Multi-Dimensional Assessment and Variably Intense Interventions: A Systems Approach to DUI

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ABSTRACT

This paper provides a review of the literature on the seriousness of the problem of driving under the influence (DUI), legal developments, the success of DUI programs, the diversity of alcohol abusers, and the range of approaches to intervention with DUI offenders. The Alcohol and Drug Education Services Program of Cook County, Illinois, which emphasizes assessment and matching the level of intervention to client needs, is discussed.

Driving under the influence (DUI) of alcohol or other mind or mood altering substances is not in itself an illness. More properly, it is deviant behavior, a specific type of improper vehicular management. Persons who exhibit this behavior come from a variety of genetic and psychosocial backgrounds.

At best, driving is a risky business. When a variety of physical or emotional stress factors, including alcohol or drug use and abuse, come into play, the operator of a vehicle may experience an "additive stress effect" that often significantly impairs his ability to maintain control of the vehicle.

Recent interest in DUI behavior results from a variety of social, economic, and political pressures. DUI is unacceptable behavior. Dealing with it effectively requires that it be defined and measured. This behavior should be "typed," its intensity measured, and then its duration determined. Next the appropriate existing methods and levels of intervention must be matched with the configuration of these parameters as they exist in a particular person's genetic and psychosocial background. Such an approach is admittedly difficult, but it is a challenge to the behavioral scientist.

Intoxicated drivers are a diverse population and reach intervention programs by a variety of paths. The DUI offender falls into a subgroup that receives intervention as a result of legal referral. Despite the diversity, it is possible to make a few generalizations that apply to most DUI offenders. The most important is that the majority are not alcoholics or drug addicts. There is a need for programs specifically designed to handle diversity. One such program is the Alcohol and Drug Education Services Program of Cook County, Illinois. The program was founded by Reverend Ignatius McDermott in recognition of the individuality and diverse needs of DUI offenders. The program is based on more than 13 years of experience in meeting the needs of offenders through varied measures. In particular, it seeks to determine each person's unique status and to adjust measures of intervention accordingly.

This paper will begin with a brief review of the literature on the seriousness of the DUI problem, legal developments, the success of DUI programs, the diversity of alcohol abusers, and the range of approaches to intervention with DUI offenders and alcohol abusers in general. Then the approach of the Cook County program, with special emphasis on assessment and levels of intervention, the critical components of the intervention program, will be outlined.

SERIOUSNESS OF THE DUI PROBLEM

Automobile accidents are a major cause of injuries and property damage in the United States and other countries. Donovan et al. (1) report that one-third of all injuries and one-half of all fatalities are related to alcohol use. According to Donovan et al., DUI was responsible for roughly 20,000 deaths and 400,000 disabling injuries in the United States in 1976. These authors note impairment of cognitive, sensory-perceptual, and motor skills as a result of alcohol use.

Kastrup et al. (2), on the basis of data from two Danish central statistical registers, indicate that one-third to one-half of all fatalities result from traffic accidents. Higher blood alcohol levels are associated with more serious injuries. These authors estimate that 67 percent of all accidents result from the effects of alcohol consumption.

Previous studies of the impact of alcohol consumption on traffic safety support similar conclusions. DUI is clearly a major social problem, one that causes a high number of deaths, injuries, and incidents of property damage.

LEGAL ASPECTS

Guydish (3) distinguishes four responses of society to alcohol abuse and other forms of substance abuse: the legal, based on moral principles and legislation; the medical, based on a disease model and using drugs and detoxification procedures as therapy; the traditional, based on support and the achievement of abstinence; and an emerging model based on modification of individuals' contingency sets. In this century, it has been increasingly recognized that alcohol abuse is not under the full volitional control of the abuser and should be classified as "sick" rather than "bad." Given this recognition, criminal penalties of the traditional sort become less justifiable. Hall (4) notes the following weaknesses of the punitive approach: failure to change the attitudes and behavior of DUI offenders; lack of police support; unequal justice and corruption of police officers; self-defeating effects; and placing the defense counsel in the role of trying to prevent

a guilty verdict, thus interfering both with aid to the individual and with protection of society from further DUI behavior.

