from him and it will be made clear to him through various restrictions as well that this is adult behavior. Perhaps he will identify smoking tobacco and drinking alcohol as a visible symbol of having matured and gained access to the rights and privileges of adulthood.

In spite of these substantial inducements to participate in the wholesale abuse of substances, we still find a large percentage of the population resisting temptation. One potentially fruitful area with application to the prevention of substance abuse would be to investigate the characteristics unique to the non-substance abusers. If one could determine any characteristics unique to the non-substance abuser, the possibility would then exist to instill or strengthen these characteristics in the population as a whole. An extensive review of the research and literature concerned with substance abuse and the etiologies of substance abuse failed to yield any work pursued from this perspective. All of the work in this area, so far, appeared to have concerned itself with just that--the etiologies of substance abuse. Not one work could be found which investigated the etiology of the non-substance abuser. This is not to say that the work which has been done in this area is of little or no value to the formulation of a substance abuse prevention plan. It is only to note that the work that has been done has approached the problem from a negative, rather than a positive, point of view. The factors that have been determined to correlate with subsequent substance abuse must be inverted so as to yield

a positive goal.

A summary statement from the final report of the Canadian Commission of Inquiry into the Non-Medical Use of Drugs regarding the causes of non-medical drug use is valuable in directing our search in this area. The Commission stated that:

There are factors in the personality or psychological makeup of the prospective user, in his close personal relations and environment in the family, school, and the peer group, in social and economic conditions, and in the general attitude of the society towards drug use, as reflected by advertising, the media and the practice of the adult population, which predispose and encourage the individual to engage in non-medical drug use (Final Report of the Commission of Inquiry into the Non-Medical Use of Drugs, 1973, p. 35).

Research concerned with the first set of factors mentioned by the Canadian Commission, "the personality or psychological state of the prospective user," has been extensive and diverse. An inherent problem with this type of research though, is the fact that invariably the psychological data collected are about individuals after they initiate drug use, with little data being available about them before they initiated drug use. Consequently, it is difficult to interpret these data in terms of predisposing factors.

One study (McGlothlin, 1974) determined that, as expected, marijuana/hallucinogen users are less conventional in behavior and attitudes than non-users. They appear to relate less well to parents, are less likely to live at home, and have a much less stable life-style in the areas of work, school, residence, and goals. They do not participate as much in athletics, belong to fewer organizations, and are not as religious. Sexual relations are initiated at an earlier age, with more frequency, and with a greater number of

partners. Users' political views are more liberal and leftist. They have less respect for authority, view themselves as outside the larger society, and have a greater likelihood of being activists. Users' psychological test scores are higher on the psychopathic deviate scale of the Minnesota Multiphasic Personality Inventory, lower on the Rokeach Dogmatism Scale, and show great susceptibility to hypnosis and other non-drug regressive states on the Aas Hypnotic Susceptibility Scale. They show stronger beliefs in para-normal phenomena (astrology and extra sensory perception), a strong preference for a spontaneous casual lifestyle rather than one which is systematic and orderly, and prefer ideas and intuition over conventional, factual approaches on the Myers-Briggs **Type Indicator**. Users, on the Allport-Vernon Value Scale, score low on political and religious scales, but high on esthetic. They indicate less meaningful goals and **integration** to life on the "purpose of life" test. On the California Personality Inventory users appear to be open to experience, concerned with the feelings of others, pleasure seeking, impulsive, and rebellious (Haagen, 1970).

Haagen (1970) found, in the only comprehensive prospective study of marijuana/hallucinogens users, that the majority of the above traits antedated the drug involvement. Also, McGlothlin, Cohen, & McGlothlin (1967) have demonstrated experimentally that a number of these variables are significantly related to the intensity of the response to LSD.

It has been shown that significant users of hallucinogens usually show larger deviations on the above variables than do users



of marijuana only. These hallucinogen users are more frequently seeking to resolve personal problems through the drug experience and more likely have previously sought psychiatric counseling (Walters, Goethals & Pope, 1972). Hallucinogen users indicate a strong tendency toward regressive magical thinking (Barron, Lowinger & Ebner, 1970; Blacker, Jones, Stone, & Pfefferbaum, 1968) and express greater socio-cultural alienation (Walters et al., 1972). Psychological research directed toward defining an alcoholic personality pattern which would be discernible and correlate with a predisposition toward alcoholism is difficult to effect because the population ordinarily available for study is already abusing alcohol. The problem then becomes whether it may be assumed that the personality traits observed in these people actually preceded the abuse of alcohol, or whether they are a consequence of abusing alcohol.

Blane (1970) noted that low frustration tolerance, sociability, feelings of inferiority combined with attitudes of superiority, dependency, and fearfulness are characteristics commonly seen in alcoholism. Lisansky (1960) suggested that the personality type predisposed to alcoholism has an intensely strong need for dependency, a weak and inadequate defense mechanism against this excessive need, leading, under certain conditions, to an intense dependence-independence conflict. She also said there is a low degree of tolerance for frustration or tension, and unresolved love-hate ambivalences. This predisposed personality constellation might then resort to alcohol abuse when subjected to the stresses and strains of the environment.

Chein's (1964) classic and lengthy study on narcotic addicts in New York City during the 1950's revealed that most of the abusers manifested problems in sexual identification, interpersonal relations and a characteristic dysphoria. But the United States' military experience with heroin users in Vietnam has not confirmed these personality characteristics. Although they have acknowledged that some users manifest these traits, the majority of the users did not evidence any unusual personality characteristics, came from small towns in the south or midwest, had only slight previous experience with drugs, were in good physical condition and about equally represented all educational and ethnic groups (Brecher, 1972).

