THE WHITE HOUSE

WASHINGTON

January 30, 1984

Dear Mr. Imhof:

Your letter to Ann Wrobleski regarding a message from the White House to include in the premier issue of the Journal of Substance Abuse Treatment has been referred to my office.

I have enclosed a message from me which, under my signature, may be included in your premier issue.

Good luck and best wishes,

Sincerely,

Carlton E. Turner, Ph.D.
Special Assistant to the President
for Drug Abuse Policy

Mr. John Imhof, A.C.S.W.
Editor-in-Chief
Journal of Substance Abuse Treatment
North Shore University Hospital
300 Community Drive
Manhasset, NY 11030

THE WHITE HOUSE

WASHINGTON

January 30, 1984

Dear Friends:

In supporting the introduction and development of the Journal of Substance Abuse Treatment, the trustees of North Shore University Hospital have affirmed the importance of hospitals reaching out to their community. The Journal of Substance Abuse Treatment, under the editorial supervision of North Shore University Hospital, represents another step forward in strengthening the emotional and physical well being of our citizens.

The Editors and the Editorial Review Board have dedicated the Journal to the thousands who provide treatment and assistance daily to those in need. They confront challenges of immense proportion. From the moment a substance abuser makes the decision to seek help, and on throughout rehabilitation, the front-line treatment provider must address a variety of emotional and physical disabilities. The Journal will provide a needed forum for treatment providers to share both the success and frustration of their efforts.

Public recognition and a sincere commendation to the substance abuse treatment providers and the para-professionals is long overdue. I want to let all know that I admire your skills, applaud your courage and support your efforts in combatting the epidemic of substance abuse in our nation.

Best wishes,

Sincerely,

Carlton E. Turner, Ph.D.
Special Assistant to the President
for Drug Abuse Policy

NORTH SHORE
UNIVERSITY HOSPITAL A TEACHING CENTER OF CORNELL UNIVERSITY MEDICAL COLLEGE

Department of Psychiatry
Drug Treatment and Education Center
400 Community Drive
Manhasset, New York 11030

(516) 562-3010

December 28, 1983

Ms. Ann Wrobleski
The White House
Pennsylvania Avenue
Washington, D.C. 20500

Dear Ms. Wrobleski,

We are honored that Mrs. Reagan has consented to present a message in the premier issue of the Journal of Substance Abuse Treatment. At the suggestion of Catherine Fenton, I am enclosing a draft of a proposed statement for Mrs. Reagan's review, comments and suggestions.

As the galley proofs for the first edition are currently in preparation for the March, 1984 issue, we respectfully request receipt of Mrs. Reagan's statement as soon as possible in order to maintain our current publication deadline.

Thank you for your kind assistance, and please feel free to call me if there is any additional information you may require.

Sincerely yours,

John Imhof, A.C.S.W.
Editor-in-Chief
Journal of Substance Abuse Treatment

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[redacted]

THE WHITE HOUSE

WASHINGTON

May 14, 1984

Dear Bob:

Thank you for providing me with a copy of the Journal of Substance Abuse Treatment, Volume 1, Number 1, 1984.

There has been a void in the treatment community which the Journal eliminates. Keep up the good work.

Best wishes,

Sincerely,

Carlton E. Turner, Ph.D.
Special Assistant to the President
for Drug Abuse Policy

[redacted]

Dr. Robert Hirsch
Drug Treatment and Education Center
Department of Psychiatry
North Shore University Hospital
Manhasset, NY 11030

file
NY

THE WHITE HOUSE

WASHINGTON

May 14, 1984

Dear John:

Thank you for sharing with me your plans for the Journal of Substance Abuse Treatment.

You are filling a need and I wish you the best. If I can be of any further assistance just let me know.

Best wishes,

Sincerely,

Carlton E. Turner, Ph.D.
Special Assistant to the President
for Drug Abuse Policy

Mr. John Imhof, MSW, MA, MPS
Drug Treatment and Education Center
Department of Psychiatry
North Shore University Hospital
Manhasset, NY 11030

NORTH SHORE
UNIVERSITY HOSPITAL
A TEACHING CENTER OF
CORNELL UNIVERSITY MEDICAL COLLEGE

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18 MAY 1984

Department of Psychiatry
Drug Treatment and Education Center
400 Community Drive
Manhasset, New York 11030

(516) 562-3010

May 15, 1984

Carlton Turner, Ph.D.
Special Assistant to the President
for Drug Abuse Policy
Old Executive Office Building
Room 220
Washington, D.C. 20500

Dear Dr. Turner,

Bob Hirsch and I would like to express our appreciation for your taking time to meet with us this past Friday. We have arranged for you to receive an on-going subscription to the Journal of Substance Abuse Treatment, and will keep you posted on the progress of the Journal. Any influence you may have in pursuading drug treatment specialists to submit articles for publication would also be appreciated, as we would like to have a cross-section of all treatment modalities represented in the Journal.

It was a distinct pleasure to meet you, and again, a special thanks for your Southern hospitality!

Sincerely yours,

John Imhof, A.C.S.W.
Director

Editor-in-Chief,
Journal of Substance Abuse Treatment

JI/lag

JOURNAL OF SUBSTANCE ABUSE TREATMENT

Vol. 1, No. 4 1984

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JOURNAL OF SUBSTANCE ABUSE TREATMENT

The *Journal of Substance Abuse Treatment* is published in cooperation with North Shore University Hospital in Manhasset, New York.

The Drug Treatment and Education Center, Department of Psychiatry, North Shore University Hospital, founded in 1971, is a multi-modality, interdisciplinary substance abuse treatment program providing a wide range of outpatient and inpatient clinical services, including prevention, health education and a continuing clinical conference series. The Center was developed in response to the needs of the hospital's surrounding communities and seeks to emphasize the appropriateness and responsibility of hospitals in addressing the epidemic health problem of substance abuse.

The Drug Treatment and Education Center receives funding support from the New York State Division of Substance Abuse Services, and the Nassau County Department of Drug and Alcohol Addiction.

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Editors' Note

Beginning with this issue, we are pleased to introduce our readers to two new sections of the *Journal of Substance Abuse Treatment*—the JSAT Interview, and Technical Reports.

In order to provide additional historical perspective, the JSAT interview will introduce and feature discussions with individuals who have made significant contributions to the field of substance abuse treatment. Our first interview was conducted with Father Daniel Egan, S.A., perhaps known more familiarly to readers as "The Junkie Priest." The interview with Father Egan may be found on page 255. Future interviews will highlight other individuals whose work has had historical, clinical and/or sociological impact upon the field of substance abuse treatment. Readers are invited to submit names of people whom they believe should be considered for the JSAT Interview.

Articles for the Technical Reports section will generally (but not always) be briefer than standard articles in the journal and will highlight recent technical developments within the field that may be of practical value to treatment delivery. Articles for this section will also be reviewed for scientific methods and therapeutic relevance, and in addition provide a format for the presentation of newly developed instruments, methodologies or techniques. Articles should be based on reproducible scientific methodology, although randomized, controlled experiments will not always be necessary. Data supporting the conclusions of the authors and the therapeutic potential of the contribution are required.

With the addition of Technical Reports, under the editorial supervision of Dr. A. Thomas McLellan, the journal will include a broader range of papers that are essentially technical in nature, but also considered to have a direct interest and application for clinicians. The Technical Reports begin on page 265.

As this issue represents the conclusion of Volume 1, we invite our readers to submit their opinions, comments and ideas regarding the journal. While we certainly subscribe to the development of an informed readership, we are also very much interested in a more informed editorship!

We hope to hear from you.

John Imhof
Robert Hirsch
Editors-in-Chief

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ORIGINAL CONTRIBUTION

The Epidemic of Acquired Immunodeficiency Syndrome (AIDS) and Suggestions for its Control in Drug Abusers

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Abstract—*Intravenous (IV) users of illicit drugs have accounted for 17% of AIDS cases seen in the United States. Previous research has shown that more than half of IV drug abusers entering a drug detoxification program in New York City had serologic evidence of exposure to the virus believed to cause AIDS. Spread of AIDS among drug abusers presumably occurs by transmission of the virus via shared needles, works, or drug-containing solutions. Secondary spread of AIDS from IV drug abusers to others may occur by venereal transmission or by perinatal transmission to infants. In this article, relevant characteristics of the AIDS epidemic are presented to assist the staff of drug treatment programs in their work with IV drug abusers. Suggestions regarding the education of drug treatment personnel and the dissemination of information about AIDS to drug abusers and their families are offered. Fact sheets on AIDS for drug treatment and prison staff, and for drug abusers with and without the disease are presented. Finally, possible approaches to the prevention of AIDS in drug users are discussed.*

Keywords—Acquired Immunodeficiency Syndrome, drug abuse, transmission, infectious diseases, prevention, AIDS

FROM THE TIME of the first recognition of the acquired immunodeficiency syndrome (AIDS) in spring 1981 through February 4, 1985, a total of 8,215 cases has been reported to the Centers for Disease Control (CDC) (CDC, AIDS Activity, Surveillance Section, personal communication, 1985). The epidemic continues to grow rapidly, with 3,688 cases reported to the CDC through the 45th week of 1984 compared

This work was supported in part by Grant DAO3574 from the National Institute on Drug Abuse; Grants CA33205, CA13343 and CA16087 from the National Cancer Institute, Grant ES00260 from the National Institute of Environmental Health Sciences; and the Kaplan Cancer Center of New York University Medical Center.

The opinions expressed in this article do not necessarily reflect policy of the New York State Division of Substance Abuse Services or Narcotic and Drug Research, Inc.

Requests for reprints should be sent to Michael Marmor, Laboratory of Biostatistics and Epidemiology, Department of Environmental Medicine, New York University School of Medicine, 341 East 25th Street, 2nd Floor, New York, 10010-2598.

with 1,743 cases in the same period of 1983 (CDC, 1984a). The CDC has projected that approximately 9,600 new cases of AIDS will occur in 1985 (M. Morgan, CDC, personal communication). Despite the discovery of the probable cause of AIDS in 1983–1984 (Barré-Sinoussi, et al., 1983; Popovic, Sarngadharan, Read, & Gallo, 1984), neither an effective treatment nor a preventive vaccine have been developed to date.

After homosexual or bisexual men, the second largest AIDS risk group, accounting for 17% of cases, has been the population of intravenous users of illicit drugs (herein referred to as IV drug abusers) (CDC, 1984b). Although this portion of the epidemic had accounted for 1,403 cases of AIDS and 725 deaths as of February 4, 1985 (CDC, AIDS Activity, Surveillance Section, personal communication, 1985), it has received relatively little scientific or public attention. Yet the epidemic of AIDS among IV drug abusers is growing at least as rapidly as the AIDS epidemic as a whole, and it may be a critical bridge for sexual transmission of the epidemic from male and female drug abusers to the general population of nondrug abusers. AIDS is thus emerging as a critical problem for both drug abusers and for the public at large. In this article, we summarize information on AIDS relevant to the treatment and counseling of IV drug abusers and discuss possible approaches for prevention.

MEDICAL BACKGROUND

The CDC has defined AIDS as the presence of a reliably diagnosed disease that is at least moderately predictive of underlying cellular immunodeficiency in an individual with no known predisposing causes for immune deficiency (CDC, 1984b). Common diseases seen in AIDS patients include Kaposi's sarcoma, a form of cancer that was previously rare in the United States, and various opportunistic infections, the most frequent of which have been *Pneumocystis carinii* pneumonia, toxoplasmosis, and esophageal candidiasis (Greene & Slepian, 1984; Jaffe, Bregman & Selik, 1983; Selik, Haverkos, & Curran, 1984).

While some AIDS patients have denied prodromal symptoms, many have reported histories of nonspecific illnesses in the weeks or months preceding diagnosis. Such prodromal symptoms commonly have included persistent fevers, night sweats, fatigue or malaise, diarrhea, significant weight loss, and persistent unexplained lymphadenopathy. As many of these symptoms may be present in non-AIDS conditions and, in particular, in IV drug abusers without AIDS, clinical and laboratory evaluations are necessary to separate treatable non-AIDS illnesses from AIDS. Final diagnosis of CDC-AIDS will depend on diagnosis of a disease of immunosuppression as discussed above.

Viruses that appear to cause AIDS have now been identified by several research groups (Barré-Sinoussi et al., 1983; Levy et al., 1984; Popovic et al., 1984). These viruses—lymphadenopathy-associated virus (LAV) discovered in France, and human T-cell lymphotropic virus-III (HTLV-III) discovered in the United States—are thought to be identical or at least very closely related (Cheingsong-Popov et al., 1984). Evidence supporting the causal role of HTLV-III/LAV in AIDS is based on recent and rapid growth in prevalence of serum antibodies among members of AIDS risk groups (CDC, 1984c; Kalyanaraman et al., 1984), demonstration of seroconversion prior to disease onset (Feorino et al., 1984), high rates of seroprevalence of antigens or antibodies in persons with AIDS or at high risk of AIDS (Brun-Vezinet et al., 1984; Gallo et al., 1984; Kalyanaraman et al., 1984; Safai et al., 1984; Sarngadharan et al., 1984), immunologic abnormalities consistent with AIDS in IV drug abusers exposed to the virus (Des Jarlais et al., 1985), and in vitro cytotoxic effects of these viruses on T helper cells, the cells primarily affected by AIDS (Klatzman et al., 1984). Non-human primates inoculated with LAV or HTLV-III have developed immunologic signs consistent with those observed in humans with AIDS, but to date have not been diagnosed with diseases consistent with the CDC definition of AIDS (Alter et al., 1984; CDC, 1984d).

EPIDEMIOLOGICAL PATTERNS

The epidemiology of AIDS has been consistent with that expected of a disease caused by a blood-borne and venereally transmitted agent. Characteristics of the AIDS epidemic relevant to IV drug abusers are as follows.

1. Among drug abusers, AIDS appears to have been transmitted by small amounts of blood in shared needles, syringes, or cookers. We do not yet know how much sharing of works is needed to transmit the virus.

2. AIDS has been shown to be sexually transmitted from male IV drug abusers to females who do not use IV drugs (Harris et al., 1983; Masur et al., 1982; Pitchenik, Fischl, & Spira, 1983). Sexual transmission from AIDS-infected females to males has not been as well-established, but has been reported in at least one case in New York City (New York City Department of Health, 1984) and appears to occur commonly in AIDS in Africa (Piot et al., 1984; Van de Perre et al., 1984). Male-to-male transmission of AIDS has, of course, been common in the epidemic, and the dual presence of male homosexuality or bisexuality and IV

drug abuse in some individuals may have been the bridge for the AIDS virus between these two populations.

3. AIDS has occurred in at least 46 infants born to IV drug using women or men (CDC, AIDS Activity, Surveillance Section, personal communication, 1985; Oleske et al., 1983; Rubinstein et al., 1983). The mortality rate among pediatric cases of AIDS has been about 60% (New York City Department of Health, 1984). The specific mode of transmission of the virus from mother to infant has not been established, although it is thought to occur during pregnancy or at the time of delivery. As casual transmission of the virus to health care workers or families of AIDS cases has not been observed, the apparent father-to-infant cases of AIDS transmission probably represent indirect father-to-mother-to-infant processes. Transmission of pediatric AIDS from affected children to their siblings or to other family members was *not* observed in a recent study of this question (Zabala et al., 1984).

4. An asymptomatic carrier state for AIDS appears to exist (Laurence et al., 1984; Marmor, 1984). This hypothesis is supported, for example, by the presence of transfusion-associated AIDS cases, since blood donors who provided AIDS-contaminated blood were probably healthy at the time of donation or they would not have considered themselves or been considered by blood banks to be suitable donors (Curran et al., 1984). A carrier state for AIDS is also suggested by the occurrence of the disease in female sexual partners of asymptomatic IV drug abusers (Pitchenik, Fischl, & Spira, 1983).

5. Recent evidence indicates that the AIDS virus can be present in saliva and semen of infected persons who are clinically well (Groopman et al., 1984; Zagury et al., 1984). The ability of saliva to transmit the infection, however, is not known. The absence of AIDS cases with histories of contact limited to exchanges of saliva with members of AIDS risk groups argues strongly against efficient transmission of the disease by this route.

6. It is possible that repeated exposure to the AIDS virus or exposure to a large inoculum may be necessary for development of a full-blown case of the disease. This hypothesis is supported by the absence of AIDS among health care workers in the United States who have experienced "needle sticks" while caring for AIDS patients (CDC, 1984e). It is also possible that exposures to other agents (cofactors) in addition to HTLV-III/LAV may be necessary before a person will develop full-blown AIDS. Among IV drug abusers, such co-factors might be exposure to immunosuppressive drugs or exposure to infectious organisms other than HTLV-III/LAV on unsterile needles or in drug cutting media.

7. IV drug using cases of AIDS have been concentrated in the New York metropolitan area (Allen, 1984). Whereas 37% of male homosexual AIDS cases have occurred in New York or New Jersey, approximately 79% of IV drug using AIDS cases have occurred in these two states (CDC, AIDS Activity, Surveillance Section, personal communication, 1984). Although substantial numbers of IV drug addicts live in California, this state has accounted for only 2.1% of IV drug-using AIDS cases (but 29% of homosexual cases). The geographic localization of AIDS to the New York area may reflect a greater overlap between the homosexual and drug using communities in New York City than elsewhere, greater needle sharing in New York City, or lack of travel by potentially infectious New York area IV drug abusers to other cities. It seems unlikely that any of these factors would be strong enough to keep AIDS from spreading to IV drug abusers in other areas.