Hart (5) points out two related developments in the United States. The first is the Uniform Alcoholism and Intoxication Treatment Act, drafted in 1971, that decriminalizes alcohol intoxication and alcoholism and provides for protective custody and voluntary treatment of persons intoxicated to the point of incapacitation. The aims of this act have not been wholly achieved, however. The second is the National Alcohol Countermeasures Program of the U.S. Department of Transportation. Under the guidelines of this program, 35 alcohol safety action projects (ASAPs) were started. These programs involved charging intoxicated drivers with an appropriate offense and sentencing these drivers to accept treatment and education as an alternative to license revocation.

Pressure for increased penalties need not interfere with programs of therapeutic intervention. However, combining legal penalties with therapeutic programs has certain problems. Kern et al. (6) note that involvement of the legal system makes participation in therapeutic intervention a result of coercion. This coercion clashes to a degree with the goal of having clients willingly commit themselves to participation in therapy. At the same time, it increases the likelihood that offenders will accept intervention. Thus, despite certain tensions, the relation between the legal and therapeutic systems is basically one of symbiosis.

SUCCESS OF DUI PROGRAMS

One general study completed by the Comptroller General of the United States (7) and a second overview by Saunders (8) revealed mixed results. However, examination of the 25 ASAP pilot projects reveals apparent advantages as well as disadvantages. Early identification of the problem and various other factors encourage acceptance of treatment. These factors include trauma of punishment, legal limits, and awareness. Swenson et al. (9), Hagen et al. (10), and Michelson (11) reporting on studies done in Arizona, California, and Florida, respectively, found little evidence of the effectiveness of short-term treatment. They found that participation in DUI programs had no significant favorable effect. In many cases, participants had worse traffic violation and accident records than did controls.

Holden (12) describes a study in which 4,126 DUI offenders were exposed to probation supervision, education and therapy, both, or neither. No combination of treatment conditions had any effect on rearrest rates after 2 years.

McGuire (13) and Salzberg and Klingberg (14) compare DUI offenders referred to programs and drinking drivers not referred to such programs. McGuire finds favorable effects on light drinkers but not on heavy drinkers. There were higher rates of alcohol-related traffic violations in the treatment group than in the control group.

Thus the evidence of the value of many existing programs is no more than doubtful. The question remains open, however, whether this is due to inherent intractability of DUI cases or to specific flaws in the programs reviewed. The Cook County program has a number of special features that are intended to avoid the problems of other programs. It is centered on division of DUI offenders into subgroups for which different treatment interventions are appropriate. Suiting the intervention to the offender may offer a path to higher success rates.

DIVERSITY OF ALCOHOL ABUSERS

Alcohol and drug abusers range from persons who have simply drunk or drugged to excess on one occasion to those who are chronically intoxicated, and from mild loss of control to severe intoxication. For the therapist, it is desirable to intervene in the milder forms of abuse because they offer an opportunity to deal with less firmly established patterns of abusive behavior. This makes DUI programs a good way of intervening early in the development of alcohol and drug abuse. It is crucial to be aware of how DUI clients differ from alcoholics or drug addicts. Intervention suited to one group may not be appropriate or effective for the other.

Pisani (15-18) suggests that alcohol and drug abusers can be optimally helped only after evaluation of the bio-psycho-social deficit present and the amount of regression caused by the abused substance. He proposes using a holistic approach that consists of five levels of intervention: assessment, education, guidance, counseling, and therapy. After such evaluation, each level is suited to specific degrees of pathology.

In additional studies, Peer et al. (19), Smart et al. (20), McCreery (21), and Hodgson et al. (22) recognize diverse subgroups of alcohol abusers. Subjects are divided into abstainers, social drinkers, semidependent drinkers, and problem drinkers. Each group calls for different treatment. Brown (23) finds clearly different patterns of drinking behavior in problem drinkers, and Saunders and Richard (24) find no such behavioral differences.

Several authors, including Panepinto et al. (25), Selzer et al. (26), Cloud (27), and Ringoet (28), point out explicitly that drunk drivers do not fit the alcoholic model and recommend treatment based on this recognition. Thus differences can be found at the psychological, the behavioral, and even the metabolic level.

Attention has also been given to identifying subtypes of DUI offenders. Scoles and Fine (29) note the diversity of such offenders as a major obstacle to successful intervention. Several studies, such as those by Kern et al. (6), Meck and Baither (30), and Wells-Parker et al. (31) link these differences to membership of varied populations as defined by such factors as age and ethnicity. Contrasting drinking drivers who complete an alcohol education program with those who drop out, they noted that noncompletion of the program is associated with nonwhite ethnicity, younger age, and higher blood alcohol content at the time of arrest. All of these findings suggest a need for recognition of age and social differences, and more specifically perhaps also of class and sex differences, in the circumstances under which DUI occurs and the proper forms of intervention.