Another aspect of psychology has contributed very much to our understanding and knowledge of habitual drug use. Theorists from this area interpret substance abuse as learned or conditioned behavior and quite adequately explain the dynamics involved (Chein, 1969; Crowley, 1971; Wikler, 1973). Learning theory interprets drug abuse behavior as being maintained by any of a number of different types of reinforcement. The types of reinforcement involved include primary positive, primary negative (by termination of withdrawal or by reducing attention to, or discrimination of, aversive stimuli), secondary positive (social and unrelated to drug effects, social and related to drug effects, or chaining), and secondary negative. The type of reinforcement functions which maintain drug abuse behavior appear to be partly dependent upon the class of drugs employed. This implication is important in that it allows different treatment modalities to be aimed at different types of reinforcement.

Nonetheless, none of the above mentioned personality factors indicate just what predisposes some people to abuse substances while other people with the same characteristics do not abuse substances.

The second set of factors noted by the Canadian Commission (close personal relations and environment in the family, school, and the peer group) represents an area that also has been the subject of a fair amount of research in recent years. Kandel (1973a, 1973b, 1974b) has investigated the extent of parental and peer influences on adolescent drug use and the nature of parental influence. Her studies indicate that a child's perception of parental use of psychoactive drugs has a much greater relationship to the adolescents use of illegal drugs than the parents' self-reports of drug use. Nonetheless, parental self-reports of drug behavior, use of psychoactive drugs by mothers, and particularly use of alcohol or marijuana by mothers or fathers, have a relationship to adolescents use of marijuana. Mothers use of all three psychoactive drugs (tranquilizers, barbiturates, and stimulants) and fathers use of barbiturates have a stronger relationship to adolescents use of psychodelics and pills. A mother's influence appeared to be greater than a father's. Additionally, parental influences appear to be synergistic when combined with peer influences. It is possible that illegal drug use by one's peers is a necessary condition for the adolescent to also use drugs. And, although parental use of psychoactive drugs, including alcohol, may not be necessary nor sufficient for the child to use drugs, in a given situation where

peers use drugs, parental behavior becomes important in determining peer influence on their child. Children of non-drug using parents are less likely to use drugs when their friends use illegal drugs. But, children of drug using parents are more likely to use drugs in the same situation. The synergistic effect of parents and peers results in the highest rate of adolescent illegal drug use appearing in situations where both parents and peers use drugs.

These findings fit a "cultural deviance" model of behavior and, in particular, the differential association theory developed to explain delinquent behavior (Sutherland & Cressey, 1970). This theory holds that a family can potentially lead a child toward delinquent behavior, either by engaging in (and thereby modeling) delinquent behavior that the child imitates, or because the family presents a hostile climate from which the child seeks escape. Either or both factors may be present in the home, but the child will not engage in delinquent behavior unless such behavior exists in his peer culture. A crucial factor in the learning of this delinquent role could be the availability of delinquent role models in the adolescent peer group. A similar model of peer behavior appears to be the crucial determining factor in adolescent drug use, with parental behavior becoming significant once such behavior exists in the peer group.

Kandel (1973a, 1973b, 1974) suggests that the nature of parental influence may in part be the differential visibility of the parents' behavior. This may explain why the use of psychoactive drugs by the mother, or alcohol by the father, is particularly influential.

The behavior of one parent may be more accurately perceived than behavior of the other parent because of differences in the amount of time that each parent spends in the home. Since mothers probably spend more time at home than fathers, a mother's use of psychoactive drugs is more accurately perceived by a child than the father's use. A child's misperceptions were consistently more frequent for their father than mother. Kandel's work indicated, in summary, the single most important factor in adolescent drug use is peer group influence, with parental influence playing a secondary role. Similar results were obtained in a study of high school drug users (Smart, Fejer, & Alexander, 1970) which showed that users of illicit drugs often had parents who were heavy users of psychoactive drugs.

Fisher (1972-1973) reported related findings that indicated that the greater the involvement with marijuana, the greater the likelihood that one's associates were also marijuana users and, thus, the more justified one is in expecting tolerance toward one's own marijuana use. He also found that the greater the involvement with marijuana, the greater the need to perceive others being involved, and so the greater the likelihood to expect tolerant acceptance from others.

Chein et al.'s (1964) study indicated that New York City heroin addicts had a childhood history of hostile or cool parents, inconsistent parental standards, and weak parent-child relationships. The father figure was absent from the home in the early childhood period in almost 50% of the cases. Where a father was present, it was unusual for him to be a positive identification figure for the child. Whereas Chein et al. found drug users concentrated in a small number of census tracts constituting the most underprivileged, crowded, and dilapidated areas in

New York, Glatt (1968) studied addicts from a contrasting material background, with many of his subjects coming from well to do, well educated, and occasionally professional families. The emotional climate of the families between the two groups were not as disparate though, with Glatt's subjects and their parents often showing emotional problems, generally poor relationships between the addict and his parents, and the frequent combination of a lack of a guiding hand from the father (the father either having been away from home, dead, or of a very weak character) and an overprotective mother.