8. AIDS has occurred in substantial numbers of prisoners, especially in New York State correctional facilities (Hanrahan et al., 1984; Wormser et al., 1983). Prisoners investigated by Hanrahan et al. (1984) appeared to have contracted AIDS prior to incarceration as evidenced by reduced leukocyte counts at the time of imprisonment. AIDS in these prisoners was most probably attributable to drug abuse; 14 of 14 studied had used heroin and/or cocaine in New York City prior to imprisonment while none reported homosexual activity prior to imprisonment (2 of 14 reported homosexual activity while in prison).

9. AIDS among IV drug addicts has been associated with extremely high mortality rates. Most drug abusers with AIDS have developed severe opportunistic infections, whereas homosexual men with AIDS have been diagnosed more often with Kaposi's sarcoma (Des Jarlais et al., 1984). This difference in disease distributions may account for the longer survival of homosexual men with AIDS than drug addicts with AIDS. The median survival of AIDS patients with opportunistic infections in New York City was reported to be about 10 months, while AIDS patients presenting only with Kaposi's sarcoma at diagnosis had a median survival of 15 months (Rivin et al., 1984).

SEROEPIDEMIOLOGY

The above discussion relies largely on the epidemiology of AIDS using the CDC definition of the disease. A new phase of AIDS epidemiology has now emerged with the development of tests capable of detecting serum antibodies to the AIDS virus. While the prognostic implications of these tests for individuals are still uncertain, their epidemiologic importance is already clear. As in many other diseases, seroepidemiology has revealed that exposure to the virus is

more widespread than was previously realized and clinical expression of AIDS is more varied, ranging from apparently asymptomatic exposure to fatal illness.

To date, only limited data have been published on the seroepidemiology of AIDS in intravenous drug abusers. Of 86 IV drug abusers entering a drug detoxification program in New York City in 1984, 58% (50) had antibodies to the core protein of LAV (Spira et al., 1984). Seroprevalence rates among IV drug abusers did not differ by sex: 63% (19) of 30 female drug abusers were found to have antibodies to LAV, compared with 60% (28) of 49 male drug abusers (Marmor et al., 1985). A much lower seropositivity rate (1.5%) was found in Britain, where only one case of AIDS in an IV drug abuser (who was a male homosexual) had occurred by late 1983 (Cheinsong-Popov et al., 1984; McEvoy, 1984). In Zurich, Switzerland, 37 of 103 IV drug abusers (36%) participating in a hepatitis B vaccination program had HTLV-III/LAV antibodies (Schüpbach et al., 1985).

Controlling the Spread of AIDS among IV Drug Abusers

The finding that half or more of IV drug abusers entering detoxification programs in New York City have been exposed to HTLV-III/LAV, the putative causal agent of AIDS, raises serious issues concerning the control of AIDS in this population and in the population as a whole. At present, we do not know what proportion of otherwise healthy individuals with HTLV-III/LAV antibodies might be capable of infecting others with AIDS. Several researchers, however, have advised homosexual men to assume that persons with antibodies to HTLV-III/LAV are potentially contagious. The rapid and continued growth of the AIDS epidemic among intravenous drug abusers in New York City and the high rate of occurrence of HTLV-III/LAV antibodies in this population support the notion that many IV drug abusers have been capable of transmitting AIDS through needle sharing.

The prospects for "secondary" spread of AIDS from drug abusers to the general population must also be considered. The high prevalence of antibodies to HTLV-III/LAV found in female drug abusers in New York City raises the possibility of spread of the disease to nondrug-using male sexual partners via prostitution. It is not uncommon for female IV drug addicts to support their habits by engaging in prostitution. Surveys to determine the prevalence of HTLV-III/LAV among prostitutes in cities affected by AIDS have not yet been conducted, and are urgently needed.

To slow the spread of AIDS among IV drug abusers, it will be necessary to reduce intravenous drug abuse or to ensure that drug abusers do not share needles, cookers, or solutions containing drugs. Expansion of drug information and treatment programs could serve as primary measures for reducing IV drug use among persons already addicted. Increased self-referral to treatment programs might be expected if IV drug users were informed that AIDS infection is common among their peers, that infectivity cannot be determined by physical appearance, and that AIDS in drug abusers is often fatal. Since the prevalence of HTLV-III/LAV antibodies among drug abusers in New York City is so high, counselors and therapists of drug abusers in the New York area could advise their clients to consider all other IV drug abusers as potentially infectious for AIDS. As gradual spread of the epidemic to drug abusers in other states is to be expected, similar advice would be justified in other geographic locales. These same arguments directed at potential drug abusers and especially at high school students might help some individuals avoid intravenous drugs entirely. For those not yet using drugs, the AIDS epidemic may, in fact, be an extremely convincing deterrent. What better deterrent could there be than the information that a single sharing of a needle with a drug abuser may pose as much as a 50% chance of exposing a new drug user to AIDS?

Materials need to be developed to communicate information on the AIDS problem to intravenous drug abusers and those at risk of intravenous drug abuse. We have drafted "Fact Sheets" on AIDS for IV drug abusers, with and without the disease, that drug counselors may find to be of help (see Appendices A and B). Audiovisual materials including television public service messages aimed at current and potential IV drug abusers also need to be developed to communicate information about AIDS. Drug abusers who have contracted the disease might also be used to communicate information on AIDS. In our experience, some patients with AIDS have been very willing to talk about their disease and their feelings concerning drug abuse. Such patients have sometimes been able to communicate the hazards of IV drug abuse and the symptoms of AIDS and its various manifestations more effectively than physicians or other medical personnel. Most important, drug counselors and therapists need to be informed about AIDS so they can intelligently address the concerns of their staff and patients, and so they can use this information in their efforts to reduce drug abuse and encourage less risky practices among those continuing to use drugs.

How successful can AIDS information programs be in reducing the spread of the current epidemic? We recently conducted an interview study aimed at measuring the state of knowledge of AIDS among IV drug abusers. Preliminary analyses suggested that an extensive educational campaign could lead to considerable reduction in the sharing of works to inject

drugs. We doubt that education alone, however, could eliminate the sharing of works entirely. Furthermore, whether a considerable reduction in needle-sharing would have a substantial effect on the course of the AIDS epidemic would depend upon such factors as the rapidity with which information can be gotten to the populations at risk, the ability of drug abusers to act on that information, the percentage of IV drug users who have already been exposed to AIDS, the percentage exposed who will become infectious (capable of transmitting the virus), the length of the period of infectiousness, and whether multiple exposures to the virus are necessary for development of serious illness. Only limited data are available regarding each of these issues.

We doubt that educational programs alone will have a substantial impact on the rate of spread of the AIDS epidemic among IV drug abusers. If we are right, more vigorous control measures will be needed. One immediate measure that should be implemented is the provision of effective treatment for all who wish to stop injecting illicit drugs. Waiting lists for treatment programs in New York City and elsewhere attest to the fact that current programs are not adequate to meet demand.

A more extreme step that may be justified as an emergency measure for control of the AIDS epidemic is the elimination of controls over the sale of hypodermic syringes, or even free distribution of syringes. Development of inexpensive, single-use, non-reusable syringes would help reduce possible adverse side-effects of such programs (e.g., the possibility of inadvertently causing an increase in IV drug abuse). State supervised facilities where addicts may inject drugs are being discussed in the Netherlands and might be another alternative in the United States (Calonius, 1984). While these suggestions may seem extreme, they may also be appropriate given the potential consequences of further spread of AIDS. In any case, we hope our suggestions will encourage readers to think of other, perhaps more pragmatic ways to slow the spread of AIDS among IV drug abusers.

CONTROLLING THE SPREAD OF AIDS FROM DRUG ABUSERS TO OTHERS

As discussed above, sexual transmission of AIDS can occur. The diagnosis of AIDS in an individual thus may cause severe stress to his or her intimate relations. Tests to detect antibodies to the virus will soon be licensed by the Food and Drug Administration, but their primary immediate use will probably be in the protection of the nation's blood supply. Widespread use of serologic tests as adjuncts to counseling of drug abusers or their consorts will probably not be feasible for some time. Even when tests become available, they may cause as many problems as they solve because of the anxieties attached to AIDS and our lack of knowledge of the prognostic implications of a positive test result.

In the absence of serologic testing for the AIDS virus, it would seem advisable to inform drug abusers and sexual partners of drug abusers that their exposure to AIDS is unknown at present, but that continued IV drug use will increase the likelihood of exposure of both individuals. The cessation of drug use should be strongly encouraged. Use of condoms and other modifications to sexual habits also might be suggested as offering partial protection against AIDS to the male or female sexual partners of IV drug abusers. AIDS has occurred in infants of IV drug using men and women, but the data regarding horizontal transmission by casual contact to other family members including children are reassuring. Sharing of a domicile with an AIDS-infected individual does not in itself seem to increase the risk of contracting AIDS.

DEALING WITH AIDS OUTBREAKS IN TREATMENT CENTERS AND PRISONS

To date, about 70 cases of AIDS in New York City have been diagnosed in patients who were in drug treatment programs. As the epidemic is continuing to grow rapidly, treatment programs in the New York area and elsewhere can expect to see AIDS occur among their clients. As discussed above, substantial numbers of AIDS cases have occurred among prisoners, and this problem, too, can be expected to increase with time.

The severe morbidity and mortality associated with AIDS can make the occurrence of AIDS in treatment programs or prisons difficult for staff as well as for clients or inmates. Among staff, fear of contracting the disease will need to be addressed through education concerning the signs and symptoms, modes of transmission, and possible methods for prevention of AIDS. Specific guidelines for infection control in facilities treating AIDS patients and members of AIDS risk groups have been published and can serve as a resource (Advisory Committee on Infections Within Hospitals, 1984). Workshops to address these issues could be organized with the help of drug treatment agencies, public health agencies, medical centers, and private groups, such as the Gay Men's Health Crisis in New York City. In addition to transmitting facts about AIDS, such workshops could address staff attitudes towards patients with diseases carrying a poor prognosis. Staff members with little experience in this area may feel uncomfortable providing care and support to AIDS patients. The staff's own fear of contracting AIDS will no doubt surface in such workshops and will need to be

addressed. In this regard, workshops should emphasize that epidemiologic data indicate that health care workers are *not* at substantially increased risk of AIDS because of their contact with persons with AIDS or pre-AIDS. Despite the occurrence of more than 8,000 cases of AIDS in the United States and many more cases of undiagnosed AIDS, only 4 nurses who were not also members of AIDS risk groups have been reported to have developed the disease, and these persons lacked convincing evidence of job-related exposures to AIDS or pre-AIDS patients (Centers for Disease Control, 1983b). No cases of AIDS have been reported among physicians who were not also members of AIDS risk groups. A nurse in England developed a transient glandular-fever-type syndrome and HTLV-III/LAV antibodies following a needle stick with possible microinjection of blood, but later recovered (Needle stick transmission, 1984). Numerous needle stick incidents among nurses and physicians in the United States have yet to yield a documented case of AIDS, and a recent study of hospital employees showed no HTLV-III seroconversions among 33 persons with accidental exposures to HTLV-III and 52 other potentially high-risk hospital employees (Hirsch et al., 1985).

Despite the minimal occupational risk of AIDS, staff at drug treatment programs and prisons should be encouraged to reduce any potential risk of contracting AIDS by following the guidelines promulgated by the CDC for providing health care to these patients (CDC, 1983a). These guidelines are essentially the same as those for protection against hepatitis B. We have summarized recommendations most relevant to staff at drug programs and prisons in Appendix C. The AIDS virus does not appear to be easily transmitted and, like hepatitis B, can be effectively eliminated from contaminated surfaces by chemical disinfectants, such as a 10% solution of household bleach (Spire, 1984). Once staff in drug treatment programs and prisons are knowledgeable about AIDS and comfortable with their own feelings, these attitudes and information can be transmitted to clients or inmates.

Programs that successfully overcome their staff's potential fear of AIDS can perhaps benefit from improved morale and satisfaction gained from the provision of critical services in a compassionate way to individuals affected by the disease. After an initial AIDS manifestation has been treated, AIDS patients are often well enough to be released from hospitals, but not well enough to resume all previous activities. In addition to continuing medical care, AIDS patients will have a wide range of social, psychological and other needs. These may include counseling on death and dying, prevention of relapse to IV drug use, and counseling for spouse, family and other loved ones. Outpatients with AIDS may need additional help with provision of housing, health and disability benefits, and the everyday chores of living, such as grocery shopping.

CONCLUSIONS

We believe AIDS is an imminent problem for drug counselors and therapists in the New York City area and may develop into a problem in other areas soon. We would like to encourage the early education of staff and clients concerning AIDS. A brochure entitled "Facts on AIDS" and several other brochures on AIDS designed for homosexual and bisexual men, for the public, and for health care providers are available from the Public Health Service and may be requested in bulk from the Office of Public Affairs, Public Health Service, Room 725H, Hubert H. Humphrey Building, Washington, DC 20201. As a brochure for drug abusers does not yet exist, we suggest that the "Fact Sheet" (see Appendix A) or some modification of it be used. We have also prepared a Fact Sheet for drug abusers diagnosed with AIDS who should be informed about their condition and responsibilities to themselves and others (see Appendix B), and one for employees of drug treatment programs and prisons (see Appendix C). While AIDS poses a very severe threat to public health, we believe it also provides an opportunity for rewarding work with affected individuals and a unique situation that might encourage widespread reduction in IV drug abuse. We welcome the response of readers to our suggestions on how the drug treatment community might best respond to the challenges presented by the AIDS epidemic.

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APPENDIX A

FACT SHEET ON AIDS AMONG IV DRUG USERS

• IV drug users—not just gay men—get AIDS. The majority of drug users tested in a recent study in New York City had already been exposed to the virus that is believed to cause AIDS. Researchers think they were exposed by sharing needles with other drug users. Drug users in other areas of the United States and in other countries have also been exposed.

• By February 4, 1985, 1,403 intravenous drug users had already gotten AIDS and 725 of these men and women had died of the disease.

• AIDS can be spread sexually from men to men, and from men to women or women to men. Some people who have had sex with IV drug abusers have themselves developed AIDS even though they had never used drugs intravenously.

• Researchers believe that some healthy people can be AIDS carriers. Whether or not an IV drug user is contagious for AIDS cannot be told by his physical appearance.

• At least 46 children of IV drug users have already gotten AIDS, presumably transmitted from their parents before or at birth. About 60% of children who have gotten AIDS have died of the disease.

• No one can assure you that you haven't already been exposed to the virus that causes AIDS, but you can reduce your risk of coming in contact with this virus in the future by doing the following:

I. Stop shooting drugs.

II. If you continue to shoot drugs:
   1. Don't share any needles, works, or cookers.
   2. Stop going to shooting galleries and renting works.
   3. Use your own clean equipment and don't share it with anyone.
   4. Be aware that some "new needles" are re-bagged. Inspect the packages and don't use re-bagged needles.

III. Don't enter into a sexual relationship with someone who has AIDS or who shoots drugs.

IV. If you have been having sex with a drug user, you may already have been exposed to the AIDS virus. This does not necessarily mean you will get AIDS since many people seem to have been exposed to the virus without developing the disease. You can help yourself and your partner, however, by encouraging your partner to stop using drugs and to enter drug treatment. This will reduce your chances and your partner's chances of being exposed to the virus again. You might also consider changes in your sexual habits. While it is possible that the virus can be spread by any type of sexual activity, certain changes in your sexual practices may reduce your chances of being exposed to AIDS. For example, you might:
   1. Use condoms during vaginal intercourse.
   2. Eliminate anal intercourse—this type of sex appears to be especially dangerous.
   3. Eliminate "rimming," or oral-anal contact.
   4. If you have oral sex, you can minimize your exposure by not having your partner come (ejaculate) in your mouth, or by not swallowing the ejaculate.

• If you want to get help to stop using drugs, the following groups are available to you:
[Local agencies should type in their recommendations here.]

From Marmor et al. (1984). The epidemic of acquired immunodeficiency syndrome (AIDS) and suggestions for its control in drug abusers. *Journal of Substance Abuse Treatment*, Vol. 1, No. 4, pp. 237–247, published by Pergamon Press Inc., Elmsford, NY 10523.

APPENDIX B

FACT SHEET FOR IV DRUG USERS WITH AIDS

You have been told that you have Acquired Immunodeficiency Syndrome, or AIDS. This disease is characterized by a weak immune system. The immune system is responsible for the protection of an individual against various infections and tumors. The following measures are strongly recommended.

- Refrain from the use of drugs immediately. This will protect you against other infections. It will also protect others from acquiring the disease from you, as AIDS is acquired from blood on contaminated needles, syringes and cookers.

- AIDS can also be sexually transmitted. If you have a steady sexual partner and your doctor advises that it is alright for you to continue to have sex, then protect your partner by:
  1. Using condoms during vaginal intercourse.
  2. Eliminating anal intercourse, as this type of sex appears to be especially dangerous.
  3. If you have oral sex, don't ejaculate in your partner's mouth.

- AIDS can be transmitted to children either during pregnancy or around the time of delivery. Therefore at any sign of illness in your children seek medical attention for them. If you are a woman this would *not* be a good time to become pregnant. If you are a man, it would *not* be a good time for your mate to become pregnant. Use a safe method of contraception as recommended by your doctor.

- Refrain from donating blood, sperm or any body fluid, tissues or organs.

- Toothbrushes, razors or other objects that could be contaminated with blood should not be shared.

