

NEPENTHE

Newsletter on Drug and Alcohol Issues published by the University of Washington Alcoholism and Drug Abuse Institute and the Washington State University Alcoholism Training and Research Unit

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UPCOMING LECTURES AT U.W.

Roger Dale Walker, M.D. Medical Director, Alcoholism Treatment Program, Veterans Administration Hospital, Seattle, WA

"Indian Drinking: A Clinical Exploration of Socio-cultural & Psychological Theories"

Thursday, Nov. 30, 1978
3:30 p.m.
Health Sciences Bldg.
Room E205

Mark A. Stewart, M.D. Ida P. Haller Professor & Head of Child Psychiatry, University of Iowa Psychiatric Hospital

"Alcoholism & Hyperactivity: Are They Truly Related?"

Thursday, Dec. 7, 1978
3:30 p.m.
Health Sciences Bldg.
Room E205

U.W. RESEARCHERS TO STUDY MARIJUANA AND THE GROWTH OF MAMMARY CANCER

Work in humans and experimental animals has shown that marijuana affects central nervous system activity. Most psychoactive drugs, including marijuana, which act on the central nervous system (CNS), also affect the endocrine system by altering the secretion of hormones. In part this is due to the brain regulating the secretions of the pituitary gland which, in turn, regulates the secretions of other glands such as the adrenals and gonads.

Delta-9-tetrahydrocannabinol (Δ^9 -THC), the major psychoactive ingredient in marijuana, alters testicular and ovarian secretions of sex hormones and increases secretion of steroid hormones from the adrenal glands.

A significant clinical finding related to these endocrine events is that gynecomastia (breast development in men) may

Nepenthe (ni-pen-the), n. (L. Gr. nepenthes, removing sorrow; ne-, not + penthos, sorrow, grief) 1. a drug supposed by the ancient Greeks to cause forgetfulness of sorrow; 2. anything causing this state.

occur in heavy marijuana smokers. Attempts to explain this phenomenon have led to two hypotheses: 1) breast (mammary tissue) growth is stimulated by the Δ^9 -THC-induced changes in pituitary, adrenal and testicular secretions, and 2) Δ^9 -THC has intrinsic estrogenic (female hormone) activity and acts directly on mammary tissue to stimulate growth.

Evidence has been equivocal but does not tend to support the latter hypothesis; the first hypothesis is adequate to explain gynecomastia. This clinical finding has important implications. The same hormones that stimulate breast development in males and females also produce growth of mammary gland tumors. Indeed, one mode of therapy for breast cancer involves the removal of the ovaries, adrenals and pituitary in order to eliminate the hormonal stimuli for tumor growth.

A study recently funded by the Alcoholism & Drug Abuse Institute will be directed by Dr. Ronald J. Gellert of the Department of Obstetrics & Gynecology. The hypothesis which will be tested in experimental animals is that Δ^9 -THC, by virtue of its action on endocrine secretions, can increase the growth of mammary cancer. This hypothesis does not suggest that Δ^9 -THC is a carcinogen (initiates the formation of tumors), but only that it promotes growth of tumors already present.

Rats with chemically-induced breast cancer will be fed Δ^9 -THC and tumor growth will be evaluated. The results of such a study could be important in view of the increasing population of marijuana smokers and the fact that breast cancer is the number one cancer killer among women.

REVIEW OF LITERATURE ON SPOUSES & CHILDREN OF ALCOHOLICS

An article entitled, "The Alcoholic Spouse, Children and Family Interactions," in the July, 1978, issue of the Journal of Studies on Alcohol, reviews literature on the personality characteristics of spouses of alcoholics, the psychosocial status of

children of alcoholics, and on alcoholic-spouse and alcoholic-family interactions. The four authors are Theodore Jacob, Ph.D., Alison Favorini, M.Ph., S. Meisel, M.S.W., and Carol M. Anderson, M.S.W., all from the University of Pittsburgh.

A primary concern of the reviewer, who lists 98 studies in the bibliography, is that substantive findings concerning alcoholism and families are scarce because much of the literature was characterized by inadequacies in methodological design. These inadequacies included vague criteria of alcoholism, small, unrepresentative examples of alcoholics, control groups which are not demographically comparable to experimental groups, or no control groups at all.