Studies by Drake and Cayton (1945) and Spinely (1953) of family groups in slum areas reported that the family lacks solidarity, consistent affection, and care. Meyers (1952) concurred with this and indicated that a great preponderance of addicts in large cities are from slum areas and have a similar form of life. Willis (1973), in comparing United Kingdom heroin users with United States heroin users, found a large number of similarities between the two groups. These similarities related to the incidence of disturbed family relationships, psychiatric disorders in the family, alcoholism, etc. But of particular interest was the associated finding that when the drug using groups were compared with a matched group of patients receiving treatment in psychiatric hospitals for conditions unrelated to drugs or alcohol the psychiatric patients had very similar backgrounds of family disturbance, parental alcoholism, etc., to the members of the drug using groups. Also, all three groups had a much higher incidence of these disturbances than a control group. This relationship may suggest that substance abuse is merely one form of coping with a generally inadequate childhood environment.

Concerning the third set of factors listed by the Canadian Commission, "social and economic conditions" predisposing toward unconventional drug use, mention has already been made of the concentration of heroin addicts in the United States in disadvantaged areas. But, one overwhelming and irrefutable fact remains--most of the residents in these areas refrained from heroin use and, in fact, appeared to abuse some substances less than the advantaged middle class (U. S. Department of Health, Education, and Welfare, 1974). It may well be that the paucity of economic conditions existing in an area of high heroin abuse have little relationship to that abuse, or may only serve to exacerbate an already existing condition. Willis's (1973) conclusion regarding the studies done in this area is succinctly relevant:

Examination of carefully-obtained data suggests that opiate-usage, particularly of heroin, in America is primarily found among young males, who start drug-use for a variety of reasons: "to get high," to win peer-group acceptance, to insulate the self against the overwhelming sense of failure in a highly competitive society--often in situations of grotesque material and family deprivation, and mainly in town slum areas. Membership of low-status racial-minority groups is significant, as is membership of local sub-cultures in which a basically cynical, pessimistic and delinquent outlook on the world prevails. Recent evidence suggests, however, that drug-usage is spreading among middle-class youngsters of relative affluence, often to a surprising degree. This trend extends to areas of superlative physical comfort usually associated with high executive status. Drugs, like alcohol, have no awareness of man-made social distinctions (p. 139).

The Canadian Commission's remarks regarding "the general attitude of the society towards drug use," are no doubt valid. The problem in this area is the virtually impossible task of measuring the impact of these factors and the difficulty involved in changing them. Obviously the mass-media must have some effect, or the cigarette manufacturers would not be spending millions of dollars to promote their products.

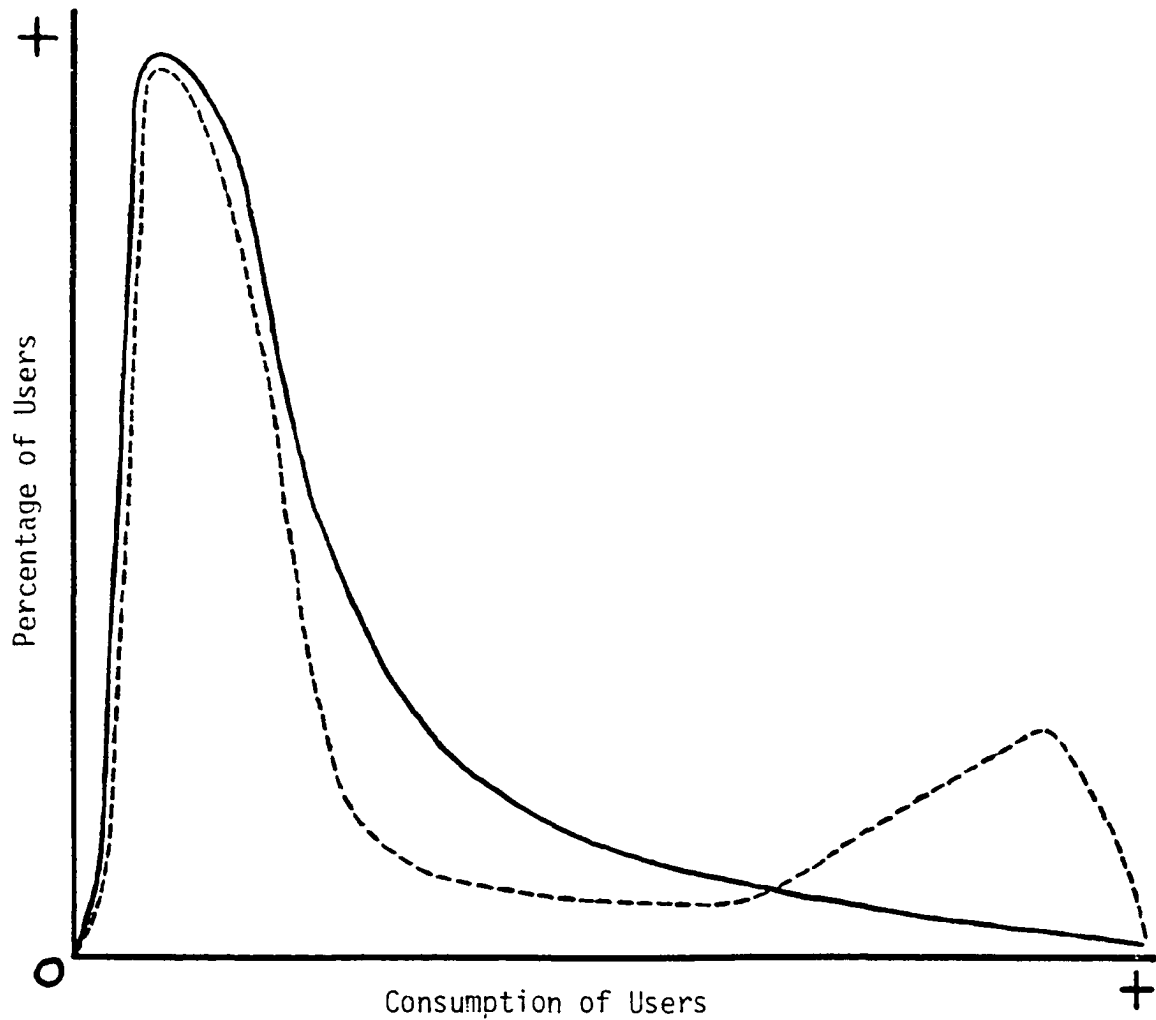
Nevertheless, more than half the population of the United States does not smoke tobacco, making it quite evident that the effectiveness of the advertising is limited in scope. Still, we must be particularly wary of the subtle and long-term effects that the media can have in molding the opinions and practices of our population.