- Since your immune system is weakened by AIDS, you are a likely victim for many infections. It is of the utmost importance that you be followed at a medical clinic even if you are feeling well. If you begin to feel unwell, seek medical attention immediately. Tell any doctor, nurse, or dentist you are seeing that you have AIDS, so that proper evaluation can be done, and precautions taken to prevent transmission of the disease to others.

- Many of the infections associated with AIDS require long-term treatment and follow-up. If you have been advised to take certain medications, do not stop using them unless you consult your physician.

- If you need help to stop using drugs, the following groups are available to you:

- If you need help with family counseling, personal counseling, housing, nursing care or home care, seek help from clinics, hospitals, social agencies, and mental health clinics.

From Marmor et al. (1984). The epidemic of acquired immunodeficiency syndrome (AIDS) and suggestions for its control in drug abusers. *Journal of Substance Abuse Treatment*, Vol. 1, No. 4, pp. 237–247, published by Pergamon Press Inc., Elmsford, NY 10523.

APPENDIX C

INFECTION CONTROL GUIDELINES FOR PERSONNEL OF DRUG TREATMENT CENTERS AND PRISONS

The following guidelines are suggested to minimize the risk of transmission of the AIDS virus to staff caring for persons with AIDS or at risk of AIDS, including all intravenous drug abusers.

- In administering health care, disposable needles and syringes should be used. Care should be taken to prevent needlestick injuries by the proper disposal of needles in designated plastic or metal containers, without recapping or clipping the needles.
- Persons drawing blood should wear gloves and use luer-lock syringes.
- Gloves need only be worn when handling blood, urine, sputum or fecal specimens.
- Gowns need only be worn when there is likelihood of soiling of clothes with body fluids.
- Masks need only be worn when there is risk of contact with aerosolized secretions such as suctioning of patients or high-speed drilling by dentists.
- Whenever possible disposable instruments should be used such as thermometers, tongue depressors etc.
- Soiled instruments or other objects should be bagged and labelled "contaminated" and processed in the appropriate manner.
- A label marked prominently with "Blood and Body Fluid Precautions" should be affixed to all blood and other specimens. This warning label should accompany the specimen through all phases of processing until ultimate disosal. Specimens should be placed in an impervious bag or container for transport.
- Any spills of body fluids should be cleaned using a freshly prepared (once daily) 10% solution of household bleach.
- Hands should always be washed, regardless of the use of gloves, after close patient contact such as after physical examination and when soiled with possibly infected bodily fluids.
- Laboratory workers should follow the same precautions recommended for processing specimens from patients known to be carriers of hepatitis B.

These guidelines are consistent with those approved by the American Hospital Association. For more detailed comprehensive guidelines which may be applicable to your particular situation or facility see: American Hospital Association (1984), A Hospitalwide Approach to AIDS. Recommendations of the Advisory Committee on Infections within Hospitals. *Infection Control*, **5**, 242–248.

Accidental parenteral or mucous membrane exposures to blood from definite or suspected AIDS patients should be reported to your supervisor, your local Infection Control officer if one is available, or if not, to the CDC Hospital Infections Program at (404) 329-3406.

From Marmor et al. (1984). The epidemic of acquired immunodeficiency syndrome (AIDS) and suggestions for its control in drug abusers. *Journal of Substance Abuse Treatment*, Vol. 1, No. 4, pp. 237–247, published by Pergamon Press Inc., Elmsford, NY 10523.

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ORIGINAL CONTRIBUTION

Grief Work with Substance Abusers

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Abstract—*This article focuses on the implementation and outcome of a grief group study conducted with substance abusers. Group participants were chosen through a stratified random sampling from a residential drug and alcohol treatment facility. Control and experimental groups were used to test the efficacy of grief group therapy. Study results indicated that treatment group participants were significantly less depressed and better able to resolve painful feelings about their losses. The grief group approach is generic and can be modified to meet the needs of varied target groups. The distinctive approach and the empirical results both were completed by a clinician without disrupting the facility, patients or clinician's daily practices.*

Keywords—Grief, group, therapy, substance abusers, addiction

INTRODUCTION

IN RECENT YEARS, there has been mounting recognition of a possible connection between the addicted person's loss of significant persons, unresolved grief and substance abuse. Clinicans' experiences and the literature, as will be noted, support the view that addicts experience particular difficulty in expressing their feelings and resolving intrapersonal issues. Grief therapy is intended to enable the patient to accept the reality of his/her significant loss. In regard to the connection between grief and addiction, there are scarce data, as evidenced by a paucity of relevant literature and empirical research reports. One reason for this condition is that most clinicians who may have hypotheses about the grief-addiction relationship may not publish their information. Thus, their ideas are not communicated to a wider audience. This study is significant because the investigator is a practitioner whose interest was based on what she suspected was an important connection between unresolved grief and addiction. A different reason for the scarcity of data seems to be that the norms of American society do not support systematic gathering of information from bereaved persons. Until recent times, there has been a tendency for Americans, including professionals, to avoid discussions of death. Changes can be noted in an increasing number of publications, public education, media attention and the emerging market for grief counseling and workshops.

For the clinician who works with substance abusers, identification and treatment of the patient's unresolved loss may contribute to the patient's decision to become drug-free. Rosenblatt, Walsh, and Jackson (1976) have noted that losses perceived by addicts are compounded by their lack of ability to work through the grief process.

This study investigated the efficiency of group process purported to aid the resolution of grief and decrease depression among selected addicted persons in a residential treatment facility. The model of group treatment used was based on the Kubler-Ross model (1969), which was modified by the staff of the treatment facility for the purpose of accommodating the needs of its patient population.

In order to determine whether grief therapy could be useful to patients, a number of questions for study were raised. For example, can an experimental and control group be used to test grief group treatment? Are there enough addicted persons who share a comparable number of losses? Can peers provide support in relation to each other's losses? Is there a particular age/stage at which addicted persons experience significant losses? Have they had multiple losses? Will

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grief work reduce addicts' depression? To what degree can grief resolution be achieved? What is the role of therapist in facilitating grief group therapy? What group activities are useful in this type of therapy?

The study sought to answer these questions through an analysis of the actual experiences of a grief group.

Background of the Problem

Grief may be described as that which an individual feels in response to the loss of a significant other or object through death or separation. Human beings use a grieving process to resolve or come to terms with acceptance of a loss. Appropriate grief resolution leads to the expectation that the patient will transfer the libidinal investment into current relationships and/or objectives, while at the same time maintaining unrelinquished commitment to the lost object or person.

According to Lindemann (1944), morbid grief reactions can appear immediately after a traumatic experience of loss, or can be delayed, exaggerated or absent. In addition, he described possible symptoms of overactivity, psychosomatic illness, altered lifestyle, hostility or unnecessary generosity. Lindemann found that patients tended to avoid dealing with grief, but that it was possible to restore the grieving to a more "normal" state through a sequential therapeutic process. Other authors such as Kubler-Ross (1969), Lynn, (1976), Lindemann (1944), Frost and Clayton (1977) and Steiner and Clark (1977) have contributed to the body of knowledge about loss and grief.

Kubler-Ross' (1969) work with terminally ill patients and their families revealed five stages of the grief process: denial, anger, bargaining, depression and acceptance. Greenblatt (1978) noted that grieving is not a steady phase but rather a process of overlapping phases. Addicts who suffer losses early in childhood extend their grief into their maturational process. New situations may trigger for them a sense of loss that may be more acute due to lack of earlier loss resolution. Lynn (1976) concluded that the needs of alcoholics are multiple and group psychotherapy can be crucial to their recovery. Parkes (1980) suggested that volunteer and professional services are capable of reducing the risks of grief disorder resulting from incomplete resolution and are particularly important for people who have minimal family supports. Addicts are persons who need to be given permission to grieve and express sorrow without shame and guilt. This investigator noted that most of her clients had rarely talked about their loss prior to treatment. Important aspects of grief therapy are that it includes the client's active review of the loss and serves as a constant reminder of the human need to express and not suppress or postpone handling painful feelings.

The Relationship Between Grief and Addiction

Grief is an individual experience within a particular social context. The initial issue may not be the loss itself, but the manner in which it is or is not resolved. Coleman (1980) supports this concept in her study of 699 persons who had lost one or more parents. In a different study with recovering heroin addicts and their families, Coleman (1980) found that if the bereaved persons are to return to a normal, productive life, they need to "work through" the loss. According to Skolnick (1979), addicts resort to chemicals as an attempt to resolve emotional losses. He indicated that earlier losses of significant persons are never resolved. Thus, the continuing need to achieve some short-lived chemical equilibrium leads to addiction. Murphy, Armstrong, Hermele, Fischer, and Clendenin (1979) investigated cases of alcoholics who committed suicide and their high frequency of losses of personal relationships preceding their suicide. Bellwood (1974) cites evidence that at least 20% of all clients admitted for alcoholism began drinking at the time of a major loss or separation.

Frost and Clayton (1977) found a great amount of affective disorders among psychiatric patients with recent loss. In terms of object loss, Tamerin (1972) regarded giving up smoking as a loss that requires grief work like any other kind of loss. Steiner and Clark (1977) studied burn patients; Clayton (1979) wrote about conjugal bereavement and drug use; Helzer, Robins, and Davis (1976) studied enlisted men who had served in Vietnam and the predictability of subsequent depression due to losses of friends in combat. In sum, selected authors and clinicians substantiate the idea that unresolved grief can be a major problem for the addicted person who seeks to numb his feelings through the use of substances, and that involvement in a therapeutic process can be helpful to such persons.

Conceptual Base for the Study of a Grief Group

The grief therapy group model used as the structure for this study included six stages of the grief process. The first is shock, a phase during which people feel "numb" upon first hearing of the loss and may insist that it cannot be true. The "numbness" may be prolonged past the early shock to the second phase, denial. Denial is a stage in which the facts, but not the feelings, about the loss are accepted as evidenced by the continuation of one's life as if the loss had never occurred. Often the third phase, depression, replaces denial and may be accompanied by physical symptoms such as insomnia and fatigue. The condition may persist until the bereaved acknowledges anger toward the loved one, toward others, and toward himself or herself. The fourth phase of the grief model is a period of anger. Although the fifth phase,

guilt, may be experienced along with each of the other stages and may be fairly well verbalized, it can be the most obvious single block to resolution, especially for addicts. The sixth and ending phase is acceptance and resolution of the grief process. This final stage is dependent upon emotional disengagement from the lost one as evidenced by more self-perceived satisfying relationships with others without the distortion of the reality of the loss. These stages do not necessarily occur sequentially but may overlap during the process.

Included in this model are Bugen's (1977) dimensions of closeness of the lost relationship and the bereaved's perception of the preventability of the death, both of which are identified as prime indicators of the intensity and duration of the bereavement.

The structure of a group was chosen as the method of intervention in the present study because it was believed that the group context could provide an atmosphere in which the subjects could more easily confront their feelings, attitudes and memories in regard to their loss. It was anticipated that adults learn from peers and could identify with persons who had shared similar experiences. For example, a member of the group who experienced guilt feelings could hear from peers that these feelings were not unique. As a result, the grief process became less threatening to individual subjects. In addition to peer identification, the group provided a supportive substitute family structure as well as role modeling by those who were in more advanced stages of grief resolution. The sharing of common concerns seemed to solidify engagement in the grieving process. Furthermore, the group process permitted peer and facilitator confrontation. This task was viewed as important as addicts tend to make heavy use of denial. Several authors have recommended the group process for grief work. Lynn (1976) indicated that feedback from peers is often of great value and group therapeutic endeavors may be worthwhile. Mertz (1972) described his grief group by referring to some of the benefits of the group process, particularly the ability of the group to encourage, support, and assist persons through the process of letting go and the identification with each other which contributed to engaging on a feeling level. Skolnick (1979) agreed with Mertz that the group process afforded subjects a way of identifying with each other as a form of role modeling. Tamerin (1972) used the group process to facilitate an aura of intimacy for the group members who shared a common goal, a common loss, and genuine concern and support for each other. He found such a group to be particularly helpful in decreasing the intensity of each subject's individual suffering. Ziferstein (1972) wrote about group psychotherapy and the powerful influence of the peer group, the emotional support, guidance and reeducation that a group process provides.

MATERIAL AND METHODS

Study Methods

In this study, the grief therapy model represented a synthesis of what was commonly known about the varied influences of unresolved losses on the addicted person and, the expectation that the addicted person's involvement in a therapeutic grief group would be a cathartic experience for that person. Thus, the approach was intended to address the following hypotheses: (a) following treatment, group members would feel less depressed than control subjects; and, (b) at posttest, treatment group members would demonstrate a greater degree of grief resolution than their control subject counterparts. The second part of this discussion focuses on results of a study which was designed to test the usefulness of the grief group therapy model with addicted persons.

Subjects

Twenty-two substance abusers were chosen from a pool of 30 hospital patients who had been diagnosed by the program psychologist as having unresolved grief issues. Due to the limited number of persons available to be studied and the homogeneity of the population, subjects were randomly assigned on an odd/even basis as far as possible into an experimental and control group. The groups were then stratified according to sex and race. All subjects had completed at least 3 months of treatment. Each had a primary psychiatric diagnosis and secondary diagnosis of drug and alcohol dependency. One subject from each of these groups was lost prior to completion of the study due to discharges from the hospital. This did not affect the comparability of the groups.

Procedure

The Beck Depression Inventory measured the patient's level of depression. The instrument is a validated, standardized test, suitable for both research and clinical use. There is no arbitrary score that can be used for all purposes as a cut-off point. The specific cut-off point depends upon the characteristics of the patients in the sample and the purposes for which the inventory is being used. However, the following scores may be used as guidelines: 0–9, normal range; 10–15, mild depression; 16–19, mild to moderate depression; 20–29, moderate to severe depression; and 30–60, severe depression. The investigator administered the inventory to the control and treatment groups separately prior to the first treatment session but on the same day. The inventory was administered and completed for the second time during the fifth and last treatment session. Both groups completed the inventory during the same time period.

The second instrument used during the group pro-

cess was a good-bye letter. The letter provided partial evaluation of the grief work and recommendations for follow-up. The task of writing a good-bye letter was administered by the investigator to the experimental subjects at the first treatment session. The same task was given to the control subjects separately on the same day. The instructions were to address the letter to the lost loved one. The topic of the letter was to be, "What I felt when I lost you, what has happened to me since you left and what am I doing now?" In the fifth and final treatment session, the control subjects joined the experimental subjects to write a posttest good-bye letter administered by the investigator. The posttest and pretest instructions were identical. The letters were blind-rated by the medical director of the treatment facility. Each of the five categories was measured on a 4-point scale. The categories were: (a) expression of feelings toward the lost one; (b) expression of feelings toward self; (c) future outlook; (d) specific plans; and (e) articulations. The investigator replicated the rating procedure. The two ratings were compared to establish interobserver reliability. The following are typical examples from good-bye letters, both written by the same patient.

(*Pretest Letter*)
Mom,
I've been awful empty since I first found out about you being gone. The news was bad considering I didn't even know that it was you I had seen with my father. I later found out that this was your wedding picture that was well over 20 years ago that you did but it's been only 20 that I have known. Since I haven't had you in my life, I've felt ripped-off, and of course father remained a drunk with an alcohol problem. He didn't do to good a job of raising me. I've lived with so many different people I feel like a ball in a pinball machine. I've survived all of his beating and alot of rejection although I always questioned my life and its worth, many times I've wished to be with you if only I could. As I grew older, and after having so many rejections and being pushed around like an old shoe, I became independent uncooperative and wild. I started to get high.

(*Posttest Letter*)
Dear Mom,
I never saw my life as having any meaning or value. Father had continued his drinking and abused me every time I lived with him. The other people I lived with either rejected me or I rejected them. I was very lonely and lost without you. As a child I wished to be with you and as I got older I stopped wishing and started acting it out with drugs. I guess that wasn't what I really wanted. I guess I'll always think of you from time to time, but I now realize that my responsibilities are to me. I am going to make the most our of my life that I can, I want to be a man and have a family of my own to share all that I have to offer. Mother I'll always love you and think that you're watching over me. Between you, God and myself, I'll live right and happy with the gift of life you gave to me. Thank you Mom, my life means alot to me. I love you always. Good-bye.

The third instrument used in the process of grief group therapy was a self-administered, 20-item questionnaire developed by the experimenter to elicit demographics and data on the patient's degree of loss resolution.

Grief Group Process

Following completion of the Beck Depression Inventory, the experimental subjects began five group treatment sessions. Each session met for 3 hours per week with the experimenter and cofacilitator, who were both affiliated with the clinical staff. Group sessions provided a milieu within which patients could receive encouragement, support, and confrontation from peers. For addicted people, it is important that painful feelings should be expressed and not avoided. Each of the therapy sessions used a structure with tasks and activities predetermined by the two facilitators.

First Session. The purpose of the sessions was explained to the participants. At the beginning of the treatment session, subjects were asked to write a good-bye letter to their loved ones. After the letters were completed, each person shared his letter with the group. The experimenter/facilitator then explained the stages of the grief process and the connection between unresolved grief and present behavior, particularly addictive behavior. Next, members attempted to locate the present stage for themselves and each other. This session helped to develop sympathetic relationships and the beginning of a support group.

Second Session. The group reviewed the grief process and continued to discuss the individual good-bye letters. The session encouraged the subjects to think and share memories about the lost person. Role play was used to help individual members become involved in the group process.

Third Session. The group continued discussion of feelings, and facilitators guided their movement through the stages of numbness/shock, denial, anger, depression, guilt and acceptance/reconstruction. Some subjects became emotional and began to cry, scream, or lose control. A great deal of repressed feelings began to emerge.