An additional concern of the researchers was the restricted range of theoretical concepts that has typified the research. They encourage integration of specialized alcoholism and marriage/family research with more general conceptual frameworks such as social psychology, family sociology, and systems theories. This view is an endorsement of a study the reviewers often quote, entitled, "Alcoholism and Marriage: the Argument Against Specialism," by J. Orford. Orford criticizes alcoholism literature for being "oversimple" and claims that "parallels between events occurring in alcoholism-complicated marriages and other marriages have been neglected."

An example of this narrow scope is the general pattern used for studying wives of alcoholics. During the last forty years two predominant theories have guided the research: that women with certain personality types select alcoholics or potential alcoholics as mates in order to satisfy their own unconscious needs, and that women living with alcoholic spouses will experience stress and consequently manifest neurotic traits and psychosocial disturbances.

Neither theory is clearly or strongly supported on a consistent basis by research literature, the review concludes. There is little support for the contention that most wives of alcoholics reflect significant psychiatric disturbance, and only modest support for the stress theories, which have begun to view a wife's behavior as more of a realistic coping mechanism than a result of pathological needs. The reviewers, consequently, emphasize that "existing data do not warrant the view of alcoholics' wives as a unitary class," and that the literature is characterized by small and unrepresentative subject pools and a lack of reliable measures and control groups.

Similar criticisms are found in the review of literature on alcoholics' husbands, children of alcoholics, and family interaction. Studies of husbands of alcoholics have been extremely limited, even though the United States has a conservative estimate of 900,000 alcoholic women. The only commonality that surfaced consistently in the studies of husbands was the existence of a high alcoholism or problem drinking rate. A detailed study of this has been done at the University of Washington.

Studies with children of alcoholics have at times contradicted each other. For example, a study by Chafetz, et al. concludes that even though children of alcoholics "were similar in most ways to children of nonalcoholics, they were significantly more likely to have had a serious illness or accident, school problems, and problems with police or courts." Another study by McLachlan, et al., contrasts with Chafetz' conclusions; summarizing that there were "no significant intergroup differences in school performance, alcohol and drug use or any measure of personality disturbance, although children of alcoholics had significantly lower self-esteem than did the controls."

EIGHT METRIC TONS OF HEROIN
CONSUMED IN U.S. DURING 1976

In the recently published 1978 Annual Report from the White House Office of Drug Abuse Policy, an appended article entitled, "Estimates of the Amount of Heroin Imported into and Consumed in the United States in 1976," places the 1976 consumption total at approximately 8 metric tons.

The formulas used to arrive at this figure are presented in detail in the article. Two approaches were used, and the findings from each were averaged. Researchers examined heroin consumption as well as heroin production and import rates. Limited by the unavailability of exact figures, the report stresses that resultant estimates are logical conjectures based on available facts.

By combining the average 50 mg.-per-day use pattern of addicts (daily users) and the 12.5 mg.-per-day average of less-than-daily users, the estimated heroin consumption for 1976 is 10 metric tons. These average daily consumption figures were multiplied by the corresponding estimates of 500,000 daily heroin users and 1,500,000 less-than-daily users.

The second approach was examining production and import estimates. In order to do so, it was necessary to rely on figures from the different governments on poppy field acreage. Mexico is the major opium producer for the border areas of Burma-Laos, and Thailand (Golden Triangle), as well as Pakistan, Afghanistan, and India (the Near East).

Approximately 40 metric tons of opium were produced in Mexico in 1976, from which 4 metric tons of heroin can be derived, using a 10 to 1 approximate reduction ratio. Very little of this is consumed in Mexico, the report claims, and estimates that, "nearly all of Mexico's heroin production is exported to the United States..."

The Golden Triangle produces about 500 metric tons of opium, varying with weather changes. Local tribes consume

approximately 200 metric tons of opium, and another 10 tons of opium are exported. Of the remaining 290, a 10 to 1 reduction ratio would produce 29 metric tons of heroin. Asia, Australia, Canada, and Western Europe combined would receive an estimated 27 metric tons, leaving 2 metric tons to export to the U.S. Combined with the 4 metric tons from Mexico and .10 metric tons from the Near East, the total amount of heroin available to the U.S. would be approximately 6 metric tons.

Averaged with the 10 metric tons estimated by the consumption formula, the resulting estimate of heroin used in the United States in 1976 is 8 metric tons.