An entirely different and unique approach to studying the phenomenon of substance abuse is the research discipline of epidemiology as it has been modified in recent years to focus on a number of behavioral problems effecting individual and community health. Epidemiology has attracted researchers with backgrounds in medicine, public health, sociology, psychology, and anthropology. The variety of methodological and intellectual orientations that they have contributed have made this a particularly attractive framework from which to study substance abuse. Significant contributions, with important implications for the prevention of substance abuse, have already been made by this discipline.

Studies (Schmidt & de Lint, 1970; De Lint & Schmidt, 1973) have determined that the distribution of the per capita consumption of alcohol fits a log normal curve. A log normal curve has three important characteristics: first, it is smooth and continuous; second, most users are "light" users, fewer users are "moderate" users, and even fewer users are "heavy" users; third, the nature of the distribution is stable, that is, it will maintain its basic character over time and at different localities. Traditionally, it had been supposed that the distribution of alcohol and other drug users would be bimodal. In a bimodal distribution there would be larger numbers of light and heavy users with fewer numbers of moderate users. See Figure I, page 27.



FIGURE I



The broken line represents a bimodal distribution which would be found if substance abusers were clearly different from the rest of the population in their consumption. The solid line represents the log normal distribution that is actually found.

De Lint and Schmidt (1973) examined the distribution of per capita consumption in a number of populations and in all cases found a good fit to the log normal curve. Similarly, Whitehead and Smart (1973) surveyed a number of populations at different times with regard to a variety of drugs and found that both the frequency with which individual drugs are used and the total drug use of adolescents conform to the same log normal curve expectancy in all cases. They also determined that the nature of the distribution of drug use is remarkably stable for individual drugs in different communities and for total drug use in widely separated areas over a period of years. Their findings suggest that there is no clear differentiation of drug users into "normal users" and "abusers" by consumption alone. In light of this fact, any definition of drug abuse in terms of extent of use would, for the present, be arbitrary. It appears that it will be necessary then to define points in the distribution above which some psychological or physical pathology occurs. De Lint and Schmidt (1973) have done this by determining a physically damaging level of alcohol consumption. A similar approach should be used with regard to other drugs.

These findings have particular significance when applied to the prevention of drug abuse. They imply that the nature of the distribution may be unalterable and the per capita consumption of any particular substance may have to be decreased in order to decrease the numbers of abusers in the population. The implications of this work are that any successful campaign to reduce drug abuse entails most people in the population using fewer drugs such as alcohol, tobacco, and other psychoactive substances. It is possible that the success of any substance

abuse prevention program will be determined by the scope of its target population and its ability to reduce substance use in the population as a whole.

Weil (1972) has made a strong argument for the naturalness and desirability of altered states of consciousness . He has proposed that such experiences are not only desirable, but necessary to the well being of the individual. He does not advocate unrestrained drug use, but clearly defines drug use as becoming "negative or abusive only when it poses a serious threat to health or to social or psychological functioning (p. 86)." This possibly natural and healthy desire to alter states of consciousness, and a growing person's innate propensity to experiment and explore their environment should be carefully considered factors in the use and abuse of substances.

#### METHODS OF DEALING WITH THE USE AND ABUSE OF SUBSTANCES

Societies have, more often than not, dealt with the undesired use of substances in a punitive way. The extremes of this method were mentioned earlier with regard to the not uncommon imposition of capital punishment as a method of control. The effectiveness of these measures, even in their extreme, is evidenced by the widespread use of these substances--particularly in the societies that had the harshest sanctions against them. Some illustrative examples follow. The sultan Murad IV, in 1633, decreed the death penalty for smoking tobacco in Constantinople.

Whenever the Sultan went on his travels or on a military expedition his halting-places were always distinguished by a terrible increase in the number of executions. Even on the battlefield he was fond of surprising men in the act of smoking, when he would punish them by beheading, hanging, quartering, or crushing their hands and feet and leaving

them helpless between the lines. . . . Nevertheless, in spite of all the horrors of this persecution and the insane cruelties inflicted by the Sultan, whose blood-lust seemed to increase with age, the passion for smoking still persisted. . . . Even the fear of death was of no avail with the passionate devotees of the habit (Corti, 1931, p. 69).

Coffee drinkers in Arabia also had a rough way to go. As one early Arabian summed it up:

The sale of coffee has been forbidden. The vessels used for this beverage . . . have been broken to pieces. The dealers in coffee have received the bastinado, and have undergone other ill-treatment without even a plausible excuse; they were punished by loss of their money. The husks of the plant . . . have been more than once devoted to the flames, and in several instances persons making use of it . . . have been severely handled (Robinson, 1893, pp. 19, 20).