These studies offer a diversity of pictures of alcohol and drug abusers, but they appear to favor several conclusions. First, alcohol and drug abuse takes various forms. Second, the specific form known as alcoholism or drug addiction is not necessarily a valid model for the needs and problems of DUI program clients. Third, these clients themselves are diverse, and any attempt to reduce them to uniformity is likely to lead to invalid therapeutic intervention. Skinner and Allen (32) offer one tool for such an approach to intervention: a scale designed to measure the degree of alcohol dependence in a given client. This scale, tested on 225 subjects, reveals high internal consistency. A high score is associated with more drinking, social consequences from drinking, psychopathology, physical symptoms,

and failure to keep appointments for therapy. This type of approach is needed to implement the recognition of client diversity.

APPROACHES TO DUI INTERVENTION

The single most important feature of an effective program for DUI offenders is the inclusion of a variety of options and the appropriate matching of offenders and options. This may be voluntaristic, [Ewing (33)] or compulsory [Steer et al. (34)]. Both approaches seek to suit the treatment to the client; they differ primarily in their assessment of clients' ability to judge their own needs.

Intervention can take a variety of forms. The simplest is the provision of information. However, with some clients it becomes necessary to provide various forms of counseling, motivation, and therapy. Several approaches to change are suggested. Whelan and Prince (35) and Oei and Jackson (36) propose a cognitive approach designed to reinforce realistic beliefs about drinking behavior. A second approach is based on changing the client's social skills and attitudes. Orosz (37) and Holser (38) theorize that excessive drinking reflects inadequate social skills. A more traditional psychotherapeutic approach is outlined by Panepinto et al. (39), who propose that treatment begin with evaluation. Other programs have sought to train clients in behavior skills, on the assumption that the DUI offender does not wish to become incapacitated but cannot judge his drinking accurately. A final approach is direct medical therapy. Poulos (40) and Steer et al. (34) suggest that these methods are suited to clients who are physically addicted to alcohol or who have suffered long-term physical deterioration as a result of chronic alcohol abuse.

The spectrum of possible intervention runs from an educational model to a medical one. Obviously not all of these can be appropriately used with any one client, but the wide spectrum of possibilities is needed. It is necessary to provide individualized evaluation and intervention, such as "clinical" intervention, for offenders. This principle is gaining recognition, and the National Highway Traffic Safety Administration offers a manual for presentencing investigating officers that stresses the variety of types of DUI offenders and provides criteria for distinguishing among social drinkers, problem drinkers, and alcoholics.

ADES PROGRAM

The Alcohol and Drug Education Services (ADES) program of Cook County, Illinois, is an attempt to deal with the problem of DUI and related problems through varied forms of intervention designed to meet the individual offender's needs. The approach followed includes education and guidance, monitoring, punishment, and referral for counseling or therapy within a holistic modified punitive framework. Measures suited to the individual offender are selected through a systematic assessment procedure at the start of intervention.

The program was developed in collaboration with the chief judge, the Honorable Harry Commerford, and in cooperation with the court system and is presented as an alternative to the attempt to avoid conviction. The client is asked to take part voluntarily in exchange for avoiding the additional legal punishments and the status of a convicted DUI offender. Sentencing judges retain the option of imposing fines and jail sentences and suspending driving privileges. ADES gives judges the opportunity to offer a wider spectrum of response to the offense.

McDermott and Moran (41) have stated that, although the primary purpose of ADES is evaluative and educational, an equally important function is to refer clients with life problems involving alcohol or drug abuse to appropriate agencies. Motivation comes from the realization that the program is working in the client's interests. Participation is begun immediately after a court appearance during which social disapproval is expressed, and successful completion of the ADES program is generally required before probationary status is removed and driving privileges are returned. The basic purpose is to change the client's behavior by changing his attitudes and motives. External penalties are not sufficient; what is needed is a change in the client's own attitude toward DUI behavior.