PERFORMANCE AUDIT
AT
LIQUOR CONTROL BOARD

When the Washington Legislature established the State Liquor Control Board in 1933, it stated that the objectives of the Board were "to control manufacture and distribution of alcoholic beverages in a manner that will best protect the welfare, health, peace, morals, and safety of the public." In releasing its September 28, 1978 preliminary report of a performance audit of the Liquor Control Board, the Legislative Budget Committee stated that the Board was making a "conscientious effort to implement the provisions of existing liquor control laws."

The report adds that the Board "has been successful in controlling irresponsible competitive practices and the quality and purity of products sold in the State." Concurrent with its compliments to the Board and its recommendations for improving management and fiscal operations, the report also expresses concern that a predominant concern of the Board has become merchandising liquor for profit. The generation of funds for support of government operations was not specifically included in the original purpose of the Board. The realities of an expanding liquor distribution system (greater volume, more stores, etc.) may continue the focus on generating revenue rather than the original legislative intent of closely controlling liquor as a drug.

Conducted by A.L. Hopwood, Principal Management Auditor of the Legislative Budget Committee staff, the performance audit was carried out under statutory provisions directing the Legislative Budget Committee to make management surveys and program reviews of public bodies, officers, or employees.

Data were obtained in part from interviews with various individuals in the liquor control system, including the three full-time Liquor Control Board members who are appointed by the governor for individual nine-year terms. It was learned that in 1977 the Board employed 1,013 full-time employees, primarily in the merchandising function. The Attorney General, in addition, has assigned three

full-time assistant attorneys to the Liquor Control Board for the exclusive purpose of assisting the Board in enforcing existing liquor control laws.

Recommendations found in the audit can be summarized by delineating three primary categories: planning, management review, and operations. The report suggests that the Liquor Control Board adopt a "better defined, officially approved plan" in order to provide more consistency of operation and more successful adaptation to changing economic, political, technological, and social environments. Such a plan would provide more visibility as well as more direction. In addition, the auditors indicate, a concrete plan with specific objectives would provide a more thorough management review vehicle and enable the Board to develop a more formalized method of making periodic achievement evaluation.

Recommendations concerning the operations of the liquor control system were numerous, and many were viewed as a means of achieving "significant savings and cost avoidances." Included in these recommendations are: adjusting liquor store hours (some remain open during late evening hours while producing minimal profits); reducing back-up stock levels to the equivalent of one month's average sales, developing more definitive guidelines for selection of store sites (in order to avoid costly leases, poor locations, etc.); developing a definite formal program addressing the problem of illegal flow of alcoholic beverages to minors; and using a monthly payment system for liquor store and warehouse employees in order to reduce bookkeeping expenses.

OPIATE ADDICTS AVERAGE
TEN YEARS OF DRUG USE BEFORE
TREATMENT: C.A.D.R.E. SURVEY

An aggregate profile of various aspects of opiate addicts' lives is presented in a recent Community Alternatives and Drug Resources Education (C.A.D.R.E.) survey. The sex-question survey was distributed to the eight principal Seattle-King County agencies working with opiate addicts, and a fact sheet has been compiled with the data received from five of these agencies.

Based on responses from 231 clients, the following summaries can be made for 1978: (1) the average cost for buying drugs averaged \$200 a day per person; (2) the average drug use history length was 10 years; (3) 53% of the addicts supported their use through illegal activities; (4) 68% had been involved in drug dealing as a means of supporting addiction, and other criminal activities included burglary, robbery, prostitution, till tapping, forgery, and criminal misrepresentation; (5) 23% had never been arrested, and those who had been arrested averaged six arrests per

person; and (6) 29% spent one year or less in jail, while average jail time for the remainder was 5.45 years.

C.A.D.R.E. was initiated in September, 1978, by staff at Central Breakthrough, a methadone treatment center, in response to a dual need for community preventive education programs and ex-addict employment opportunities. Ex-addicts were employed as community educators and were funded through C.E.T.A. The original funding has terminated, however, and C.A.D.R.E. is non-operational until new monies become available. C.A.D.R.E. staff are aiming to reopen in early 1979, and are exploring the city of Seattle, NIDA, and the State of Washington as possible funding sources.