Fourth Session. This session focused on patients' early losses. The majority of the treatment subjects mourned for a parent. At least half of the subjects had lost a parent while in their early teens. Members discussed how it felt to lose the unconditional love provided by parents. Associated feelings such as anger, sadness, and depression at having experienced such a loss were shared. Several subjects cried and called for their mothers or fathers.

Fifth Session. This session was used to bring closure to the group process and for data collection. Both treatment and control subjects were in the same room and were asked to write a good-bye letter to their lost loved one. The groups were then separated. The posttest Beck Depression Inventory and the posttest questionnaire were administered to the control group. At the same time these tests were being administered, the treatment group members read aloud and discussed their good-bye letters. Immediately following this activity, the Beck Inventory instrument and the questionnaire were administered to the treatment group. Grief group members practiced grief work in the present by saying their good-byes and sharing their feelings about the termination of the group. Group members were asked to indicate their individual stage of the grief process at the beginning of the group and at what stage of the process they felt they were in at termination of the group sessions. Unrealistic self-perceptions of some members were confronted by the other members. It was suggested by the group and the facilitators that one of the subjects repeat grief group sessions.

RESULTS

In order to test the first hypothesis, a series of two-by-two repeated measures analyses of variance were conducted on subject scores from the Beck Depression Inventory and good-bye letter. The analysis of the Beck and good-bye letters indicated that a significant interaction existed on the Beck total scores between the variables of group and testing time. To determine what caused this interaction, a series of mean tests were performed. As indicated in Table 1, there were no significant differences on the Beck Inventory between the groups at the pretest. However, the scores of the treatment group were significantly lower than the control group at posttest. Within-group analysis demonstrated a significant drop in Beck total scores from the pre- to posttest among treatment subjects but not among control subjects.

TABLE 1
Means Test for Beck Inventory (Total)

	Group	
Time	Treatment	Control
Pretest		
Mean	16.5	18.1
Standard Deviation	5.1	7.0
Posttest		
Mean	6.1	14.5
Standard Deviation	3.0	6.2

$p = 0.044$; $F(1,18) = 4.67$.

The Beck total score was then subindexed into its three separate components: cognitive awareness, physiological depression, and crying. Separate analyses were performed on these scores. There were no significant differences between the groups at pretest, but the scores of the treatment group were significantly lower than the control group at posttest. Within-group analyses demonstrated a significant drop in Beck cognitive scores from pre- to posttest among treatment subjects but not among control subjects. No significant changes were observed in the physiological depression index. There was a decrease in the amount of crying by treatment subjects while there was no change shown by control subjects from pretest to posttest.

In order to test the second hypothesis that the treatment group subjects would experience a greater degree of resolution of losses than their control subject counterparts, the good-bye letters were subindexed into three separate components: feelings, future plans, and articulation. They were analyzed by a two-by-two repeated measures analysis of variance. Although treatment group subjects increased more in expression of feelings toward self and lost ones than control group subjects, the difference was not statistically significant. In general, the posttest scores of all treatment subjects were higher than pretest scores. Control subjects scores were found to be consistently lower than treatment subjects' scores in their expression on future outlook and special plans. On average, pretest scores were lower than posttest scores. Again, on average, treatment subjects were better able to express their feelings than were the control subjects. There were no differences across time and no group by time interaction. Thus, treatment subjects overall, demonstrated greater acceptance of their losses than did the control subjects.

The third instrument, the questionnaire, was analyzed for demographic data. Through a series of mean tests it was found that in addition to the race and sex variables the treatment and control groups were well matched on: age of initiation of addiction; years of formal education; age when loss occurred and number of losses incurred.

DISCUSSION

After the death of a significant person in one's life, an individual experiences strong emotions. These emotions have been labeled as numbness, guilt, anger, loneliness and general tension. Conscientious attention to these emotions can help an individual to resolve loss and begin to put energies into relationships with available persons. For addicted people, the necessity for grief work is of critical importance. For those persons who use addictive substances in an at-

tempt to control their feelings, the chances to experience resolution of loss are greatly reduced. The feelings that addicted people attempt to numb are the same feelings that need to be engaged in movement toward the stage of acceptance in the grief process. Not only can unresolved grief provide a reason for substance abuse, but it can also delay and/or block completion of the grieving process.

The results of the study support the hypotheses that following treatment, the treatment group members would be less depressed than control subjects. Although treatment subjects generally appeared to achieve greater grief resolution than the control group subjects from pretesting to posttesting, the differences demonstrated by the good-bye letter were not statistically significant. There were several reasons why statistical significance may not have been achieved, such as (a) the small sample size of this study; (b) the lack of reliability of the good-bye letter test instrument and (c) some subjects could have profited from a longer period of grief work. In sum, the grief group did have a positive effect on decreasing the level of depression for the treatment subjects. It is important to note that findings of this study are consistent with similar studies reported in the literature.

In the area of treatment for addicted persons, there continues to be a need for tailored programs that include grief group therapy as an appropriate treatment tool and/or option. Persons who work with addicted populations could benefit from training in assessing the nature and meaning of loss for individuals and, in particular, the unusual number of untimely deaths occurring within an addict's family.

This model of grief group therapy can be modified to meet the loss resolution issue of a range of target groups, for example, school students who have lost a classmate, employees who have lost a colleague, retirees who have lost their life work, widows/widowers who have lost a spouse, parents who have lost a child. The approach can be utilized by therapists with varied educational backgrounds.

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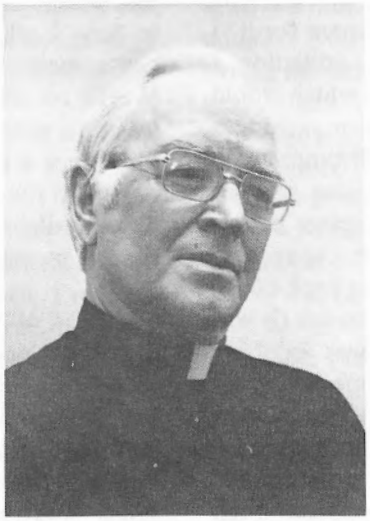
JSAT INTERVIEW

Interview with Father Daniel Egan



INTRODUCTION

FATHER DANIEL EGAN, S.A., has been a Catholic priest for 40 years, and is a member of the Atonement (Franciscan) Friars from Garrison, New York. Some 30 years ago, a young female addict came to him for help in New York City. He quickly found that no help was available, except for either a prison, or a psychiatric ward.

At that time, the world of drugs was a remote one to him, but no one ever could say that Fr. Egan was a slow learner. The streets became his classroom, the shooting galleries became his parish, and the women addicts of New York City were his parishioners. His experiences in the deep subculture of crime and addiction have been vividly described in the best-selling book, *The Junkie Priest* (New York: Pocket Books), now in its 21st printing.

Few people alive today have stayed with the problem of drug addiction as long as Fr. Egan. In 1960, he founded the New York City's Village Haven, the first live-in therapeutic community in the United States for female addicts. Ten years later and ten years wiser, anticipating the rapid increase in youthful female addicts, Fr. Egan founded New Hope Manor in Garrison, New York.

Fr. Egan has frequently appeared on national television programs and has lectured on the subject of addiction throughout the United States. He was appointed by President Kennedy as a member of the first White House Conference on Drugs, and the only priest ever subpoenaed by a United States Senate Juvenile Crime Committee. Many of his early recommendations about the treatment of G.I. addicts have been enacted into legislation, and he has continued to testify before local, state and federal hearings on crime and drug abuse.

In recent years, Fr. Egan has shifted much of his energy from the treatment field to that of prevention and education. These days, one may find him touring the United States for weeks at a time addressing audiences of grammar school, junior and senior high school students.

The editor finally caught up with Fr. Egan at St. Thomas More's parish in Rocky Point, Queens on August 29, 1984, and the interview was held over a 2-hour period in the living room of the parish rectory.

John Imhof
Editor-in-Chief

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Interview with Father Daniel Egan, S.A.

AUGUST 29, 1984

Imhof: You have more than 30 years experience in the field of drug abuse treatment and working with people with drug problems. How did you, as a young priest, get involved with drug addiction problems?

Fr. Egan: Well, I certainly didn't prepare for it. I never went to school to learn about drug addiction. I was ordained about 5 years at that time, which would make me about 35 years of age. I was preaching a mission on East 14th Street, a short distance from Bellevue Hospital. One night, after hearing a lot of confessions—in those days so many, many people went to confession—I was returning to the rectory when I saw a woman slumped over in the back of the church. It's still very vivid. I walked up to her (it was close to midnight) and asked if there was anything wrong and if I could help her. She gave me an answer that didn't make any sense because I didn't know what it meant. She said, "Yes, get me into the hospital . . . I'm a drug addict." Being a "drug addict" didn't mean anything to me. But I was young enough and naive enough to believe there was an answer to everything, and when you're young, you look for quick, easy answers. After all, this is a big city and Bellevue was a few blocks up First Avenue. So I said, "Sure I'll get you into the hospital. Maybe I can't get you in now, it's almost midnight. But if you come back tomorrow at 10 a.m., I'll get you into the hospital." She gave me a strange look like saying "How stupid can you be?" I still didn't get the point. She looked pretty haggard. From what I know now she was going through withdrawal. She said, "Tomorrow?" Now I know that a drug addict sees the hours from midnight to 10 o'clock the next day as a lifetime. To her credit, she came back the next day at 10 o'clock. I finished the 5, 6 and 7 o'clock masses and when I saw her at 10 o'clock, she looked so much better and different. She looked well. She didn't look like the night before. I didn't realize that she had to be in the streets all night to hustle money for her drugs. So that was my initiation. Then it opened up to me. We hopped in a cab, went right down to Bellevue Hospital, and then the nightmare began. I looked as if I was from outer space. They just couldn't seem to comprehend the problem. "She's sick. She says she needs to get in the hospital. Why don't you take her in?" That was simple. Then they said, "But she's a drug addict. We don't take drug addicts in the hospital. If she wants to go up to the psychiatric section of the hospital up the street, the psychoward, the doctors may take her in as a psychiatric problem." And that was my beginning.

Imhof: So how would you then describe the "state-of-the-art" of drug abuse treatment in the early 1950s?

Fr. Egan: In the late 1940s and early 1950s, there just wasn't any. There wasn't a bed for a drug addict in New York City or New York State. The federal government had Lexington, Kentucky and Fort Worth on the other side of the Mississippi. There wasn't a penny in the New York State budget; certainly not a penny in the New York City budget to deal with the problem of drug addiction per se. That didn't strike me because I didn't know what drug addiction meant. This woman was a drug addict.

Imhof: When you found out she was addicted to drugs and you realized there was a need for help of some kind, did you feel there was any place you could begin to turn, whether it was professional literature, or consult with psychiatrists, who were really the only professionals writing about addiction at the time? Was there any place that you felt you could turn to?

Fr. Egan: No, because at that time I didn't know anything about it. I just presumed that she expressed the need—get me into a hospital. Therefore, I figured she knew what she needed to deal with this. In my ignorance I thought that was the simple solution to the problem. Then I went from Bellevue to every hospital in New York City and nobody would take her. As the hours went on, she started getting sicker and the drugs that she had taken started to wear off. All the while I didn't understand all this. When she couldn't stand it anymore, she just left me. The experience haunted me because I was so ignorant and ill-prepared. I don't know if anybody could have taught me what she was going through—at least not in the seminary. So I began to read. "What is drug addiction?" "What was she going through?" "Why did she have to get in the hospital?" I asked a lot of questions and got most of my help directly from the streets, from addicts themselves. The Atonement Friars have a House in Greenwich Village, right across the street from the Women's House of Detention. So I went in and volunteered my services. That woman still haunted me. I think if an American Indian came to me wanting to get into a labor union and I couldn't help him, I'd have reacted . . . do you know what I mean? A man does what a man can do. I don't think I responded as a priest so much as what a man would do. I guess the fact that I was a priest made it different—it made it more of a commitment.

Imhof: We see many articles in the field of addiction state that the drug problem emerged in the 1960s. But you're talking about the early 1950s.

Fr. Egan: Looking back at it now and from what I've learned, the drug culture was a very limited culture then (sort of confined). Everybody knew everybody in this limited drug culture. The only kind of drug addicts I used to know then were in their 30s and 40s. That kind. There were no teenagers, no one in their early 20s. They were older, usually in and out of prison, and arrested frequently. The drugs were stronger. We would hear about a lot of people dying during withdrawal.

Imhof: Die from heroin withdrawal?

Fr. Egan: Oh yes, right in prison—they'd arrest them, imprison them, and let them kick cold turkey in a cell. Methadone was unheard of then. I recall a girl, in the late 1950s who was into 68, 69 grains of tuinal and seconal a day. One grain knocks me out when I am in a hospital. When she was arrested, she died from convulsions.

Imhof: So the convulsions were the result of pill addiction?

Fr. Egan: Yes. It wasn't a matter of trying to cover it up in the prisons. No one seemed to know how to manage withdrawal. There were an awful lot of question marks years ago, and there was no group of professional people sitting on top watching, fighting for proper treatment of drug addicts. Nothing like that. They're doing it today, now that we have so many drug addicts.

Imhof: Due to the extent of polydrug use today, it's not so common to encounter a person who uses only one drug. In the 1950s did you see people using varieties of drugs?

Fr. Egan: It almost seemed as if (pharmacologically) everyone that I knew found their favorite drug and just stayed with that one drug, until a "panic" hit the streets. Then they would look for any substitute. In my day in the House of Detention, one of the figures I read was that 94% of all drug addicts then in the prisons were into heroin. Marijuana wasn't around, cocaine wasn't around. If it was up on Park Avenue, we never heard about it. Cocaine was a rich man's habit. I only encountered an opium addict once in Manhattan General Hospital. It was strikingly different than heroin. The polydrugs, the cross addiction—we never heard of it. In fact, when it began to appear on the scene, it seemed like an oddity.

Imhof: So there you were, in 1955, a young priest asking a lot of questions. You were on the street, trying to get young people who were addicted to drugs into hospitals, and yet you were a priest. How did your superiors react to this? What kind of a response did you get?

Fr. Egan: Well, it wasn't positive. It wasn't negative either. I think in the beginning it was distaste—"What is he doing, wasting his time and his talents?"—because then everybody believed, "once a junkie, always a junkie . . . once a drug addict, always a drug addict." Every cop and district attorney was quoted saying this and there were few living examples of success to disprove this myth. They couldn't point to anybody who had kicked the drug habit and left the drug culture. There were no rehabs, there was nothing except prison, a psycho ward or death. So what was I doing? Necessarily, I had to work in the criminal culture because everybody into drugs was a criminal. There was no other way of getting to drug addicts.

Imhof: I have found that people view the workers who help drug abusers almost the way they view the drug abusers, as if, in a sense, we are tarred with the same brush. Did you feel any of that yourself?

Fr. Egan: Of course. It wore off on me. I can still see the look of disdain, bordering on disgust, particularly when straight people would see me around Times Square and Needle Park talking to drug addicts. Whenever I would walk into criminal court I could feel it. Whenever I'd approach the district attorney or the judge they would look at me with disgust and disdain. Yes, it wore off on me, and then many phone calls would be made to my bishop. It's the same today if someone is working with pornographers, with gays or homosexuals. Things wear off, and being a human, you begin to go through times of doubt within yourself. "Is it worth it?" "Could I be doing something better with my time?" To be honest, I don't know many people I started out with in the 1950s who are still in the field. They became either burnt out or disillusioned. It's a miracle of Grace this hasn't happened to me yet!

Imhof: There were a couple of priests many years ago who got involved in the field of drug abuse—Father Damien from Samaritan House, Monsignor O'Brien from Daytop. Did you have much interaction with these other priests in your work?

Fr. Egan: Well, some of us were able to stay within the structure. Maybe a lot wore off on me that hadn't touched good priests like Father O'Brien. Most of the rejection hit me because I preceded all of them. As the years went on working with addicts became more acceptable. Father Damien, well, I gave him his first $50 to start the Samaritan House. I sent

it to him from the place to which I was exiled. It eventually came to a point where they had to get me out of the diocese. After years of trying to keep addicts alive until answers came along, I was told to leave the diocese in 1962. I knew I didn't have answers. Every damned answer I came up with blew apart. I started with a loft in Greenwich Village, it was right across the street from the Women's House of Detention. I even let the women sleep on the floor, which is against all city ordinances and zoning. It was against everything! Later, I got a house on West 15th Street. A month after it opened I was sent out of the diocese. "What is he doing now, getting a house?" "Under whose umbrella is it going to come? What department?" A month after it was open, "Was it going to be Catholic?" So many traditions and procedures! It was enough to stifle anyone's zeal and initiative. So, I was told to leave New York City, leave the diocese. I went up to Cape Breton, Nova Scotia, Canada, fresh from the streets of New York to view seals and icebergs. . . . It was really an exile, although I didn't term it that. Then I heard about Father Damien. I wrote him and sent him $50. It was on page 3 of the (New York) *Daily News*—"Junkie priest in exile sends Episcopalian priest $50." Then in the early 1960s, drugs began to touch many families, and ordinary kids. Then it began arousing the concern of psychologists, psychiatrists, and professional people, because it just wasn't "those people" on Rikers Island, but the next door neighbor, etc. People began to get more concerned. It wasn't just "them" anymore; it was us. It wasn't "over there"; it was here.

Imhof: Was that the point when you came back and began working in Greenwich Village?