The early marijuana user had an equally vigorous time of pursuing his substance of choice. In 1378, the Emir Soudoun Sheikhouni in Arabia is supposed to have ordered that all hemp plants in his territory be destroyed and that all marijuana eaters be incarcerated. To insure that they were impressed with the strength of his convictions the Emir further ordered that any person convicted of eating marijuana would have his teeth pulled out. Many of his subjects were reportedly punished in this way. Fifteen years after the decree the use of marijuana in Arabian territory had increased (Lewin, 1964).

Although contemporary penalties are not quite as extreme today for the use of banned substances, they still may involve long prison terms in many places of the world, including the United States. One may still be sentenced to death in Missouri for supplying marijuana to a minor. Although the worthlessness of these punitive approaches to reducing the undesired use of a substance in a society has been proven repeatedly throughout history, they still tend to be used as a defense of first and last resort.

The United States Government, with a couple of exceptions (1912-1924 opiate-dispensing clinics and the current methadone programs), has relied exclusively upon the punitive approach to control whatever has been perceived as a major substance abuse problem. One particular experiment in this area, the 18th Amendment (Prohibition), proved to be not only ineffective, but so devastating to the country that it was eventually repealed. Since it is not within the scope of this paper to review all the current laws, suffice it to say that most of the substance abuse laws in this country have been written from the frequently ill-informed and incorrect law enforcement point of view with little or no consideration for the medical, pharmacological, or just plain prudent viewpoints.

The basic theory of punitive measures is usually given in the context of prevention. The rationale is that the threat of such aversive consequences for drug use will deter the majority of the population from experimenting. Investigations into the efficacy of this approach do not support the rationale. Even among people whose careers could be destroyed by a drug abuse conviction, such as law students, only a very small percentage of the non-users have credited the threat of such a conviction as a deterrent to their use (Kaplan, 1970). We find ourselves thus paying an extremely high social cost in terms of young people's futures being destroyed to deter but a small percent of the population from drug abuse.

Although the punitive law enforcement approach to the prevention of substance abuse in the United States has failed to reduce the incidence of use, it has not been without effect. Results of this approach have included: the criminalization of the substance abuser and supplier;

approval of methods of law enforcement strictly in conflict with both the letter and spirit of the Constitution and the law of the land; loss of respect for the law, legal institutions, and law enforcement personnel; and an alienation of youth from the rest of society (Brecher, 1972).

The criminalization of the substance user has forced him underground resulting in the user being denied medical attention for problems concerning his use and generally ostracizing him from society. The outcast then has fewer legitimate employment opportunities and is more likely to find his constellation of friends and associates limited to people in a similar circumstance. The net effect is to further reinforce his aberrant behavior and withdrawal from society.

Forcing the drug supplier underground has effectively placed these substances beyond all qualitative, quantitative, and purity standards and controls. Possibly the major problems for the illicit drug user are not being sure that the substance he purchased is actually what it was purported to be, and being uncertain of the strength of the substance and the degree to which it is contaminated and dangerously adulterated (Brecher, 1972; Stein, 1975). This has also led to the injection of substances under the most unhygienic conditions--which are responsible for substantial health problems and deaths among substance users.

Beyond the social cost of a criminalization approach to substance use is the actual monetary cost to society of enforcing these laws. A conservative estimate of \$1,000 per arrest, for a total half billion dollars per year for the United States, was recently made as the current cost of enforcing the nation's marijuana laws (Perkins, 1975). During

1965, at least 40% of the close to 5 million arrests in the United States for all offense, were for being drunk in a public place or being under the influence while driving (Plaut, 1967). Use of the same conservative \$1,000 per arrest figure reveals that just the cost of arrest to enforce these laws a few years ago was over \$2½ billion annually. The cost for the current year would most certainly be considerably higher.

Michigan's response to substance use has been similar to the nation's response as a whole. Initially, the use of many substances was criminalized, with some later efforts aimed at treating and rehabilitating the drug abuser being instituted. Efforts at substance abuse prevention have been nonexistent until the very recent past. The Office of Substance Abuse Services, an agency recently created within the State Department of Public Health, charged with responsibility in this area, allocated only 3% of its 1974-75 budget to prevention activities. This minuscule sum of \$498,500 was used to fund a program through the State Board of Education involved primarily with training teachers in empathetic listening skills.

A survey was made to determine what other substance abuse prevention activities existed at the state level. The following state agencies were contacted: Michigan State Police, Court Administrator's Office, Department of Social Services, Office of Criminal Justice Programs, Department of Corrections, Liquor Control Commission, State Board of Education, Department of Mental Health, State Board of Pharmacy.

A review of the state statutes governing these agencies was made prior to the survey to determine which agencies had a legal responsi-

bility or mandate to participate in substance abuse prevention activities. This review revealed that the State Board of Pharmacy and the State Board of Education had a number of specific responsibilities in this area. A representative of the State Board of Pharmacy, in response to a direct question as to whether anything was being done by that agency to meet their responsibility in this area stated, simply, "No." The State Board of Education, although having had specific substance abuse prevention programs created in it by the legislature, has never received any money from the legislature with which to implement these programs. The Department of Social Services, while implementing a specific substance abuse prevention program in only one county, does have a number of related programs, such as pre-delinquency counseling groups, that, although not specifically directed at substance abuse prevention, must certainly have an effect in that area. Present limitations on the use of some federal funds have restricted this agency's activities in substance abuse to primarily a treatment role.