RESEARCH IN PROGRESS:
ETHANOL'S INHIBITING EFFECT
ON VITAMIN "A" INTERCONVERSION

Current studies by two UW researchers indicate that excessive consumption of alcohol over time could conceivably decrease the amount of Vitamin A available to the body. The preliminary investigations have shown that ethanol in moderate concentrations will slow the "in vitro" (out of body) enzyme reaction of Vitamin A alcohol (retinol) by as much as 50%.

Since retinol is commonly a storage form of Vitamin A, reaction with the enzyme, alcohol dehydrogenase, is necessary for conversion to a second form-- Vitamin A aldehyde (retinal). This conversion process can also be reversed to produce retinol from retinal. Both forms of Vitamin A are needed in order to maintain good vision, growth, healthy skin, and resistance to infection. Retinol and retinal are found in orange vegetables, such as carrots.

Alcohol dehydrogenase, the enzyme which catalyzes retinol's or retinal's conversion to the other form, is found chiefly in liver cells. This same enzyme, however, is also a catalyst for the oxidization of ethanol. Ninety per cent of the ethanol that is absorbed into the blood following alcohol consumption is eliminated from the body through this oxidization process. Consequently, ethanol and retinol (or retinal) may compete with each other for dehydrogenase.

The study, which is being conducted by Kenneth Raymond, doctoral student, and Professor Y. Pocker of the Department of Chemistry, is funded by the Alcoholism and Drug Abuse Institute.

DRUG INFORMATION SERVICE
AT U.W. PROVIDES AREA HEALTH
CARE PROFESSIONALS WITH FACTS
ON THERAPEUTIC DRUGS

A patient's adverse reaction to a drug is a problem that most commonly prompts a physician to call the Drug Information Service (DIS) at the University of Washington Health Sciences Library. DIS staff

members respond by locating and examining literature on the drug, analyzing the information, forming an opinion on the causes of the reaction, and recommending an altered or alternate prescription. This thorough consulting procedure requires pharmaceutical training and professional experience, thereby differing from the services a trained librarian could provide. Although adverse drug reaction information heads the list, the DIS also routinely responds to requests for information about new drugs, therapeutic medications for specific agents, recommendations for treatment of specific diseases, and any other request for information about a drug used in therapy.

The DIS serves physicians, pharmacists, nurse practitioners, dentists, and other health care professionals throughout the Pacific Northwest, although about 95% of the 200 calls each month are from the Seattle area. The UW School of Pharmacy provides the majority of the funding for the service, and federal grant monies provide salary for a half-time secretary.

Dr. Gary Smith, Associate Professor of Clinical Pharmacy and director of DIS, emphasizes that the service is not a poison information center for the public (such calls are referred to the Poison Control Information center at the Children's Orthopedic Hospital), nor does it deal with illicit street drugs or drug abuse problems. DIS activities do not usually include literature searches for investigator's research projects or for questions unrelated to direct patient care.

Smith has been with the DIS since it opened in 1972. It was originally developed as a lab for pharmacy students and as a resource for clinical faculty. As it expanded to a community and regional consulting service, these two functions remained a part of DIS. Five pharmacy students serve part-time internships with the service under Smith's supervision, and priority is still given to calls from health care professionals associated with University of Washington facilities.

Throughout the nation, there are about 80 programs similar to DIS, and the need for their services is likely to increase as new therapeutic drugs continue to be developed. Since 1972, approximately 15 new drugs have appeared on the market each year. Although pharmaceutical companies are required by the FDA to provide information on the drugs they sell, these descriptions are not necessarily complete or without bias. The DIS has the advantage of access to factual, unbiased information in its own library and the Health Sciences Library, as well as a link with national drug information computer systems.

Smith comments that an additional purpose he has for the DIS is to promote the role of pharmacists in local communities. He has noted a trend for physicians and patients alike to seek drug information from pharmacists, and sees the DIS as a backup for pharmacists as this trend continues.

On January 5, 1978, three University of Washington investigators will participate in a symposium sponsored by the American Association for the Advancement of Science on "The Effects of Prenatal Exposure to Alcohol." The symposium is part of the annual conference held by the largest scientific association in the U.S., and it will take place in Houston, Texas this year. The conference participants from the Department of Psychiatry & Behavioral Sciences are Dr. Ann P. Streissguth, Dr. Joan C. Martin, and Dr. Sharon Landesman-Dwyer. In addition, Dr. Gerald Chernoff, from the University of California in San Diego, and Dr. Ernest P. Noble, Special Assistant, Alcohol, Drug Abuse, & Mental Health Administration, are participating in the symposium.