Fr. Egan: No, that was again part of my heartache. At the time I left, the Village Haven set up their own staff, completely psychiatrically oriented. I'm not saying that this caused it to close. When I came back, I didn't have a degree, I wasn't certified. Here I was going around lecturing on drugs, doing group therapy and all this kind of stuff, trying to get underneath the drug problem, but I wasn't certified. They didn't have certification then. Even though I had a master's degree from a Catholic University in moral guidance, morals didn't seem to enter into this. It was a crazy situation. I couldn't get on the staff of the house that I started! I was still a believer of the one-to-one approach—and still believe it! With certain people, that initial one-to-one encounter motivates them to get into a treatment center—one person encountering one person, and one person doing for that one person what an impersonal agency can't do.

Imhof: Today there are so many treatment approaches to drug abuse. In fact, the National Institute on Drug Abuse recently published a book describing at least 37 theories of drug abuse. What do you think of all these theories? You began over 30 years ago with one young woman off the streets of New York trying to get help and today we see dozens and dozens of suggestions and theories of how to help that young woman. What do you think of that? What is your perspective, your overview of 30 years towards all these theories and approaches and dynamics?

Fr. Egan: Well, I do believe the human person is a mystery; each person is unique. Not every human person is touched by the same approach. One person can be touched by one approach, another person by another approach. I may fail to touch one person and succeed with three others. No one should feel threatened when another approach works better than his. Years ago, there was so much fighting about one approach and another. The phone calls I get, the Christmas cards I get confirm this. Two nights ago a woman saw me getting out of my car and ran over to hug me. I've known this woman since she was on drugs at age 13. After hugging me she said, "Nothing ever worked for me except you—taking me to Coney Island . . . you taking me fishing." That's the one-to-one approach. I personally believe that if I can show a person what the good life really means and help her see a little bit of the good life, then it may spark the motivation to *want* that good life. I found long ago that when I began talking about the good life, addicts didn't even know what the good life meant. They'd never experienced it. Broken homes, the streets, jails, school drop outs. The Greeks used to take that word "good," philosophically, and say it meant stability, peace of mind, the ability to love and to be loved. I spent quite a bit of time last night talking with 400 high school kids about the real meaning of "good." "Good beer" is a contradiction, a good "high" is like a square circle.

Imhof: Do you find that as a priest you really have to let people be aware that it's not so much you're trying to impose or get across a religious or Catholic viewpoint, but that you're really talking about a viewpoint of quality?

Fr. Egan: They decide that with a prejudice. They make a judgement before I start talking. And they find out that after talking an hour and a half, I didn't mention God once. They can draw their own conclusions. I spend a lot of time talking about the natural law, the very nature of a thing: why honesty is good, naturally speaking, and why sobriety is good, naturally speaking. I spent a lot of time speaking about the difference between a human person and a dog. The dog that must act on feelings; the person that can

rise above feelings. The whole process of decision making. But to get back to your original question, what approach do I find works for me? There's too much time spent concentrating on drug addiction, and not enough concentration on the person who becomes the drug addict. All the drugs in the world will not make a drug addict. It takes an addicting drug plus a particular kind of person. The rejected, hurting, lonely, aimless, valueless kid is more ready to become drug dependent then other kids who are hugged and loved.

Imhof: The concept of a particular specific theory of addiction, or of an addictive personality, that certain people are just predisposed to become drug abusers. It would appear you don't give this much credence.

Fr. Egan: I think we do an injustice to ourselves, to come up with some superficial answer. What is it that makes one person go from experimentation to dependence, while another person will experiment with the same drug in the same situation and not become dependent? I've tried to explain this to the parents on Monday night. Two kids will toke from the same joint and both get a buzz. When they come down from the buzz two hours later, why is it that one kid will want to get back up again and the other kid will say, "nah, it's not my thing." Kids used to say that to me in the streets: "Man, I was ready long before I snorted, long before I popped a pill, long before I took a needle." Remember the first time you got glasses? Man, did I need glasses. I didn't know I needed them until I put them on, but I was ready for them! The boy who comes down from this high to a situation where he's not hugged, not touched, never encouraged, may not know what he's missing, but he's missing something. There's some unfulfilled need that every human being has and if that need is unfulfilled then he or she is going to try and fill it up with something, maybe drugs.

Imhof: For years, you were on the front lines providing treatment in the Village Haven, one of the first therapeutic communities in the United States. Today, you spend a great deal of time working with children, with adolescents. How have you experienced the transition from the treatment rehabilitation component to the prevention side? How do you view that shift in yourself?

Fr. Egan: The first couple of weeks it was exciting because it was something different, a new challenge. As the weeks went on I began to miss what you see in rehab. In rehab, sometimes life flowers in front of you; when you see someone break down and cry, that's a wonderful thing. To see someone blush, to hear someone laugh—you see things happening. In prevention, I'm not in a school long enough to see any change in attitudes, thinking, values. I move on. But it's rewarding enough. Teachers try to measure it by giving tests a month later, working out some key questions. This year's 12th graders took less drugs right across the board. Maybe it's wearing off—prevention, prevention, prevention. I think it's helping in some way. But I do miss the rehab. The close working together, the struggling, the sharing, and the blind faith.

Imhof: I know you have been involved for many years with NA and attend meetings whenever possible, in whatever community you're visiting. Do you see that as keeping in touch with the rehabilitation part of your life?

Fr. Egan: There are obvious ways I keep in touch. I'm never going to be able to cut the ties that bind me with people who used to be into drugs. It's sad and frightening how many adults who were once drug addicts are now parenting children with the same problems, and it continues with their children's children. Chromosomes, genes or whatever are handed down. I'm now seeing three generations of addicts. On top of that, I still go into a lot of prisons and deal with them on that level. But in Narcotics Anonymous I am dealing with a dimension never faced before. Narcotics Anonymous is totally a spiritual program. Nobody argues about it. Nobody debates it. No one is threatened when one speaks about God, as we understand Him. I used to feel uneasy and uncomfortable discussing what I knew in my gut was right. I'd have to apologize and qualify and, finally I'd take a good breath and say the word, "God." Immediately most professionals would get uneasy. In NA, however, the first two steps lead with God, that "my life is unmanageable" and "there's a power above and beyond me that can help me," and that third step, "I'm willing to turn my life over to God as I understand Him." Not Catholic, or Protestant, but God. So I like NA, it works if you make it work. Some of the young people coming into NA, (they spend) $1,000 a week on cocaine, $500 a night. That's new to me. So I'm keeping up with the new things, new situations, new people.

Imhof: What do you think of the "new things"? Throughout the late 1960s and 1970s and into the 1980s, it seemed that every year or two a new drug was on the scene. It was heroin, then L.S.D., then the emergence of the marijuana problem. Then heroin came back for a while. We saw addiction to prescription drugs. Now we're into the "cocaine cycle," if you will. How do you view this? What's wrong with this country, with our people, that every 2 or 3 years, we

are seeking a new intoxicant, a new and better way to leave the planet emotionally?

Fr. Egan: Thirty years ago, the big debate between the Federal Bureau of Narcotics and everybody else was that "the supply creates the demand." So we've got to get rid of the supply. For years I was making myself obnoxious by debating that. I was coming out of "my priest bag." I was coming off my own human experience. I was saying it was the demand that creates the supply. If we could get rid of the demand for drugs, for nonmedical reasons, then the supply could be around and I wouldn't need it. It is my conviction that it will always be the way it is until the professionals who are forming attitudes, writing the books, and conditioning the thinking of people step back and take a long look at it and say what is missing in all our approaches up until now. We've tried every approach. Can't we at least look into the absence of spiritual values and its relationship with drug abuse? I must sound like Reagan now. I feel Americans (any culture of people) are constantly filling in this emptiness in the human spirit, filling it in with things that can't last, things that are superficial. No wonder the emptiness! No wonder the readiness for drugs!

Imhof: What role does the family play? I know that you came from a very tight-knit, close Irish family—one of eight children. We have a change that's occurred in the family structure in the last 15 or 20 years—multiple family units, single parent families, unmarried parents. Often we hear of patients in treatment who are given a message that, "if you're a single parent or if you're a divorced parent, your child is at a higher risk of using drugs than if you don't have a nuclear family unit." Do you believe that?

Fr. Egan: I don't quote the quick easy answers I used to give years ago. At least I think many things have to happen. And things have to happen with family life certainly. People often just live together so as not to shock family without getting a separation, they are already separated. They don't show any physical affection in front of the children. Parents who do not separate or divorce do not necessarily breed that climate of peace, security, love that prevents drug addition. I don't buy it at all.

I know families who have produced four or five drug addicts: they stuck together, fought together, drank together, cursed together. But you see some single parents today who manage to give this one child the encouragement to hope, to love, to hug. I can't remember a time when my mother was not there, coming home from school. I guess the only time she wasn't there was when she was in the hospital having another child. She was always there. I never remember having a babysitter. Kids are a lot different today. Some kids say, "thank God for my dog." The dog is there to greet them. I have a special session now for retired mothers and fathers, grandmothers and grandfathers, who may well be the key person in family life. The mother and father are out working for survival—the kids come home, and the grandmother is there. She's a good listener, she may hug them, she understands and she's there. Family takes on a different concept today; it's not just mother and father anymore. It may be just that one parent and one child.

I also think something has to be done in education. I think the whole education syllabus needs revamping. It isn't so much information; it's just that our teachers don't have any chance to educate. Education is quite different from teaching. When did a teacher ever have the time or even the know-how to form the attitudes of kids about the gut level issues of life? What does respect mean? And concern, and sympathy and loyalty? When I was in Russia, I broke into tears in Moscow when I saw these old soldiers, maybe in their 80s, with their war medals, taking school children to the cemeteries once a week. They're taught loyalty, devotion to their country and how to be war heroes. We may say that's the wrong approach, but respect of the aged, respect for the dead, respect for country, loyalty to country . . . it's all there. My Moscow guide would often try to talk against the United States. Each time I would come up with answers I really believed. Finally, the guide said, "You're the first patriot I've ever met. Most Americans who come to Russia talk against their country and degrade its name, but you're different." What I'm saying is, where are our values? In a world of facts, where are the values kids live by? No wonder the drugs?

Imhof: If I could just ask you a question which I think every person who works with drug abusers has been asked by at least one of the patients, and that is, "You haven't used the stuff. You never put a needle in your arm. You never snorted coke, I don't think you can help me. I want to talk to someone who has used drugs." All of us had to grapple with the best therapeutic way to deal with comments like that.

Fr. Egan: Well, I talk about it in two ways. First, from my own experience, not from books but just from what I've lived through in my life. I'm 70 on my next birthday! First, I have been in hospitals after operations, the doctors decided I needed medication and it seemed, thanks be to God, that each time I went in for an operation, I was bugged, upset, frustrated, worried about a lot of things and, in a certain sense, I was predisposed to become dependent on it if I wanted to go that route. I remember one time when I was working the streets, after the operation, the

doctors said they would give me some morphine. Before they gave me the morphine, there were four girls around the bed, all prostitutes from the streets—no clergy. I was talking to them about where they were going to live that night, getting them a little bit of money. I was taking upon myself the weight of all their problems. John, so help me, when that nurse came in and gave me that morphine, there was such a change in me. In a matter of a minute! "Don't worry God is going to take care of you." The girls began to laugh. "What are you talking about? He never took care of us before, you did!" That's the first thing. I can speak from that little bit of experience that any human being who is carrying around a lot of frustration, disappointment, the agony of wondering did I do right or wrong, is ready for this kind of a high.

Secondly, I believe that underneath drug addiction are unmet human needs. I can talk eyeball to eyeball, with any group about basic, generic human feelings. "So let's talk about hurts. Let's talk about loneliness. Let's talk about the generic things we all have in common." Specifically, they're different, but generically, I know what loneliness is, I know what rejection is, I know what the ordinary problems of living are. I can talk about that.

Imhof: I'd like to ask you your initial reaction to some people that you had contact with or heard of during your work with drug users, for example, Harry Anslinger?

Fr. Egan: Harry Anslinger. John, I didn't know enough about drugs then. If I knew then what I know now, he and I would have had a different relationship. I would have challenged everything he said, but I didn't know. Wow!—head of the Federal Bureau of Narcotics! I can still see him. Though he looked really tough, there was a gentle core in him. A deeply sympathetic man on a one-to-one basis. He was running the department like a general. He was too "coppish"—like a big cop. Bust the criminals, pick them up, and that's going to solve everything. But if ever I picked up the phone, called him long distance, and said "I have so and so in the street now, and she has no place to go and everything depends on her getting off the drugs," he'd say, "Give me your number, I'll call Lexington. Get her on the train." On a one-to-one relationship he was great.

Imhof: Estes Kefauver?

Fr. Egan: Estes Kefauver was quite different than Anslinger. I think Anslinger really believed what he was doing was right. When dealing with a politician like Kefauver—that's a special breed, I worked with him because I believed he was on my side, involved in the whole pornography scene. I was picking it up in the schools and getting to know some of the drug kids getting into pornography. This was before Father Ritter ever came on the scene. Father Ritter once said to me 10 years ago, that he would never be doing what I was doing on the streets. Kefauver was more like a crusader on a white horse, going for election. I didn't buy too much of what he was saying, so long as he exposed the pornography.

Imhof: Mayor Wagner?

Fr. Egan: He was a politician. We used to picket outside of City Hall demanding beds, you know, like real kooks! I don't think he or anybody took us seriously. There we were in the late 1950s, demanding beds, some beds, any beds. Putting money in the budget for drug rehab was unheard of.

Imhof: In all your years of experience, would anyone come to mind when you hear the expression "enlightened politician"—someone that you wouldn't hesitate to vote for, to support, that you feel he or she had been a sincere proponent of drug programs?

Fr. Egan: I get a feeling that Nancy Reagan is very sincere. Maybe she was never a good actress, but she's certainly sincere and deeply concerned about youthful drug abuse. What she says and does in this field is not "acting." Doctors, lawyers, judges—really become humanely concerned about this problem only when it hits one of their own kids, when it happens to their own family. Then they take a different kind of approach.

Imhof: Your career in the field of substance abuse treatment rehabilitation and prevention has spanned a period of over 30 years. In looking back, was there one thing that you wish you had done differently?

Fr. Egan: Yes. Years ago a prison warden in Rhode Island took a big risk and locked me in a tier wing with 18 female drug addicts. I had explained to him what I had learned from my own experience about a "marathon." Like peeling an orange, you peel, and peel, and peel before you get the sweetness. I had been in marathons at Daytop, Phoenix, and other therapeutic communities, and I said to the warden, "Would you be willing to run the risk of conducting a marathon in this tier, in this prison?" Only after I did a lot of explaining did he agree. And so we made the sandwiches, the coffee in advance and the cell was locked.

When I explained to the population what it would mean, a lot dropped out. With real trepidation, about 14 agreed to make the marathon. It turned out to be one of the most meaningful experiences of my life. During the course of it, many of them took the pills

prescribed to them by their doctors, flushed them down the john, and began to open up, revealing and sharing things about themselves they never spoke about before. They cried, painfully. That went on for almost 28 hours. After it was over, the prison psychiatrist, psychologist, psychiatric social workers who had felt very threatened that this was going on began firing questions at the women. It was as if we had all been on a raft for 40 hours in the ocean; we were now a tight unit. And the inmates began throwing answers back honestly, about how they felt. The professionals were totally amazed. I regretted that didn't take on. It was just before I came back from Newfoundland and Cape Breton. I felt we could break this prison syndrome, this cycle, because every one of them were into drugs. No matter what prison I go to now, the highest percentage is cross-addicted. And these people get out, breed more addiction, and soon get back into prison. If something could be done experimentally to establish in every prison, a certain tier where we would try to simulate the kind of living that they're going to have to live outside—(give them) honesty, openness, concern, sympathy, education. The rest of the population would be fighting like hell to get into it. They could leave with those attitudes.

Prison life is breeding the whole drug scene. They leave with the same attitudes. There's no change in prison. You said to me there's been a lot of change. I often wonder what really has changed since 1957, 1958, except perhaps, we have more rehabilitation centers, we have more professionals in the field. I'd say the same thing to you. You've been in it long enough. It's almost like you're reading things you were talking about 15 or 20 years ago. There's really nothing new coming up, except the experimentation at younger ages.

Imhof: Like people keep reinventing or rediscovering the wheel—just another variety of it?

Fr. Egan: I don't think we're coming to grips with the deeper issues. We're afraid to ask the right questions. We're afraid to raise the right issues. We're talking to ourselves.

Imhof: Do you think there's still a big "turf" problem?

Fr. Egan: Oh yes. I think it would take someone like myself to say it. I think too many people are getting rich on drug addiction. We could get rid of a lot of these jobs if we could just spend the money seeking answers to the right questions.

Imhof: Are you referring to the bureaucracies set up to fight addiction, or commercial enterprises?

Fr. Egan: Look at all the money that's being paid up on top. Commissioners of this and commissioners of that, and directors of this and directors of that. By the time it siphons down to the people who need the help, there's little left. What's going on to change attitudes and thinking? Again, something has to be done in education.

Imhof: I know that January 27, 1985 marked a very special day—your 40th year as a priest.

Fr. Egan: Yes, 50 years at Graymoor, and 40 years as a priest. Off the question, I had an experience last night. I couldn't get any kid to recall within the last month of ever using the words "wrong," or "right." Kids don't even know what's "right" and what's "wrong." The Nixon thing, or the Japanese at Pearl Harbor. If it works to bomb Pearl Harbor, it's right. If it doesn't work, it's wrong. Or, if I feel like doing it, it must be good, or, if I don't feel like doing it, it's wrong. We're afraid to create an education that forces students to make moral choices. We fear getting into religion.

Imhof: Isn't the parent supposed to be really the last resort?