The Department of Mental Health, whose access to the at-risk population could be only second to the schools, was found to have no specific prevention programs. They did, however, have Affective Education Programs operating in some areas of the state. These programs are essentially a collaborative effort between a mental health clinic and a school to teach parenting skills. This type of program could be extremely important to substance abuse prevention--but they should be operating throughout the state and not in just a few areas.

One reason for the lack of programs in the substance abuse prevention area is the uncertainty over what types of activities would be



effective. An example of this is the ignorance concerning the effectiveness of drug education programs in reducing the incidence of drug abuse.

The National Commission on Marihuana and Drug Abuse (1973), after an extensive review of drug education programs, stated:

No drug education program in this country, or elsewhere, has proven sufficiently successful to warrant our recommending it. . . . In recognition of ignorance about the impact of drug education, the Commission recommends that policy makers should also seriously consider declaring a moratorium on all drug education programs in the schools, at least until programs already in operation have been evaluated and a coherent approach with realistic objectives has been developed. At the very least, state legislatures should repeal all statutes which now require drug education courses to be included in the public school curriculum (p. 357).

Michigan has a substance abuse problem that, based upon a reasonable projection of the earlier cited national figures, is costing the state at least \$2 billion a year. The response to alleviating this problem has so far been less than \$500,000. An analogy to this response in relation to the problem could be drawn to an attempt to empty Lake Michigan with a 5 gallon bucket.

Governor Milliken's recent mandate emphasizing the role of substance abuse prevention will hopefully bring a change in the current state-of-affairs.

A study of the community response to substance abuse in Kalamazoo County was performed to ascertain the community level response and actual availability of services to the community. The community has 10 programs involved to some degree in the area of substance abuse. These programs are: Alcoholism Prevention and Information Center, Norway House, Occupational Health Center, Borgess Alcoholism Treatment

Center, Court and Law Enforcement Services Program, Gryphon Place, Potter Program, Autos House, Gateway Villa, Alcohol Highway Safety Program. Six of these programs consider some area of substance abuse prevention as among their focuses. Under closer scrutiny though it is revealed that almost all of the programs are primarily involved in treatment, or prevention only in the looser sense of the word which would include early symptom detection so as to permit early intervention. These programs are not currently integrated and suffer from some duplicity of services. These problems should be lessened in the near future as all of these programs come under the unifying umbrella of the Kalamazoo County Comprehensive Substance Abuse Plan. This plan was formulated in response to a requirement for such a plan for communities throughout the state by the Office of Substance Abuse Services. Examination of the plan revealed an awareness of a number of the current problem areas existing in the community's response to substance abuse. One of the more interesting and potentially rewarding concepts of this plan is an organization around the major program service types of prevention, case finding and treatment. Such centralization of services should provide more efficient treatment referrals. One particularly interesting innovation is the concept of funding different service types in response to community needs, rather than funding by agencies. Kalamazoo is fortunate to have a plan with the potential to develop an excellent treatment service delivery program. Unfortunately, the plan is weak in the area of substance abuse prevention. Prevention is seen through this plan as primarily an information providing and education activity. Perhaps a more effective utilization of resources could be realized by a county

comprehensive service delivery plan not limited to just one area of concern. Such a plan could be modeled after the comprehensive substance abuse plans but would be expanded to include all human service delivery components in a community. The services of the schools, police agencies, social services, mental health agencies, etc., could then all be more efficiently utilized for case finding, treatment, and prevention. These plans need not be county wide, but rather should be organized around a community. A community could comprise of a few counties, such as in the Upper Peninsula, or only a homogeneous neighborhood, as may be found in many areas of Detroit.

#### IMPLICATIONS FOR THE FUTURE

The area of substance abuse services must make drastic and immediate changes in most areas of its functioning if it is to even attempt meeting the demands of the present situation. Since behavior problems, mental disorders, and substance abuse (bearing in mind the earlier mentioned high correlation of aberrant personality characteristics between substance abusers, delinquents, and psychiatric patients) occur at a rate much greater than our ability to cope with them, the natural solution would be to develop programs that aim at eliminating their causes. The reasons that this has not been done are many, none of which are insurmountable, but most of which are uncomfortable to many people. The chain of command, and money, that works its way down from the legislators to the treatment personnel, is much more comfortable with an activity that can be tangibly measured and justified over a short period of time. Treatment programs are visible and nicely lend themselves

to such exigencies. This approach, with the problems at hand, is tantamount to attempting to put out a fire at the end of an oil pipe line without ever shutting off the valve. One may expend uncountable amounts of material and human energy in attempting to put out the fire, but if the fire is large, such as is our current substance abuse problem, it is unlikely that the most heroic efforts will have any effect unless something is done up the line to cut off the supply of oil. Efforts must be made to stop the problem at its source, not after it has manifested itself as an uncontrollable behemoth. Although treatment to the effected individual is very important, we must without delay attend to the early causes of the problem.

The public health point of view and the science of epidemiology are particularly cogent to our needs in this area. They serve to shift our attention from the individual to the population at large and to focus on the origins of problems. Intervention in this frame of reference is aimed at reducing the incidence of disability in the entire population. Obviously, because of the substantially greater time involved in cure, the only practical manner in dealing with a large population is prevention. There are different kinds of prevention though.