Since the recognition of the Fetal Alcohol Syndrome in the past decade, the scientific study of the effects of prenatal exposure to alcohol has burgeoned. The symposium will review findings from four separate areas of investigation: (1) the discovery of the Fetal Alcohol Syndrome and subsequent research on the offspring of alcoholic women, including biological, psychological, and epidemiological studies; (2) the efforts to establish an appropriate animal model for the Fetal Alcohol Syndrome, closely paralleling the human syndrome; (3) the controlled experimental work with animals concerning the behavioral effects of prenatal exposure to ethanol and other central nervous system depressants; and (4) the prospective investigations of the effects of moderate or social drinking during pregnancy in humans. The unanswered questions, controversial findings, and major methodological problems in each area will be highlighted.

Finally, the implications of these findings for public and social policy will be discussed, along with a progress report on national efforts initiated to prevent harmful effects of prenatal exposure to alcohol.

If interested in procuring audio-cassettes of this symposium, readers are advised to refer to a recent issue of Science, where details are given.

HOW TO RE-OFFER CHEMICAL DEPENDENCIES
TELECOURSE THIS WINTER

The University of Washington will again offer "Chemical Dependencies & Society", a telecourse which may be taken for credit. It will deal with mood-altering substances, with the purpose of describing how drugs work to affect change in the human animal, both physically and emotionally. An interdisciplinary group of University of Washington faculty members will speak on current knowledge in the field of chemical dependencies, emerging questions which are currently being researched, and the impact of the social problems of drug abuse and alcoholism on American society.

Opening Date January 6, 1979 (Saturday)
11:00 a.m. to 12 noon
Runs 10 weeks

For enrollment information, please contact the Office of Independent Study, University of Washington, DW-30, Seattle, WA 98195 or call: 542-2250

ROYCE ON "ALCOHOL AND RESPONSIBILITY"

A new Hazelden pamphlet by James E. Royce, S.J., Ph.D., Professor of Psychology and Director of the Alcohol Studies Program at Seattle University, will appear shortly.

The title is "Alcohol and Responsibility," and it deals with issues of responsibility for drinking and drunken behavior on the part of both alcoholics and nonalcoholics, with various ramifications such as liability suits and the controlled drinking controversy. For information on obtaining copies, call: 626-6498.

UPCOMING SEATTLE UNIVERSITY COURSES

The Advanced Certificate Program in Alcohol Studies at Seattle University will offer several courses in Winter Quarter, 1979. These courses will also count toward the two-year continuing education requirement for renewal by the Alcoholism Certification Board and may be taken by persons who are not candidates for the Seattle University Advanced Certificate at this time.

Alma Gentry, M.S.W., A.C.S.W., will teach "Alcoholism and the Family" on Wednesday evenings from 7 to 9 starting January 3 through March 7.

Lorie Dwinell, M.S.W., A.C.S.W., will teach "Group Dynamics in the Treatment of Alcoholism" on Tuesday evenings from 5 to 8 starting January 9 through March 6.

David Reynolds, Ph.D., will teach "Agency Administration" on Monday evenings from 7 to 9 starting January 8 through March 5.

Dr. James W. King, S.J., will teach "Grantmanship" on Thursday evenings from 7 to 9 starting January 4.

1978 KING COUNTY DRUG USE PATTERNS
LIKELY TO SEE NO MAJOR CHANGE

The "1978 Assessment of Drug Use in King County," prepared by the King County Division of Human Services, cautiously makes drug use projections for calendar year 1978, based on 1977 trends and 1979 first-quarter data.

The report indicates a stabilized heroin availability and use level, congruent with 1979 figures, a slight increase in use of PCP, and neither an increase nor decrease in the non-medical use of legal drugs. The report also suggested that, consistent with 1977, the non-medical use of legal drugs is greater than use of street drugs. All summaries and predictions are interspersed with reminders of the difficulty in obtaining accurate data on illegal drug use, and the need to rely on estimates.

In assessing current heroin use trends, an aggregate of several indicators was used: heroin-related deaths, emergency

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room visits, Seattle Fire Department aid car cases, opiate-related drug treatment admissions, length of abuse at admission to treatment, heroin purity, heroin price, and heroin seizures. The overall conclusion is that the heroin supply is reduced and prevalence is decreased in comparison to pre-1977 years. The decreased purity of heroin on the Seattle market and the consequent increased price support this conclusion, as well as the lower weight-amount of heroin seized in 1977 as compared to 1976.