Fr. Egan: That's why the schools are taking over sex education. That's why schools are taking over drug education. Parents are *not* doing the job.

Imhof: So I could infer from what you're saying that if we look down the road a few years from now we may have more to be *pessimistic* about before things get better.

Fr. Egan: Oh yes. I really believe that society as we understand it is pretty sick spiritually. In spiritual values, spiritual concepts, the ability to pray, to believe in a higher power, whether there is a moral law or a natural law. Kids don't know why it's wrong to tell a lie. That's going to come back to haunt us as years go on. That's why it's so difficult trying to solve the drug problem, or any kind of problem. We're not doing enough to get underneath it all. What's the purpose of life? Why am I on this earth? What is it all about? Somehow, educators must raise proper questions without getting into natural, moral law? What can all religions agree upon that can help our children?

Imhof: You were given the label years ago, the "Junkie Priest." Is it a label you've ever regretted?

Fr. Egan: At times. Not anymore. I get a phone call three or four nights a week when I'm back at Graymoor. There's a woman who got out of a Cana-

dian prison, where she read an old copy of *Junkie Priest*. She scoffed at it. Who is this guy? When she got out, she called. Here's a woman 39 years of age, never had a hug in her life. In prison, into drugs, years of street jungle life. Ever since she found out that I'm real and that she can call me any time she wants and that I send her a hug through the phone—she doesn't want anything else. Now she calls three or four nights a week. She hasn't gone back to drugs. Yes, I've had some strange, unbelievable contacts with people who have read that book. One girl picked it up in a john in some gasoline station on the highway and started to read it. She finished it the next day, checked into a rehab program and wrote me a month later to say "thanks for giving me hope." It's just starting to reach another generation. There's a strong possibility that it's going to be a made-for-TV-movie real soon. But in the beginning, it sure did get me into a lot of trouble with my church! In fact the Archbishop called my superior and asked him to stop printing the book. They wanted to change the title to the *Narcotic Priest*; the word "junkie" was for pimps.

Imhof: We've known each other for many years, and I get a sense as I listen to you that there's an aspect of pride, that you can say, "I can work within a system where many people would think you can't make it in that system," and you continue to do this.

Fr. Egan: I think a better word than pride would be satisfaction, or glee, that the good Lord has let me do his work and that He has let me outlive most of the clergy who judged me a bad priest because I was working in the streets with female drug addicts.

Imhof: I heard a statement once that "the best revenge is a life well lived." If you could say something to all the readers, to people working in substance abuse programs across the country and throughout Europe, what message would you give to them? What would you like to say?

Fr. Egan: Begin each day with a sense of "mission." Don't get used to what you're doing. Don't do it just as a job. Evoke a conviction that this is a vocation, this is something special. You're dealing with precious human beings at a painful crossroads in their life. To redeem, to salvage one of them should be a great joy. Don't come to work saying, "Here we go again, another day." Try to draw on some higher power in your own life. Get back to those ideals that you had in the very beginning, when you began to work with human beings addicted to drugs and alcohol. It's one way to ward off that burnt-out syndrome. Every now and then get away for a couple of hours or a couple of days. Do something different. Go fishing, read a spy story, something, but keep a sense of "mission," that "What I'm doing is important and valuable."

Imhof: I have a sense that if someone read this a few months from now and had an urge to just call you at Graymoor and say something to you, it would be fine for you.

Fr. Egan: They'd get my tape, I'm not in. And the tape says if you're going through anything, if you're bugged by anything, please remember that you're very dear to God, and God is as close as a prayer, and don't pick up today. If anybody wants to call me, I'd be happy to speak with him.

I'm a pretty superficial guy. I don't think I'm profound in anything. I may share with you something that I'm going through myself. That's all that I really understand—what I have gone through.

Imhof: So, you're just a superficial guy!

Fr. Egan: I become more honest as I grow older. Maybe that's wisdom.

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TECHNICAL REPORT

Marijuana Use: Persistence and Urinary Elimination

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Abstract—*Marijuana continues to be one of the most widely used illicit drugs in this country. Unlike most other drugs, it is persistent in the body and elimination occurs only gradually. Using the Syva EMIT Cannabinoid Assay test, a readily available semiquantitative immunochemical urine test for marijuana metabolites, a group of ten chronic marijuana users was monitored while hospitalized. The results of the monitoring are presented as are two representative case reports. Implications regarding the interpretation of results and interpretation of "significant" urinary marijuana levels are discussed. Specific implications for use in treatment programs and general primary care settings are also discussed.*

Keywords—Retention, persistence, elimination, psychoactive, intervention, abstinence, behavioral transgressions

THE PERSISTENCE and urinary elimination of marijuana is quite unlike most other widely used substances, which are rapidly metabolized and eliminated within a few hours of use. The initial elimination of marijuana follows the usual paths of drug elimination, through the kidneys in the urine or through the intestines in the feces. Marijuana metabolites, however, as opposed to most other drugs, are reabsorbed through the intestines and in the kidneys, so that the amounts of marijuana eventually eliminated per unit of time are relatively small (Institute of Medicine, 1982). This recycling effect contributes to marijuana being only slowly eliminated from the body. The effects of tight protein binding, storage in body fats, and tissue sequestration with gradual release also contribute to the persistence and prolonged elimination period of marijuana (Jones, 1980).

Early reports (Institute of Medicine, 1982; Jones, 1980) indicated that 5 days after a single injection of marijuana, some 20% of the metabolites remained in the blood and another 20% was stored. Lemberger and associates (1970) demonstrated that with intravenous injection of radioactive THC, some 67% of the radioactivity was eliminated within one week, 45% in the feces and 22% in the urine. This study suggested a slow metabolism and elimination of sequestered marijuana and its metabolites.

Hollister and Kanter (1980) demonstrated urinary persistence of marijuana metabolites for 72 hours after a single dose in a group of non-users of the drug, with earlier reports demonstrating persistence for a period of 7 days in both users and non-users. Another report (Lemberger, Silberstein, Axelrod, & Kopin, 1970) showed the urinary persistence for a period of up to 10 days in subjects receiving labeled marijuana. Quite recently, Dackis and associates (1982) persented a report on six hospitalized individuals with a history of chronic marijuana use in which the persistence of marijuana in the urine varied from 14 to 36 days following the initiation of abstinence.

In this last report the authors made use of the Syva Company's EMIT Cannabinoid Assay test, a semiquantitative immunochemical test for marijuana in the urine. The test measures the presence of marijuana metabolites in urine and provides levels of metabolites present in nannograms per milliliter (one nannogram is one billionth of a gram). The Syva Company has determined that on the EMIT Assay a level of 20 ng/ml is the cut-off level for negative readings, and has also determined that there is 95% confidence of drug presence at a 50 ng/ml concentration (Syva Co., 1981, 1983).

From October 1979 through October 1980, the California Department of Corrections conducted

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over 10,000 EMIT Cannabinoid Assays with 40% of these being positive for marijuana. Of the 4,000 individuals confronted regarding the positive findings only 3 denied the use of marijuana (Alcott, 1981). In 1983 more than two million Americans are reported to have undergone urine testing for marijuana use in their employment, military, and treatment settings; since first introduced in 1981, the test has been considered efficient, reliable, and relatively inexpensive.

A recent field survey (Fox, 1983) conducted by the Centers for Disease Control (CDC) in Atlanta of 64 laboratories using the EMIT system of marijuana testing, demonstrated only a 4% incidence of false positive results for the samples tested. The CDC has also issued an advisory that a urine test alone should not be considered as definitive proof of marijuana use, demonstrating that the test has not been without criticism and controversy.

The previously reported survey by Dackis and associates did not provide numerical values for those positive readings on individuals with persistence of marijuana in the urine; however, in a recent review by Cohen (1983), a survey is reported in which chronic marijuana users remained "positive" on the EMIT assay at a level of 100 ng/ml for 9 days and "positive" at levels greater than 20 ng/ml for another 15 days following the cessation of marijuana use.

The variability of results and the various opinions regarding the significance and interpretations of results have led to much discussion and even further questions. In order to answer some of our own questions, as well as to establish some guidelines, we recently conducted a brief survey on a number of patients admitted to our 55-bed alcohol and drug treatment facility.

THE SURVEY

Individual patients involved in the survey were selected at random, at the time of admission, based upon the following set of criteria: (1) less than 40 years of age, (2) good general health, (3) normal renal function by laboratory assessment of BUN, creatinine, and routine urine analysis, (4) self-reported history of regular marijuana use for a period of at least 6 months, and (5) self-reported last use of marijuana within 48 hours of admission.

Selection was then made at the time of admission to the unit with an initial urine sample being taken at that time, under direct supervision. Additional samples were taken at random with first morning voidings, also under direct supervision.

The three most commonly reported concomitant drugs of abuse were alcohol, amphetamines, and co-

TABLE 1
Persistence and Urinary Elimination of Marijuana

Patient	Age	Self-reported marijuana use	Last marijuana use	Other drug use
1	28	3 to 5 joints a day	2 joints, 2 days prior to admission	Alcohol, amphetamines
2	25	2 to 3 joints a day	1 joint, 1 day prior to admission	Alcohol only
3	30	3 to 4 joints a day	2 joints, evening prior to admission	Amphetamines, alcohol, diazepam
4	32	10 joints a day	2 joints, 1 day prior to admission	Alcohol only
5	21	3 to 4 joints a day 4 days a week	2 joints, 1 day prior to admission	Alcohol only
6	26	10 joints a day	4 joints, the day of admission	Alcohol, cocaine, amphetamines
7	28	2 joints a day	2 joints, evening prior to admission	Alcohol, occasional cocaine
8	30	3 to 6 joints a day	3 joints, 2 days prior to admission	Alcohol only
9	25	4 joints a day	4 joints, 1 day prior to admission	Alcohol, amphetamines
10	34	1 to 3 joints a day	1 joint, the day of admission	Alcohol only

caine, none of which have cross reactivity for the Syva EMIT Cannabinoid Assay, with cross reactivity being defined as the concentration necessary to produce a response equivalent to the cut-off level of 20 ng/ml delta-9-THC acid (DeLaurentis, McNeil, & Mann 1982).

Table 1 provides a summary of the individuals involved in the summary with associated history of marijuana use and concommitant drug use. Table 2 then provides a summary of the persistence and urinary elimination of marijuana by the individual patients, with the day of hospitalization and correlating urinary marijuana level by EMIT Cannabinoid Assay.

Specific case reports follow.

Case Report 1

Mr. R, subject number 5, was a 21-year-old, single, employed male admitted to the unit for assessment and treatment of chronic alcohol and drug abuse. He reported marijuana use with an average of 3 to 4 joints (cigarettes) per day, 3 to 4 days per week, for a period of approximately 4 years. Last use of marijuana was reported as 1 month prior to admission with the exception of a single marijuana cigarette some 10 hours prior to his admission. The last acknowledged alcohol use occurred at this time as well. His physical examination was unremarkable and laboratory evaluation was essentially normal.

Initial urine marijuana level on the admission sample was 75 ng/ml (74.7) (see Table 2). With recurrent levels greater than 40 ng/ml, Mr R was confronted and there was denial or recurrent use of marijuana. He was, however, placed on ward restriction with direct staff supervision and observation. The urinary marijuana levels then diminished from 79 ng/ml (78.5) to 17 ng/ml (16.6) over a 10-day period and remained repeatedly negative (low) thereafter. At the time of his discharge, the patient admitted that there had indeed been use of marijuana while in treatment, prior to the institution of direct supervision.

Case Report 2

Mr B, subject number 6, was a 26-year-old, single, unemployed male admitted upon referral from another facility for assessment and treatment of self-acknowledged alcohol and drug abuse. The primary drug of use was reported as marijuana, use of which had been daily, averaging 10 joints per day, for a period of 1 year. Last acknowledged use was three or four joints the day prior to admission. There has also been daily alcohol use, occasional use of amphetamines and cocaine. The last reported use of alcohol was 1 week prior to admission, and last use of am-

TABLE 2
Persistence and Urinary Elimination of Marijuana in Hospitalized Marijuana Users

Patient		Urinary Marijuana Levels by EMIT Assay																		
1	U.M.L. =	56	58	59	38	48	14	19	3	5	14	7	8	13	19	10	7	4	20	11
	H.D. =	A	3	4	5	6	8	9	10	11	12	13	14	15	16	17	21	22	23	25
2	U.M.L. =	99	69	53	44	43	38	29	21	35	30	10	12	21	26	18	15	27	26	
	H.D. =	A	3	8	9	10	11	13	15	16	17	18	19	22	23	24	25	26	29	
3	U.M.L. =	104	64	43	63	40	49	25	9	39	12	25	11	21	30	10	4			
	H.D. =	A	4	5	6	9	10	13	16	18	19	23	24	25	26	27	30			
4	U.M.L. =	62	71	80	63	69	72	57	69	83	60	81	81	28	70	59				
	H.D. =	A	4	9	11	13	14	15	16	17	18	20	21	22	23	30				
5	U.M.L. =	75	66	30	67	55	50	41	74	34	78	69	57	43	17	27				
	H.D. =	A	3	6	7	8	16	17	18	21	24	26	29	31	34	36				
6	U.M.L. =	97	71	68	51	51	42	46	26	47	62	35	69	48	94	75				
	H.D. =	A	4	6	10	11	12	13	14	15	17	23	31	35	39	40				
7	U.M.L. =	102	103	55	53	29	30	46	75	52	40	DC'd								
	H.D. =	A	2	9	10	19	20	22	24	27	29	30								
8	U.M.L. =	73	88	23	55	56	60	56	41	63	60	59	37	49	50	59	DC'd			
	H.D. =	A	3	4	8	9	10	11	12	14	15	16	17	18	21	22	25			
9	U.M.L. =	84	38	82	70	42	40	11	16	23	18	6	5	23	5					
	H.D. =	A	9	11	14	16	18	21	22	23	25	27	28	29	30					
10	U.M.L. =	92	82	66	37	54	30	35	33	35	24	5	20	17						
	H.D. =	A	3	5	6	7	8	9	10	15	17	22	29	33						

U.M.L. = Urinary Marijuana Level; H.D. = Hospital Day; A. = Admission Sample.
Note: All levels are rounded to nearest whole number.

phetamines or cocaine was reported as 1 month prior to admission. Physical examination and laboratory evaluation were essentially unremarkable.

Admission urinary drug screening was negative for the drugs of abuse with the exception of a urinary marijuana level of 97 ng/ml (97.4). Daily supervised urine samples were then monitored and demonstrated a decline over a 14-day period, but never stabilizing at, or below, the 20 ng/ml cut-off for negative readings. On the 15th and 17th days, the levels elevated to 62 ng/ml, and the use of a single marijuana joint was acknowledged. Mr. B continued in treatment with a new contract. However, there followed two more occasions of marijuana use, and he was discharged due to noncompliance with his treatment contract and continued marijuana use.

SURVEY RESULTS

In reviewing the survey results it should be noted that the dose of marijuana (THC concentrations) in the joints used was not known prior to, nor after, admission. It should also be noted that at no time did any of the subjects present signs or symptoms commonly reported as being associated with a possible marijuana "withdrawal" syndrome. However, the compulsion or impulse to return to use was commonly reported by the subjects in about the second week of hospitalization. This compulsion appears consistent with the documented development of psychological dependence tendencies after prolonged, or high dose, marijuana use (Jones, 1980).

During the period of study, only 50% of the subjects presented a decrease in urinary marijuana levels to the 20 ng/ml cut-off level for "negative" readings. These five subjects took an average of 17 days to reach this negative level, with a range from 8 to 22 days. The remaining five subjects continued to present urinary marijuana levels of 30 ng/ml or higher, for a period of up to 30 days or longer. Each of these individuals presented repeated denials of marijuana use when confronted, with these initial denials proving false in at least two of the five, as seen in the case reports.

Eight of the ten subjects reached urinary marijuana levels of 50 ng/ml and stabilized at or below this level after an average of 13 days, with a range of 5 to 19 days. Variability and fluctuations continued throughout the study period in all subjects.

This sample appears to suggest that with abrupt cessation and abstinence from chronic marijuana use, there is an initially rapid period of clearance followed by a period of relatively prolonged persistence and slowed clearance. The sample also suggests that urinary "peaks" of as low as 50 to 60 ng/ml can be suggestive of recent recurrent marijuana use.

Another observation made was that each incident of acknowledged marijuana use was followed by a peak urinary marijuana level within 48 hours of the use, with each of these peaks being followed by a rapid period of clearance. Each of these observations demonstrate the findings previously presented and reported elsewhere (Syva Company, 1981, 1983).

DISCUSSION

The persistence and elimination of marijuana in chronic users is difficult to ascertain and effectively measure with any specificity, due to uncertainty of termination of use and continuation of abstinence. A number of influential factors have to be considered in reviewing marijuana elimination and the significance of urinary marijuana levels. These factors include body weight, level of physical activity, diet, stress, kidney function, urine acidity and volume, as well as menstrual cycle (Cohen, 1983).

It has been reported previously (Hawks, 1981) that significant urinary marijuana levels can persist longer than 2 weeks and that these levels continue to fluctuate greatly throughout this period. These fluctuations must be considered when monitoring is continued over a period of days or weeks. Increases in the marijuana levels in samples taken up to a week apart do no necessarily prove that marijuana use has occurred in the interim. Our survey suggests that while the previous statement may be true, if there is an apparent increase in the marijuana level to a reading of 50 ng/ml or higher, then a return to use is suggested and warrants inquiry and confrontation regarding the possibility.