Primary prevention aims at preventing the development of any signs or symptoms of a disease or disorder. Thus, the goal would be to reduce the rate of new cases of substance abuse occurring in the population, and it would attempt to counteract the harmful circumstances in an environment before they produce any effect.

Secondary prevention attempts to detect early signs or symptoms in order to prevent a more serious condition. Partial prevention is thus achieved through early diagnosis and effective treatment of those people who do show signs of becoming substance abusers. An example of this type of prevention would be the screening of first grade elementary school students to locate those with a positive prognosis for aberrant behavior. The students so selected would then, hopefully, *benefit from intervention in the form of parental counseling and perhaps alteration of the environment itself.*

Tertiary prevention, which is the most prevalent form at the moment, attempts to alleviate the symptoms of those individuals evidencing substance abuse. This may involve hospitalization, medically controlled withdrawal, methadone treatment, membership in a therapeutic community, counseling, etc.. Since the behavior must be sufficiently entrenched to be overt before any intervention is made, this is the most difficult time to effect a change.

The public health approach places a special value on primary prevention rather than cure. Professional attention is focused not only on the casualties of damaging environments, but on the damaging environments themselves. The public health frame of reference in the medical field has evolved a natural and even more efficient approach which now emphasizes the improvement of the general health of the individual (and the society as a whole) instead of merely attempting to prevent a few specific types of abuse. The substance abuse field should thus become concerned with building up and strengthening the personality of all the individuals in the population. The ramifications of

this approach are many, as are the advantages. One initial problem, though, is the difficulty in raising funds to enhance some non-specific good, in comparison to eliminating or curing some specific evil such as the use of heroin. Fortunately, though the substance abuse field has very large sources of income available to it, with numerous precedences, both legally and socially approved, for its use in this area. This source of revenue will be discussed in the last section.

### RECOMMENDATIONS

Every community is unique and has its own particular substance abuse problems and background. Any substance abuse prevention program, to be effective, must respond to the particular needs of the community which it is to serve. Therefore, no statewide panacea in the form of some pre-cast program to which a community must fit itself can be effective. Some efforts will work in some communities at one point in time and in some other communities at another point in time. Some efforts will only work in those communities to which they are uniquely suited. The most important initial step, therefore, is to evaluate each community independently to determine what its particular problems are in the area of substance abuse. This evaluation of the present state of substance abuse in different communities would best be carried out by state evaluation teams that could maintain consistent measures of evaluation, be impartial, and in a position to compare the seriousness of one community's problems in the context of the rest of communities in the state and the state as a whole.

The community could next be presented with the evaluation of substance abuse in their particular area. These evaluations should be performed annually and could include longitudinal case studies so as to provide both the state and the community with feedback on the effectiveness of their response. The uniformness and objectivity of having a single state agency perform these evaluations, using the same uniform criteria, would provide invaluable evaluation data.

The community, after receiving the evaluation, could decide to what extent, if any, they wished to respond. Communities that felt no response was warranted would continue to be evaluated annually to monitor changes in their situation. Such communities would also be useful as evaluative controls. The state agency would, of course, offer technological and financial assistance in constructing and implementing a response plan. The burden of accepting responsibility for, and determining the extent of response to, a community's substance abuse problem would rest with the community.

Communities would be encouraged to develop comprehensive community services programs which would integrate not just substance abuse services, but schools, para-schools, mental health agencies, social service agencies, YMCAs, Boy Scouts, Big Brother programs, etc.--the whole plethora of public and private services available in most communities.

Funding in terms of needs and service function, rather than by agency identification, could be implemented through a Comprehensive Community Human Services Agency. The different state agencies could still fund those services which they are uniquely involved in, but

through a central community services board, rather than to the individual agency. The state agencies would still retain jurisdiction over evaluation and controls of the services they funded, but such a plan would allow the services to be integrated with other similar services. Such integration would afford numerous savings on supervisory personnel and reduction or elimination of duplicity in areas such as casefinding. An integrated program would also eliminate competition between agencies for grant monies and for the same or similar clients.

The central nexus of each community services organization would be a single information--casefinding-- coordinated referral--crisis line agency. Limiting one agency to these functions, with the possible inclusion of a crisis center, would allow non-treatment personnel specifically trained in the functions of the different service delivery systems to make all new case referrals and inter-agency referrals. The system would be particularly advantageous in treating the entire family constellation, as opposed to the present tendency for an agency to treat only one or two of a myriad of problems.

A very necessary change that should be implemented immediately in the area of substance abuse is to remove the substance abuser from the criminal context and restore him to the jurisdiction of the medical and psychological professions. State controlled clinics should be established to provide methadone and heroin maintenance programs and methadone withdrawal programs to addicted abusers. Such clinics should encompass mandatory counseling and employment rehabilitation programs. The only way to eliminate the narcotics black market would be to eliminate the substantial financial gain that can be realized from



trafficking in illegal substances. By making substances legally available at a fraction of their black market price to individuals already addicted to them will eventually eliminate the black market and thus also eliminate the conversion of new drug users.

Substantial and severe penalties should remain, or be instituted, for illegal traffickers of substances. The reasons for this are to make the risk of trafficking far outweigh any potential profit, and because it is frequently the contaminants and adulterants that one finds mixed with a drug from an illegal source that are the cause of physical damage--rather than the drug itself. Eliminating the criminalization of the user would also free up considerable amounts of law enforcement personnel time that could be devoted toward the more difficult pursuit of traffickers.