Accurate assessment of PCP prevalence was more difficult since the only over-time indicator available was emergency room mentions. Other indicators were one-time referents: a Kent Valley Youth Services Survey of five South King County junior or senior high schools, and a study by Schuckit & Morrissey of 335 King County adolescents referred by courts to alcohol counseling and education centers. The trend seems to be towards a slight increase in use, although this could be attributed to the growing medical personnel familiarity with the drug and consequently the rising number of mentions of PCP.

In rank order, the most common legal drugs linked with emergency room mentions are:

- 1) diazepam (Valium)
- 2) flurazapen (Dalmane)
- 3) meprobamate (Equanil, Miltown)
- 4) phenobarbital (Luminal)
- 5) d-propoxyphene (Darvon)
- 6) methylphenidate (Ritalin)
- 7) amitriptyline (Elavil)

The majority of these legal drugs mentioned in emergency room occurrences had been obtained by legal prescription, and approximately 69% were classified as attempted suicides.

An analysis of all available data indicates that, within King County, the prevalence of non-medical use of legal drugs over street drugs will again carry into 1978. Percentages supporting this vary in different studies, with the most striking example being that emergency room mentions of Valium were 4 times greater than heroin mentions during 1977.

REVIEW OF THE SMALL GRANTS PROGRAM
1975-1978
A.D.A.I.
UNIVERSITY OF WASHINGTON

The Alcoholism & Drug Abuse Institute (ADAI) is committed to furthering research efforts at the University of Washington in the field of substance abuse. The Small Research Grants Program provides a mechanism for awarding funds to UW investigators on a competitive basis. Grant proposals are submitted and reviewed every four months. The Small Grants Review Committee, comprised of faculty members from a wide range of disciplines, evaluates the grants on the basis of scientific merit, relevance to the field of alcoholism and drug abuse, and feasibility of conducting

the research. Of the grants submitted to ADAI, approximately 50% are approved and receive funding.

In order to find out more about the Small Grants Program, ADAI distributed a questionnaire in June, 1978, to all principal investigators funded in the past 3 years. During this period, ADAI funded 55 small research grants totaling \$285,000.

At this time, 77% of the projects have been completed. Prior to submitting their first grants to ADAI, 64% of the investigators had never conducted research in this field before. Of these newcomers, 79% have continued research efforts in the area funded by ADAI. For those who already were conducting research in the field of alcoholism and drug abuse when they applied for ADAI funds, 94% remained actively involved after completing their ADAI investigation.

Of the completed projects, only 4 failed to result in at least one scientific presentation, professional publication, or awarded doctoral dissertation. To date, 58% have resulted in articles published or accepted for publication in scientific journals; 65% of the investigators have presented their findings at scientific meetings; and 11 (32%) led to doctoral dissertations, all of which were awarded by the University of Washington in the Departments of Psychology, Pharmacology, Sociology, and Zoology. For the remaining 10 projects which are not complete yet, four already have generated findings which have been presented at professional meetings.

Concerning outside support for continued research efforts, 16 of the principal investigators are either seeking or have obtained additional funds to continue their work.

There was a consensus among investigators that ADAI funds were extremely valuable. The majority stated that the pilot or small research projects they conducted were unlikely to have been funded anywhere else. Many suggestions for ways in which ADAI can further research efforts on campus were provided. If you would like more information about the Small Grants Program, a more detailed report is available from the Institute.

RESEARCH IN PROGRESS:
TRAFFIC ACCIDENTS, ALCOHOL,
& HIGH-RISK BEHAVIOR

Traffic accidents continue to involve high percentages of drivers who have consumed alcohol, even though the message that drinking and driving do not mix is widespread. In an effort to alleviate this costly social problem (46,000 lives and \$21.2 billion in insurance claims in the U.S. in 1975), current research at the University of Washington is examining drunken driving from new perspective. Rather than focusing on alcohol as a single causal agent in traffic problems, Department of Psychology doctoral candidate Dennis Donovan is also examining personal dispositions and behaviors as well as psychological and situational variables in relation to high-risk driving behavior. The research is funded by the Alcoholism & Drug Abuse Institute.