The persistence of marijuana and its metabolites in the body has both psychiatric and general medical implications and significance. One of the marijuana metabolites responsible for measurably positive levels on the EMIT assay is 11-hydroxy-delta-9-tetrahydrocannabinol, which is potentially psychoactive (Hawks, 1981). If marijuana is retained in a psychoactive form there could possibly be a continuing cognitive, affective, and behavioral effect long after the cessation of chronic marijuana use (Dackis et al., 1982). The implications may be more profound and more chronic than previously reported or appreciated.

As has been noted elsewhere (Kleber, 1981), the clinical impact of the use of a marijuana screening assay in chemical dependence settings is remarkably varied. In certain treatment environs the test will rarely be used and the effect minimal, while in other settings it will be widely used and will prove a useful adjunct to treatment. In some settings, the test will prove to be useful for the enforcement and monitoring of contracted abstinence and for assisting in modifying transgressions while in treatment.

Clinical impact will also vary due to the various manipulative techniques used by patients (Wang,

1980) in their attempts to influence results of urinary drug screenings and to explain possible positive results. A frequently presented explanation has been that of "passive inhalation," or having been in the presence of active marijuana smokers while remaining abstinent. As has been reported by Perez-Reyes (1983), "allegations that urine samples that contained more than 50 ng/ml of cannabinoids by the EMIT are the result of the passive inhalation of marijuana smoke are untenable or, at best, highly questionable" (p. 475). This conclusion was based upon the results of 80 urine samples, taken under controlled situations in three studies, of which only two barely exceeded the 20 ng/ml response on the EMIT.

The establishment of a specific collection protocol, whether the monitoring is done on an inpatient or outpatient basis, is highly recommended. This protocol should definitely require the on-site collection of samples; no patient should be allowed to bring in a sample for screening. Direct supervision and observation of sample collection should occur regardless of the occasional embarrassment. Definitive labeling and identification of samples should occur at the time of collection, with name, identifying number, date, time, and labeling of sample and reporting slip. Separation of the single urine specimen into two samples of adequate amounts could also be accomplished—one for the initial screening, the second for any confirmatory study when necessary.

As a direct result of recent reports (Morgan, 1984; O'Connor & Rejent, 1981) it is believed that the EMIT assay is an efficient, cost-effective, and reliable screening tool; however, it is felt that a confirmatory mechanism for positive results should be readily available. These confirmatory mechanisms may be by RIA or GC/MS methods and it is felt that if positive results on EMIT and the treatment responses have remarkably significant social, personal, or legal implications (i.e., termination of treatment, termination of employment, incarceration), the confirmatory tests may be accomplished if there is any question of doubt regarding the EMIT result.

Clinical use of the EMIT assay in a primary care, or ambulatory care, setting would be limited to the confines determined by the test limitations themselves. The system could be used to determine only the fact of marijuana use. It could not be used to determine marijuana intoxication, nor to fix the specific time of last use. In such a primary care setting the test would necessarily be limited to simply confirming suspicions. This, of course, would allow the practitioner to approach the subject of the health care implications of drug use, misuse, and abuse. It would also allow for whatever referrals, consultations, and treatments that may be determined necessary or desired.

Because marijuana continues to be one of the most widely used illicit psychoactive drugs in this country, the use of a urinary screening assay in a primary care setting may become increasingly more appropriate. It has been suggested (Macdonald, 1981) that testing for marijuana in adolescents should be at least as important as tests for anemia, mononucleosis, or hepatitis. In this manner early detection by the practitioner can lead to early intervention (Barton, 1981).

More widespread use of the EMIT assay, use of a confirmatory test mechanism, and specific correlation of the findings should eventually prove beneficial in the assessment, evaluation, and management of the educational, social, legal, medical, and psychological implications and impact of chronic marijuana use and abuse. The implications regarding the use of a urine screening test for marijuana use demonstrate that continued definitive study is clearly warranted.

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TECHNICAL REPORT

Hematological Concomitants of Alcoholism: Development and Validation of a Clinical Screening Technique

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Abstract—*An investigation into the use of blood chemistry variables in the identification of young adult alcoholics revealed that a combinative process utilizing 11 blood chemistry variables was superior to the use of individual measures. The investigation further validated the use of a linear discriminant analysis technique in identifying the blood chemistry measures and a discriminant function was produced that classified alcoholics and controls with a high degree of accuracy. This level of precision in prediction was maintained in validation trials on independent samples. The blood chemistry variables were extracted from a combination of commonly ordered blood tests. Results of the investigation indicate that clinical usage of the screening procedure is readily available without sophisticated computer support or exotic blood analysis.*

Keywords—Alcoholism, blood chemistry, discriminant analysis, military

INTRODUCTION

OBJECTIVE DIAGNOSIS OF ALCOHOLISM, especially in younger alcoholics, has long eluded medical detection. Clinicians have had to rely heavily on self-reported patient history and third-party confirmation when available. Numerous attempts have been made to find physiological correlates of heavy or pathological alcohol consumption. Several investigations (Papoz et al., 1981; Unger & Johnson, 1974; Whitehead, Clarke, & Whitfield, 1978; Wu, Chanarin, & Levi, 1974) have found correlations between alcohol use and elevations in mean corpuscular volume (MCV). Although some (Bagrel, d'Houtaud, & Gueguen, 1979; Jankowski & Drum, 1977) have found a high incidence of macrocytosis in alcohol abusing populations, others (Eckardt, Ryback, Rawlins, & Graubard, 1981) have pointed out that the measure of MCV alone can result in an abundance of false positives and false negatives when attempts are made to use it as a screening tool. A similar problem arises with the use of gamma-glutamyl transpeptidase (GGT), which has shown promise in its relationship to alcohol abuse (Eckardt et al., 1981; Myrhed & Bergstrom, 1976; Papoz et al., 1981; Rosalki & Rau, 1972; Szasz, 1979; Unger & Johnson, 1974; Wu, Slavin, & Levi, 1976) primarily due to the hepatic connection of elevated GGT. Problems with false negatives and positives also plague this marker.

Several investigators have attempted to combine tests to identify combinations of markers associated with alcohol abuse (Jankowski & Drum, 1977), the most promising of which utilize sophisticated statistical analyses to produce the most powerful combination (Bliding, Bliding, Fex, & Tornqvist, 1982; Eckardt et al., 1981; Ryback, Eckardt, Felsher, & Rawlins, 1982; Ryback, Eckardt, & Pautler, 1980).

These studies have employed the technique of dis-

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criminant analysis to analyze the combined power of various physiological measures in the classification of alcoholics and control subjects. Although meeting with varying success, all have reported substantial improvement in classification results over the use of single measures, or simple additive combinations. The work of one group in particular, Eckardt et al. (1981), has drawn considerable recent attention. These researchers have utilized a set of commonly ordered laboratory tests in conjunction with a discriminant analysis to classify alcoholics and controls with a high degree of accuracy.

They were able to correctly classify 100% of medical ward alcoholics, 94% of treatment program alcoholics, and 100% of medical non-alcoholic controls in an initial study (Ryback et al., 1980). In a subsequent study, they were able to correctly classify 100% of non-alcoholics and 98% of an alcoholic group (Eckardt et al., 1981). This procedure proved much more powerful than the use of GGT and MCV alone, which resulted in identification of only 36% of the alcoholic group.

The discriminant procedure holds great promise due to the high classification rates and, although mathematically sophisticated, utilizes commonly ordered laboratory work with no requirement for specialized assay techniques. In adapting the technique to a clinical environment, however, two problems arise with the work accomplished to date. First, use of the classification formula derived from the kind of discriminant analysis used, called a quadratic analysis, is complex and difficult to adapt as a screening tool. Second, the populations explored have consisted almost entirely of older, chronic alcoholic patients and controls, or older alcoholics and considerably younger controls. In either case, it is difficult to generalize the results of these studies to a task of discriminating between two groups that are younger and have similar blood chemistry profiles.

The population of specific interest, for whom the discriminant technique would be most useful, is the younger, heavily involved problem drinker or alcoholic. This group has traditionally displayed fewer physical problems and social consequences secondary to alcohol abuse. They, unlike older alcoholics, may not be readily identifiable through social history, psychometric assessment, or clinical presentation. A blood chemistry discrimination technique would be most valuable if it retained the demonstrated high levels of accuracy in prediction with a younger population, and were more readily adaptable to various clinical settings. Ideally, such a screening instrument would have the following characteristics: (a) utilize only routine laboratory tests; (b) normed on data collected from automated assay methods commonly available in most medical facilities; and (c) could be computed using a hand calculator or microcomputer.

SUBJECTS

Experimental group subjects included 252 clinically confirmed, sequentially admitted male alcoholics treated in the William Beaumont Army Medical Center Alcoholism Residential Treatment Facility (ARTF) during 1981. All male patients were included. One hundred forty-two control subjects who met the following criteria were randomly selected from the general medical population: (a) active duty military male; (b) age/rank matched to ARTF population; (c) no diagnosis or other indication of alcohol abuse or alcoholism; (d) hospitalized during the same period as ARTF subjects; and (e) had medical treatment records which included the requisite blood chemistry analysis. Less than 3% of all records surveyed did not have the needed blood chemistry values, and those missing were due to laboratory equipment failures. No attempt was made to match for race or other variables as it was believed that the randomization and selection criteria would yield a balanced control population. The low proportion of women treated in the ARTF precluded their meaningful inclusion in the study.

Clinical confirmation of alcoholism was accomplished utilizing a thorough drinking history, a legal history, statements by unit commanders, supervisors, and local outpatient alcohol treatment personnel, in addition to psychometric testing. This comprehensive, multilevel screening system, through which all alcohol patients pass, virtually precludes the possibility of misdiagnosis. Experimental subjects averaged 38 days since their last drink. This was considered especially important as any differences in chemistry values between groups would then be attributable to longer term, less reactive physiological changes.

Alcoholic subjects averaged 35 years of age and reported 11 years of problem drinking. Their mean educational level was 13 years, and they had 13 years of military service. Although younger than many traditional inpatient alcoholic subjects, these patients produced an average score of 31 on the Michigan Alcoholism Screening Test (MAST). A score above 7 is usually considered definitive evidence of alcoholism, and the high average of our patients is reflective of the family, social, legal, and vocational problems they have encountered. Of these subjects, 80% report some use of drugs other than alcohol, although only 51% report use exceeding experimental levels. The principal drugs used were marijuana and amphetamines.

Medical controls were gathered through a careful anonymous scrutiny of medical records. Military medical records for active duty soldiers are quite thorough and provide sufficient medical, social, and psychological information to allow exclusion of alcoholics and problem drinkers from the control sample despite the inability to perform a personal inter-

view. This wealth of information is partly due to the inclusion of such data as routine physical exams, and psychological or social work notes accumulated in the record over the course of military service. Blood was collected within 72 hours of admission on all subjects and analyzed via automated means in the medical center pathology service. In all other aspects, experimental and control subjects were processed in an identical, blind manner.

METHODOLOGY

In addition to age, sex, rank, diagnosis, time since last drink, and race, the following laboratory values were gathered on each subject: sodium, potassium, chloride, carbon dioxide, glucose, urea nitrogen, creatinine, uric acid, total protein, albumin, total bilirubin, direct bilirubin, alkaline phosphatase, gamma-glutamyl transpeptidase (GGT), lactic dehydrogenase (LDH), serum glutamic-oxalocetic transaminase (AST/SGOT), calcium, inorganic phosphorous, cholesterol, triglycerides, white blood cell count (WBC), red blood cell count (RBC), hemoglobin (HGB), hematocrit (HCT), mean corpuscular volume (MCV), mean corpuscular hemoglobin (MCH), and mean corpuscular hemoglobin concentration (MCHC). These measures were chosen due to their inclusion in a standard SMA-20, and complete blood count with differential, both of which are basic laboratory orders on all inpatients, many outpatients, and in all physical examinations. Descriptive statistics, as well as units of measure and reference ranges for all groups are presented in Table 1.

Two separate discriminant analyses were performed on the data. The first was the quadratic technique used by Eckardt et al. (1981) and provided by the Statistical Analysis System (SAS) version 79.5. This technique allows a mathematical adjustment of the data to insure that the statistical assumption of linearity is met. Although successfully used in other work, the quadratic adjustment remains supported primarily by Monte Carlo simulations with few trials using real data (Tabachinick & Fidell, 1983). The SAS quadratic discriminant analysis has other disadvantages as well. First, it automatically bases the calculation on the entire set of variables, whereas

TABLE 1
Mean Chemistry Values

	Group						
Variable	Alcohol Subjects	Medical Subjects	Alcohol Validation	Medical Validation	Unit of Measure	Normal Range	Total
Sodium	142.4	141.6	143.2	141.8	mmol/L	136–145	142.2
Potassium	4.4	4.3	4.3	4.2	mmol/L	3.5–5.0	4.3
Chloride	104.8	104.3	105.1	105.3	mmol/L	96–106	104.5
CO_2	24.4	25.4	24.3	25.9	mmol/L	24–30	24.9
Glucose	101.4	100.4	102.1	110.4	mg/dl	70–115	100.8
Urea Nitrogen	12.9	13.2	12.4	13.4	mg/dl	10–26	13.0
Creatinine	1.3	1.2	1.3	1.2	mg/dl	.7–1.5	1.3
Uric Acid	6.7	5.9	6.3	5.8	mg/dl	3.9–9.0	6.3
Total Protein	7.1	6.9	7.1	6.8	gm/dl	6.0–8.5	7.0
Albumin	4.6	4.4	4.7	4.5	gm/dl	3.5–5.5	4.5
Total Bilirubin	.6	.6	.6	.7	mg/dl	.2–1.2	.6
Direct Bilirubin	.1	.1	.1	.1	mg/dl	.0–.3	.1
Alkaline Phos	89.0	86.3	91.4	78.8	IU/L	30–115	88.8
GGT	51.7	39.0	71.0	36.3	IU/L	0–65	50.9
LDH	205.6	186.6	209.6	169.6	IU/L	60–200	198.3
AST/SGOT	29.2	31.0	35.4	36.8	IU/L	0–41	32.3
Calcium	10.2	9.8	10.2	9.9	mg/dl	8.5–10.5	10.1
Phosphorous	2.9	3.5	2.9	3.4	mg/dl	2.5–4.2	3.2
Cholesterol	214.7	191.0	222.4	184.1	mg/dl	120–240	203.6
Triglycerides	137.0	161.3	128.4	173.1	mg/dl	30–140	143.4
WBC	9.1	8.5	9.4	7.8	K/CMM	5–10	8.7
RBC	5.1	5.3	5.1	5.3	MIL/CMM	4.7–6.1	5.2
HGB	16.5	16.2	16.4	16.3	G%	14–18	16.4
HCT	47.8	47.2	47.8	47.1	%	42–52	47.4
MCV	93.4	89.5	93.9	89.9	μm^3	80–94	91.8
MCH	32.1	30.9	32.2	31.0	MCMCG	27–31	31.5
MCHC	34.3	34.4	34.2	34.6	%	33–37	34.3
N	252	142	56	36			486

TABLE 2
Discrimination Results

		Predicted Group	
		Alcoholic	Control
SAS Quadratic Method			
	Alcoholic	94.2%	15.8%
	Control	19.0%	81.0%
Actual Group	Validation Alcoholic	80.0%	20.0%
	Validation Control	43.5%	56.5%
BMDP Linear Method			
	Alcoholic	79.4%	21.6%
	Control	19.0%	81.0%
Actual Group	Validation Alcoholic	76.8%	23.2%
	Validation Control	19.4%	80.6%

other types of discriminant analysis use a "stepwise" procedure, selecting a best subset of variables which more parsimoniously achieve the same strength of discrimination. Second, the final equation derived by the SAS routine is considerably more complex because of the quadratic adjustment and requires the use of matrix algebra for implementation on new subjects. This is easily accomplished when one uses the same large computer to assess new subjects, but is not readily convertible to smaller computational devices.

The second discriminant analysis was accomplished utilizing the BMDP stepwise discriminant routine. This technique has several advantages. First, it is a true stepwise method that selects the best subset of values to use from the entire blood chemistry set, thereby indicating which values are most strongly contributory to the discrimination between alcoholics and controls. Another feature of the BMDP routine is the use of a "jackknife" classification, which gives a more accurate estimate of the power of the solution with validation samples. (For a more complete explanation of the jackknife procedure, see Lachenbruch & Mickey, 1968.) Finally, the BMDP method provides a simple formula for computing the classification of future subjects which involves multiplying each blood chemistry value by a weighting factor and adding all the products in a straightforward linear algebraic equation.

After the initial discriminations were performed, the resulting equations were utilized to classify the remaining two data sets in order to assess the validity and discriminatory strength of each technique.

RESULTS

The SAS quadratic discriminant analysis yielded an overall correct classification result of 88.9%, with a correct classification of alcoholics of 94.2%, and correct classification of controls of 81%, compared to prior probabilities of 64% and 36%, respectively.

The BMDP discriminant analysis produced an equation comprised of 11 blood chemistry variables. In order of entry they were calcium, MCV, inorganic phosphorous, CO2, total bilirubin, uric acid, triglycerides, cholesterol, lactic dehydrogenase, AST/SGOT, and albumin. Calcium, MCV, uric acid, cholesterol, and lactic dehydrogenase were relatively elevated in alcoholics, whereas inorganic phosphorous, carbon dioxide, total bilirubin, triglycerides, AST/SGOT, and albumin were depressed. This function achieved a hit rate of 80.7% with correct classification of alcoholics and controls 79.4% and 83.1%, respectively. Unlike the SAS analysis, the BMDP routine computes the significance of the resultant equation indicating that the solution derived in this case was significant ($F = 28.3$; $p = 0$).