The first and most crucial step in the program is assessment. ADES uses several tests and measurements to achieve this. They include a personal data form, an attitudinal study, the Michigan Alcohol Screening Test, the ADES substance abuse assessment, and an interview with an education and referral officer (ERO) during which the client completes a behavior assessment scale (BAS). The results of these measurements are used to determine a "risk factor" ranging from 0 to 3. Two subscores are computed, one for the BAS and one for all other measures. These computations are done separately by two separate individuals, a psychologist for BAS and an ERO for the other measures. They are then averaged, with greater weight given to the score obtained by the ERO. The risk factors are interpreted, and recommendations are made to the referring court. Experience with this system shows that about 20 percent of clients have a risk factor of 0, 42 percent have a risk factor of 1, 35 percent have a risk factor of 2, and 3 percent have a risk factor of 3.

After determination of a client's risk factor, appropriate interventions are selected. A basic scheme is used. In this scheme there are four broad levels of intervention after the initial assessment phase: education, guidance, counseling, and therapy. The first two are provided by ADES itself, the latter two by outside agencies in collaboration with ADES. Education and guidance are offered to all clients. The intent is to provide information that will be personally relevant and the motivation for change. Those with patterns of chronic substance abuse or other life problems are referred to outside agencies for counseling. A minority are found to have problems so severe as to necessitate medical treatment in hospital-based facilities. This level often fits the classic pattern of alcoholism or addiction to other substances.

For the latter two groups, ADES retains the role of overall coordinator and is responsible to the courts for monitoring the client's progress. Extensive records are kept. However, under Illinois law, these records are confidential and written consent of clients is required to transfer records from any subagency to ADES or from ADES to the courts. Failure to complete a program results in immediate notification of the courts and other concerned agencies. The result can be a full hearing and appropriate penalties.

Within this overall system two distinct levels of intervention have been defined. Level 1 is intended primarily for clients who lack information about the effects of alcohol on behavior and do not appear to have significant life problems. Level 2 is for clients who exhibit more profound behavioral problems.

In both levels clients undergo initial needs assessment. Level 1 clients attend four 2-hr sessions devoted to lectures, films, and discussion groups, which provide information on the effects of alcohol, the factors that trigger its use, the methods of gaining improved control over alcohol use, and the laws regulating alcohol consumption. Level 2 clients attend 12 sessions of special education and also take part in group monitoring sessions. In addition, they are referred to outside agencies. Progress of clients in both levels is assessed and reported to the court.

Within Levels 1 and 2, several distinct tracks are available: the general population program, a youthful offender program, a women's program, and a poly-drug program designed for clients aged 17 to 30 who have abused substances other than or in addition to alcohol.

These programs thus cover a wide range of client situations and offer options for mild or severe problems. This diversity is central to the design of ADES.

A comprehensive judgment on the effectiveness of ADES remains difficult to obtain. Recidivism is low. In 1980, 96.3 percent of participants had never previously taken part in ADES. A comprehensive research study was initiated to investigate the long-term effectiveness of the program. ADES makes a number of referrals of problem drinkers, concentrating the resources of other agencies on the recipients with the greatest need for them. Clinical experience reveals improvements in clients of ADES. Further, the legal system of Cook County has come to regard ADES as a useful alternative to conventional means of dealing with DUI offenders. The ADES program is unique in its use of a holistic modified punitive approach with multiple levels of intervention.

It has long been recognized that the better a program matches the actual characteristics of the target population, the more success it will attain. A wrongly conceived program will have no effect and can even be counterproductive. A too narrowly conceived program will aid one subgroup of clients but fail with other subgroups. It may be speculated that such approaches account for the majority of unsatisfactory results reported by other programs.

The Cook County ADES program rejects a stilted unidimensional response to a multidimensional human problem and instead offers a multidimensional systems approach to DUI with emphasis on assessment and levels of intervention.

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Pedestrian Flow Characteristics on Stairways During Disaster Evacuation

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ABSTRACT

Although the design and operation of pedestrian facilities in disaster situations are much more critical than they are under everyday, normal conditions, comparatively little research has been done on people movement during disasters. A preliminary investigation of the nature of pedestrian movement on stairways in high-rise residential buildings under emergency or disaster conditions is described. Such people movement down stairways is the most crucial activity in cases of fire. It was found that current codes and regulations in regard to personal space, speed, and flow of people using stairways under emergency or disaster conditions are in need of revision. Recommendations based on the results of this study are made for designing safe stairways and for developing building code requirements. The findings can also be applied in designing stairways in stadiums, theaters, arenas, and other public facilities where stairways are a part of the pedestrian circulation system.