Working in conjunction with Alan Marlatt, Professor of Psychology, and Phil Salzberg, psychologist with the Research Division of the Washington State Department of Licensing, Donovan's study may provide a framework for a training and intervention program with high-risk drivers in Washington. Such drivers are currently brought into education programs, but the emphasis is on providing information, which does not necessarily affect driving or drinking behavior.

Some of the background data for Donovan's work has been extracted from studies which have compiled personality profiles of individuals responsible for fatal traffic accidents. These profiles have been compared to those of individuals in an accident-free control group. Prevalent characteristics that emerged among drivers in the fatal accident group included aggressiveness, histories of angry outbursts, and high school reputations as truants and troublemakers.

When combined with alcohol, aggressiveness becomes especially hazardous. Individuals who have no means of expressing anger in daily situations often become aggressive drivers when they get behind the wheel. These people may also drink during a difficult social or interpersonal situation, Donovan explains, in an effort to reduce tension levels and increase their sense of social power and control. This same delusion of increased control transfers from social behavior to driving behavior, when in actuality, control of the vehicle is decreasing.

Other personality characteristics Donovan cites as being associated with high-risk drivers include lack of appropriate assertiveness, an "external locus of control" (sense that outside factors control life more than the self), a suspiciousness of causes behind events in one's life, and a preoccupation with other activities while driving. Such individuals also tend to use driving as a means of tension reduction, and consequently may be more aware of inner turmoil than of traffic around them.

Research approaches for the study will be multi-faceted. Several scales, inventories, and questionnaires will be distributed to three different groups of Washington drivers. The first will be composed of high-risk drivers who have received two DWI's within the past three years; the second is made up of high-risk drivers who have received five moving violations and/or accidents within the past two years; and the third group will consist of a random sample of the population. (The first two groups are based on criteria for current state education programs).

All individuals will complete the Buss-Durkes Hostility inventory and will be rated on an external locus of control scale as well as measures of assertiveness, depression, and neuroticism. They will also estimate the frequency and quantity of their alcohol consumption and provide self-perceptions of alcohol's effect on their own driving and mood states.

Attitudes toward aggressive driving, competitive speed, and treatment of other drivers will be assessed. Actual driving records will be examined and participants will be asked to outline their own driving histories. In addition, the DWI group will be recording the events that occurred during the 6 to 12 hours before their arrest as well as completing a self-descriptive behavioral checklist.

From this data, Donovan will be isolating high-risk variables through multiple regression analysis. Using cluster analysis, he plans to identify subgroups of people within each group who have similar personal characteristics, and then to compare these different subgroups in terms of their driving risk.

By identifying those psychological and situational variables that precede DWI arrest and by prioritizing problem areas, Donovan's research will lay the groundwork for a behavioral treatment program for high-risk drivers. Such a program would concentrate on providing the individual with alternative coping skills for intrapersonal and interpersonal stress in order to prevent the use of alcohol or driving as a means of tension reduction.

EXCESSIVE DRINKING LINKED
TO
INCREASED CANCER RISK

"Consumption of alcoholic beverages is now known to be one type of exposure that contribute to the risk of cancer," summarizes Albert J. Tuyns, M.D., an epidemiologist with the International Agency for Research of Cancer in Lyons, France. His article, entitled "Alcohol and Cancer," printed in the NIAAA's Summer, 1978, edition of Alcohol World, is extracted from a paper Tuyns prepared under an NIAAA grant to review alcohol and cancer studies conducted in several countries.

Several of the studies he refers to have clearly indicated an association between consumption of alcohol and cancer in the upper respiratory and digestive tracks (mouth, pharynx, larynx, and esophagus). The cancer risk is even higher when drinking is combined with smoking. Individuals who smoke over 20 cigarettes per day and also consume six alcoholic drinks per day have a cancer risk which is 44.4 times greater than that of individuals who consume little or none of either drug.

This link with tobacco is supported by studies indicating alcohol's co-carcinogenic qualities. Experiments with animals have shown that as a pure chemical, ethanol itself is not likely to be a carcinogen, but that it may enhance the action of known carcinogens. Research with oral cancer patients has suggested that "access to the mucous membranes by the carcinogens in tobacco might be facilitated by the bathing and working of cells by alcohol." Liver damage, in addition to alcohol-caused liver dysfunction, has also been linked to mucous membrane changes that "might render individuals more susceptible to the combined effect of alcohol and tobacco."