Additional legislation, in the spirit of Public Act 339 of the 1975 Michigan Statutes (decriminalization of public intoxication), could be enacted covering all intoxicated persons, or persons obviously under the influence of some psychoactive substance. Temporary care for intoxicated individuals could be integrated with the community crisis center. The function of law enforcement personnel would be, in a spirit of cooperation aimed at eliminating the overall community abuse problem, to bring intoxicated persons to the treatment center. This would have the dual function of eliminating a considerable amount of arrest procedures and paperwork for the police as well as eliminating court time, expense, and bottlenecks resulting from victimless crimes.

Penalties for potential dangerous acts, such as driving under the influence of liquor, should be made more severe with a mandatory

30 day jail sentence for the first offense. The only discretion the judge should be allowed in sentencing would be to permit the individual to serve the sentence in such a way as not to interfere with his employment--such as on weekends and nights. The second offense for driving under the influence of any intoxicating substance should be a mandatory 60 day jail sentence. The emphasis in all legislation pertaining to substance use and acts committed while under the influence of a substance should be not to specifically punish the use of a substance but to severely and quickly punish any behavior that poses a danger to other people.

The state should actively seek, develop and encourage new experimental programs directed at reducing substance abuse. These programs should be conducted under carefully controlled conditions so their results may be accurately and confidently evaluated. As successful approaches are developed, the state should support the integration of that technology by assisting communities in incorporating it into their programs.

Although substance abuse prevention education has not proven successful to date, this field should not be abandoned. The implications are that effective methods have just not yet been developed or employed in this area. The state should devote particular attention to research designed to enhance our knowledge and produce workable, effective approaches in substance abuse prevention education.

The "Alternative Program" approach to diverting people away from substance abuse has been extensively employed throughout the United States. The state should make an extensive review of these programs.

The most promising programs should be modeled in carefully controlled experiments designed to evaluate their effectiveness.

The state should establish a Substance Abuse Prevention Information Clearinghouse which would carefully evaluate the surfeit of literature and films in this field, publish and distribute a critique of these materials, and act as a central supplier of resources deemed valuable to the prevention of substance abuse.

### MONEY

Any such ambitious undertaking, even in light of the extraordinary cost that society now suffers because of its lack, will still need a substantial source of funding. Sufficient public funds are always difficult to procure and can never be depended upon from one year to the next. Therefore, a program that could be self-supporting, and at the same time have its source of revenue contribute to alleviation of the problem would not only be unique, but highly desirable. Such a possibility exists in the area of substance abuse prevention.

Substantial taxes are already imposed upon liquor and tobacco with the dualistic purpose of raising revenues as well as reducing use. A number of states and the Canadian government use a government liquor store system to control the sale of liquor and to produce revenue. This concept could be expanded to include most substances that are currently abused by the population. A network of state-controlled substance stores with a monopoly on all liquor sales, tobacco sales, and marijuana sales (recognizing the apparent innocuousness of this substance, the inability to prohibit its use, and the desirability of

separating it from the criminal supplier--thus allowing control over its strength and purity) could gradually be established. This approach would allow elimination of all cigarette vending machines (which are easily operated by a seven year old child), elimination of point-of-sale advertising, and elimination of the profit motive as an incentive to make non-prudent sales. The extra step of applying a state tax to these substances could be eliminated as the price and revenue from them would be controlled by the state-determined selling price and profit. Prices for all of these substances should be maintained at a level just below that encouraging illegal supply and trafficking. Private bars and lounges serving liquor by the drink would still be permitted--but they would be required to make all liquor purchases through the state stores, thereby allowing the state to maintain control over price.

All advertising of any state-controlled substance would be strictly prohibited in any fashion including magazines, newspapers, television, radio, billboards, and advertising on vehicles (truck sides, buses, etc.).

#### SUMMARY

A comprehensive, integrated substance abuse prevention plan of this nature may at first glance appear difficult or impossible to implement. It is not impossible to implement. It will take strong and concerned legislators genuinely interested in reducing the incidence of substance abuse in future generations, and able to resist the influence and pressure of special interest groups such as liquor

store owners, liquor companies, and tobacco companies that presently prosper at the expense of their customers' health and well being. This plan will not create a prohibition, to be evaded and rebelled against, but it will introduce an effective means of controlling the use of substances in our society. This plan rests on sound public health and epidemiological theories and models of action and recognizes that past programs of substance abuse education, criminal prosecution of the user, and the paradoxical juxtaposition of lack of controls over advertising of psychoactive drugs has only served to increase their use.

The existence of many special interest groups who would be adversely effected by a reduction of substance use in our society, the territoriality of many state and local agencies, and the general resistance of the governmental hierarchy require that such a plan be implemented gradually. Restrictions on advertising could begin immediately by eliminating point-of-sale inducements. Marijuana could be made available through special state outlets designed to assume eventual control over liquor and tobacco sales. But the introduction of each facet must be carefully gauged for its impact on society, and society's reaction to it, so as to facilitate its incorporation in the most palatable manner. A reasonable temporal estimate for full implementation of this plan would be 10 years.

One goal of this paper has not yet been addressed--definition of substance abuse prevention. The foregoing treatise on substance abuse, methods of dealing with substance abuse, and especially primary prevention suggest a more positive approach to substance abuse prevention than has traditionally been followed.

A new, positive perspective to this phenomena suggests a new, positive definition: Primary substance abuse prevention is a constructive process promoting personal and societal growth to prevent or reduce physical, mental, emotional or social impairment resulting in the abuse of chemical substances.

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