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Pure ethanol is not the only component of alcohol, and some beverages may contain a variety of carcinogenic materials such as polycyclic hydrocarbons, nitrosamines, and fusel oil. Studies in Dublin have indicated the presence of chrysofile fibers remaining in beer after the filtering process, and asbestos fibers have been found elsewhere in beer, wine, vermouth, sherry and gin. Further research may affirm the relation of chrysofile fibers and asbestos to rectal cancer.

Other research areas reviewed included stomach cancer, pancreatic cancer, and the relation of alcohol to precancerous lesions. Tuyns stresses the need for further research in all areas, and recognizes that even in the upper alimentary and respiratory tracts, where findings have been most consistent, "alcohol and tobacco are not the only factors found responsible for cancers..." At the same time, he emphasizes that a sizable proportion of cancers "could be prevented if the amounts of alcohol consumed by individuals did not exceed a reasonable level."

VISTA HILL FOUNDATION
OFFERS FREE NEWSLETTER

Edited by Dr. Sidney Cohen, the Drug Abuse & Alcoholism Newsletter published by the Vista Hill Foundation is free to those who request it. The newsletter is published ten times a year and is one part of the Foundation's continuing education and research program. The October, 1978, issue summarizes current knowledge concerning the use of heroin vs. morphine for pain.

Write to the Vista Hill Foundation, Drug Abuse & Alcoholism Newsletter, 7798 Starling Drive, San Diego, California 92123.

JOURNAL HOLDINGS IN ADAI LIBRARY

The ADAI library currently subscribes to approximately 25 journals and 15 newsletters covering the area of alcohol and drug abuse. In addition, there are incomplete holdings of 20 other titles which were either donated or not renewed. Most of the following titles are also available at the Health Sciences Library, the Social Work Library, or the Main (Suzallo) Library.

Journal Content Subscriptions:

- ADDICTIVE BEHAVIORSVol. 1- 1976+
- ADDICTIVE DISEASES.....Vol. 1- 1974+
- ALC HLTH & RES WORLD....Vol. 1- 1973+
- ALCSM: CLINICAL & EXPER. RES.....Vol. 1- 1977+
- AM J DRUG & ALC ABUSE...Vol. 2- 1975+
- AM J SOCIOLOGY.....Vol. 82(3)-1976+
- BRIT J ADDICTIONS.....Vol. 69-72-1974, 1977+
- BULLETIN ON NARCOTICS...Vol. 27- 1975+
- DRUG AB & ALC REV.....Vol. 1- 1978+
- DRUG & ALC DEPENDENCE...Vol. 1,3 1976, 1978+

- GRANTSMANSHIP CTR NEWS.....No. 19- 1977+
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- PSYCHIATRIC NEWS.....Vol. 10(12)-13(8) 1975-78
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NEW BOOKS RECEIVED IN ADAI LIBRARY

Gross, Milton M., ed. Alcohol Intoxication and Withdrawal, III. New York: Plenum Press, 1977.

Sobell, Mark & Linda Sobell. Behavioral Treatment of Alcohol Problems. New York: Plenum Press, 1978.

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Blackman, D.E. & D.J. Sanger, eds. Contemporary Research in Behavioral Pharmacology. New York: Plenum Press, 1978.

Broadhurst, Peter L. Drugs & the Inheritance of Behavior. New York: Plenum Press, 1978.

Isreal, Yedy, ed. Research Advances in Alcohol and Drug Problems. New York: Plenum Press, 1978.

The ADAI library is a reference library, for the use of staff and other investigators and students of alcohol and drug problems. The collection currently numbers approximately 350 books and 40 journals and newsletters (and is still growing). Donations of books and journals (or journal reprints) in the areas of alcohol and drug abuse, especially those published by UW researchers, are gratefully accepted; any recommendations of titles which might be purchased for the library are also welcome.

ADAI librarian, Nancy Sutherland, is on hand to assist in finding information and in the use of reference materials. She is familiar with the ins and outs of the UW library's collection of alcohol and drug abuse materials, and can provide special reference and bibliographic services to faculty and students. Contact Ms. Sutherland at the ADAI (543-0937) with questions about alcohol and drug literature, or suggestions for library acquisitions.

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