The 56 alcoholics and 36 medical controls that comprised the principal validation sample were submitted to both discriminant analyses for classification using the equations derived from the training sample. The SAS quadratic analysis correctly classi-

fied alcoholics 80% of the time, but was correct in classification of controls with only 56.5% accuracy, not significantly different from chance. The BMDP discriminant function, however, correctly classified alcoholics and controls from the validation sample with 76.8% and 80.6% accuracy, respectively. These results are summarized in Table 2.

DISCUSSION

Our findings tend to support the conclusions of previous researchers that a multivariate discrimination technique is far superior to individual measures alone. This is particularly important when it is realized that the mean laboratory values for either the alcoholic or medical control groups do not deviate from clinically normal limits, and yet the discriminant analysis statistical procedure is of sufficient power to sense and capitalize upon minute, subclinical variations within each group.

The individual markers associated with alcohol abuse were only partially supported by this study. Mean corpuscular volume was an important contributor to the discriminant equation entering at step two, thereby indicating that some level of macrocytosis is in evidence in this young alcoholic population. The failure of GGT to enter the equation at all, however, indicates that hepatic involvement is less a problem than in older populations or among subjects abusing acutely. The absence of GGT in the equation does not, however, argue that it or other markers are not useful in the clinical diagnosis of alcoholism. This study demonstrates that some biochemical markers tend to remain stable beyond the acute consumption phase; the next logical extension of this work is to assess patients with long-term abstinence, possibly up to one year, and compare them with alcoholic patients who have been recently drinking. The discriminant analysis utilized here can also be employed to describe and separate such groups and to indicate which biochemical variables are involved in different stages of recovery and abuse.

The apparent superiority of the quadratic discriminant analysis over the linear method, and its subsequent degeneration with the validation sample may indicate why previous studies have reported little success in generalizing discriminant analysis findings. The results of this investigation are therefore encouraging, and suggest that the linear discriminant analysis and its simpler computational formula holds promise as a screening method for alcoholics. The discriminant functions appear below.

For the alcoholic group (S_a) = -595 + (43.3 × CA) + (4.8 × MCV) + (12.7 × phosphorous) + (5.0 × CO2) + (-14.4 × bilirubin) + (3.6 × uric acid) + (.02 × triglycerides) + ($-.05$ × cholesterol) + (.20 × LDH) + ($-.14$ × AST/SGOT) + (19.8 × albumin).

For the medical control group (S_c) = -563 + (40.7 × CA) + (4.6 × MCV) + (13.9 × phosphorous) + (5.3 × CO2) + (-12.7 × bilirubin) + (3.4 × uric acid) + (.02 × triglycerides) + ($-.06$ × cholesterol) + (.19 × LDH) + ($-.11$ × AST/SGOT) + (21.0 × albumin).

The values for each new subject are computed for both functions with the largest value indicating the group into which the subject should be classified. A probability of correct classification can be derived from the above values using the following formulae (the term "exp" means the natural antilog or natural exponent of the value following it).

Probability of belonging to alcoholic group:

$$\frac{\exp(S_a)}{\exp(S_a) + \exp(S_c)}$$

Probability of belonging to medical control group:

$$\frac{\exp(S_c)}{\exp(S_a) + \exp(S_c)}$$

As can be seen from the basic equations above, the task of classifying any new case requires a minimum of calculation and could be easily performed on a variety of hand calculators or microcomputers. The overall predictive validity of 78.3% achieved by this method represents a significant step toward establishing a reliable, covert screening measure for alcoholics. A word of caution, however, seems in order for those interested in utilizing these equations. More work in establishing general population norms is necessary, and the discriminant analyses must be rerun on a number of other data sets before reliable equations can be derived for general use. Additionally, this technique is unlikely to provide sufficiently precise classification for anything other than medical screening purposes, which should then be bolstered with independent substantiation before arriving at a diagnosis. The reliability of the linear function when applied to the other samples indicates that the tool has practical promise and we might expect concordant results in replicative studies.

In future work the addition of other measures such as social history, psychological profiles, pedigrees, and marital variables may contribute toward strengthening the prediction rates reported here. Our work to this point indicates that multivariate discriminant analysis may prove a powerful tool in the development of a blood chemistry screen for alcoholics. The superiority of the BMDP linear discriminant analysis upon validation suggests that the quadratic solution utilized in other work has a tendency to over-capitalize upon the unique characteristics of the training sample and makes the high predictive rates reported suspect unless predictively validated.

The identification of physiological markers that are nonsignificant individually, but valuable in the

overall equation emphasizes the power available in the use of multivariate statistical techniques. Additionally, the particular blood variables isolated by the stepwise procedure may point to important biochemical factors that are affected by alcohol abuse, and that are persistently and reliably altered even in young alcoholic populations and among subjects with several weeks' sobriety. This may prove extremely valuable in early identification and intervention, which has previously been difficult when based only on routine medical and psychosocial assessments. Future work may focus on the more precise biochemical profiles of patients in varying stages of abuse and recovery.

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CLASSICS REVISITED

Abraham Wikler: Conditioning Factors in Opiate Addiction

EDITOR'S INTRODUCTION: THE BEHAVIORAL APPROACH

BEHAVIORISM MEANS MANY DIFFERENT THINGS to different people. Behaviorism is not, nor was it ever, a monolithic concept or treatment approach. Nonetheless, current behavioral theory and practice, despite extreme diversity and often strident discord among adherents, reflects agreement regarding the importance of using scientific methods in both research, assessment, and practice in the field of addictive behaviors.

By the 1950s, psychoanalytic approaches had failed to solve the riddle of addiction. As a result of this failure, there was a growing dissatisfaction with this perspective. At about the same time, behavioral theories were boasting the virtues of a more empirical and scientific base; these models began to gain popularity, although not without dissent from competing theoretical camps.

The behavioral perspectives were spawned from classical (or respondent) and operant (or instrumental) conditioning paradigms developed by Ivan Pavlov and B.F. Skinner, respectively. These models generated the view that psychopathology is a learned set of dysfunctional behaviors rather than the result of deep-seated psychological trauma or physical illness. Thus, the disorders of thinking, feeling, and acting were conceptualized as maladaptive responses to environmental events which, once learned by the individual, are maintained in the present by reinforcing contingencies.

Behavior therapy is based on the assumption that the individual and environment are an interacting system of events and that the developing person reacts from birth to external conditions in both the physical and social environment; therefore, individual behavior is influenced, that is, altered or maintained, in predictable ways. On the basis of this experience with the external world, the organism acquires consistent patterns of reacting to new conditions as it develops through the life cycle. Finally, according to behavioral theory, individual behavior, modified and/or maintained by experience, is the major focus and subject matter of scientific and clinical inquiry.

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Abraham Wikler: Conditioning Factors in Addiction

In 1965, the late Abraham Wikler published a chapter on conditioning factors in opiate addiction and relapse. This article was the first to consider the roles that operant and classical conditioning play in the addiction process. Wikler's thinking predated contemporary cognitive-behavior modification theorists and practitioners by analyzing the relationship between cognitive and behavioral phenomena. This view considered the drug user as an active, self-determining individual who was not simply a victim of circumstance or conditioning. Addicts were human beings with feelings, thoughts, motives, and ideas, all of which were considered to come into play during the acquisition, maintenance, and extinction of addictive behavior.

As a result of Wikler's concept of conditioned dependence and the pragmatics of out-patient interventions, that is, "typical" substance abusers continue to spend a great deal of time in the environments that had previously been associated with substance use, naltrexone treatment was utilized to extinguish the bond between conditioned stimuli such as the environment, and conditioned responses such as opiate use. Wikler's two-stage approach to substance abuse (see Table 1) perhaps best illustrates the application of classical behavior theory to an understanding and treatment of addictive behavior.

The theoretical explanations that most cogently explain the use of Naltrexone® and Antabuse® as clinical interventions are largely based on the two-stage model developed by Wikler. Naltrexone's action, that of a narcotic antagonist, essentially eliminates the unconditioned reinforcing properties of narcotics by blocking their action. Conversely, Antabuse punishes the use of alcohol by inducing a noxious syndrome; this syndrome, according to behavioral theory, should reduce the use of alcohol. It should be readily apparent to supporters and critics of behavioral theory alike that these interventions, like other treatment approaches, are effective on many clinical occasions and not on others.

TABLE 1*
Wikler's Simplified Two-stage Model of Conditioned Dependence

Stage One: Acquisition (classical conditioning)

1. Conditioned stimuli (e.g., works, room, thoughts, feelings)
2. Unconditioned stimulus (e.g., narcotic)
3. Unconditioned response (e.g., narcotic euphoria, "rush," nausea)
4. Soon tolerance develops and the UCS no longer elicits the UCR

Stage Two: Maintenance (operant conditioning)

1. Withdrawal syndrome (e.g., unpleasant effects of narcotic abstinence)
2. Application of narcotics (e.g., "shooting up")
3. Negative reinforcement (e.g., cessation of withdrawal syndrome)

*Adapted from Shaffer and Schneider, 1985.

Wikler's model is supported by data primarily obtained in the animal laboratory. Since generalization of animal data to humans is equivocal at best, Wikler's propositions are in need of additional empirical support. Nevertheless, by considering addiction as the consequence of learning, Wikler's formulations permit the development and implementation of precise treatment techniques, for example, the extinction of specific conditioned responses that maintain a pattern of drug dependence. It is both curious and interesting, however, that relatively few practitioners have implemented treatment programs based on the sophisticated theoretical perspectives provided by Wikler. Perhaps his theoretical concepts were too complex for the majority of practitioners to utilize within the typically spartan settings reserved for the treatment of opiate dependence. Wikler's models have yielded numerous progeny, many of which are not readily recognizable because of the changes that characterize contemporary behavior therapy.

Wikler's Legacy: Contemporary Behavior Therapy

Today, behavior therapists engage in different clinical activities from their counterparts of 10 to 15 years ago. The full scope of the techniques practiced by contemporary behavior therapists is beyond the purview of this discussion, however, one of the trends that is dramatically revealed by a survey of contemporary behavior therapists is the shift in focus from solely external, observable behaviors to behaviors that are more cognitive and, hence, internal (Gochman, Allgood, & Geer, 1982).

Gochman et al. (1982) demonstrated this cognitive trend during a recent survey of the American Association of Behavior Therapists. They reported that 63% of the respondents were somewhat eclectic in their practices and only 27% were strictly behavioral. In addition, this study found that of the behavior therapists surveyed, 84% utilized systematic desensitization and 84% utilized cognitive restructuring as techniques in their practices. These were the most popular procedures reported by the behaviorists. Not so long ago, only desensitization would have been reported as the most often used behavioral technique. Finally, and perhaps more surprising, 76% of the respondents were using contingency contracting, while only 73% and 71% were using modeling and shaping, respectively. To even discuss these techniques dominating the practice of behavior therapy would have been considered heresy just a few years ago. Yet, in his conditioning models, Wikler included perceptual and cognitive factors; his thinking was 20 years ahead of his contemporary counterparts surveyed by Gochman et al. (1982).

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Conditioning Factors in Opiate Addiction and Relapse

ABRAHAM WIKLER

THEORETICAL CONSIDERATIONS

In achieving an impressive degree of mastery over the world about us, the growth of the natural sciences has been characterized by an ever-increasing supplementation of "private operations" (sensing, feeling, inducing, deducing) with "public" ones (control and manipulation of measurable variables). As one result, even our "private" ways of perceiving the world have changed from those of our prescientific ancestors, so that at sunset, we no longer "see" the sun sinking into the sea, but "see" it disappearing beneath the horizon.

Such subtle but far-reaching changes have also occurred in our dealings with our hearts, livers, and kidneys, but in dealing with our own and other people's behaviors, most of us are still content with mentalistic explanations, the terms of which, "private" as they are, remain undefined though they may be quantified in the sense of counting the frequency of their occurrence in one or another situation. This mentalistic orientation has characterized most attempts to describe and explain drug (including opiate) addiction and relapse no less than other forms of deviant human behavior. In consequence, the clinician has tended to accept his patient's mentalistic interpretation of his addiction and his frequent relapses to drugs as a valid one—for who else would know better what his feelings are than the patient himself? And does not one behave in accordance with one's feelings? To be sure, the psychoanalysts have often answered both questions in the negative, designating the patient's verbally expressed feelings as "conscious," and their own dissenting conscious feelings about the patient's feelings as "unconscious" ones of the patient. This certainly represents a commendable attempt to break out of the solipsistic straitjacket which, had it been allowed to restrain Columbus, would have left us convinced that the earth is flat because we "see" it that way. Unfortunately, however, the psychoanalyst's explanations of human behavior, including drug addiction and relapse, are also couched in mentalistic terms and hence cannot be tested for validity in the accepted manner of the natural sciences—i.e., by use of "public" operations, at least directly.

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Possibly for these reasons, the clinician's interests in the problem of drug addiction and relapse have been focused on the occurrence of drug-induced "euphoria." It has been debated whether or not morphine, heroin, and other narcotic drugs (henceforth, morphine will be used as a prototype) produce euphoria in all persons or only in atypical or deviant ones (16, 21), but few have ventured to question the decisive importance of euphoria as the main determinant of the addict's behavior, both in his initial addiction and in his subsequent relapses—for this is also the addict's explanation. Likewise in agreement with the addict, clinicians have generally regarded morphine-induced physical dependence merely as an unpleasant complication, serving as a deterrent rather than as a motivating factor in relapse, for who but a masochist would see any virtue in those properties of a drug that produced "the agonies of the damned" when withheld after long-continued use?

The present writer would not deny that certain effects of single doses of morphine may be decisive in determining the initial *choice* of that drug from among many other "euphorogenic" agents for continued use by some persons. Indeed, in collaboration with several colleagues (9, 10, 15, 11, 7, 8) he has presented data acquired by "public" operations indicating one class of effects of morphine on nontolerant postaddicts, which theoretically at least may play such a role—namely, reduction of the influence on behavior of motivating variables in general, and of nociceptive ones in particular, but whether or not such effects have anything to do with euphoria is indeterminable and, in this writer's opinion, quite irrelevant. Of more importance would be the development of methods for testing the hypothesis that, other factors being equal, any drug possessing such effects, regardless of whether or not it also produces euphoria, would be chosen for repeated use by the same kind of person who uses morphine in this manner.

Be this as it may, however, the writer has stated reasons for doubting the prevailing opinion that the quest for euphoria and the fear of abstinence distress are responsible for self-maintenance of addiction to morphine (25, 27). Mainly, these are three: (1) tolerance to the euphoric effect of morphine develops quickly and is not achieved again in anything like the intensity of the initial effect despite progres-

sive increase in dosage; (2) even with unlimited supplies of the drug and the privilege of self-injection in amounts and at intervals ad libitum, the addict, at least under experimental conditions, is a miserable creature, beset by remorse, guilt, and anxiety; and finally (3) there appears to be no adequate reason why experienced addicts cannot withdraw themselves in a relatively painless manner either by gradual reduction of dosage or substitution and subsequent withdrawal of methadone. In mentalistic terms, the conclusion drawn from these considerations and other subjective data gathered in a study of a patient during self-regulated readdiction to morphine (25) was that the motivations for self-maintenance of addiction in man are largely unconscious ones, above all the gratification by each dose of morphine of the need for the drug engendered by physical dependence. Furthermore, it was suggested (27) that "being hooked" furnishes the addict with a motivational basis for sustained activity ("hustling for drugs") directed to recurring but attainable goals, thereby preventing boredom and also securing approval from his peers, i.e., "addict society."

Likewise, the writer has doubted that the quest for euphoria constitutes the only, or even the major, motivation to relapse, in spite of the addict's conscious insistence thereon, for the acceptance of such an explanation would entail acceptance of the improbable assumption that the addict "remembers" only the euphoric effects of the first few doses of morphine and "forgets" the months or years of misery experienced during addiction. Rather, statements occasionally made by postaddicts to the effect that they have experienced symptoms resembling those of acute abstinence from morphine long after withdrawal of the drug (26) led the author to hypothesize that physical dependence may become conditioned to environmental situations specifically associated with availability of morphine, and hence "abstinence distress," or something very much like it, may be reactivated long after "cure" when the postaddict finds himself in a similar situation, thus providing an unconscious motivation to relapse and renewed self-maintenance of addiction as described above (24).

Another way in which relapse might come about as a result of conditioning was suggested by Kolb (14) in the following terms:

> The addict, even if he has sufficient narcotics, becomes uncomfortable several times a day when the last dose wears down. If another dose is not available, he suffers acute distress in about 18 hours. Over a period of years, he relieves such discomfort or distress thousands of times by injection of morphine. During this same period he enjoys the drug in pleasurable association with friends and by taking it to get the effect that many of them describe by the statement, "It makes my troubles roll off my mind." By thus building up a strong association between pleasure and pain and the taking of a narcotic he becomes conditioned to taking one in response to most any situation that may arise.

Expressed for the most part in mentalistic terms, the validity of such speculations is difficult, if not impossible, to test directly, but to those who are familiar with behavioristic-conditioning theory, their similarity to certain concepts definable in terms of "public" operations should be apparent. Restating the writer's views in such terms (28, 29) relapse may be attributed at least in part to two factors operating during previous episodes of addiction: (1) classical conditioning of physical dependence through repeated temporal contiguities between a specific environment and the occurrence of morphine-abstinence phenomena; and (2) reinforcement of instrumental activity (morphine-acquisitory behavior) through repeated reduction by the drug of such abstinence phenomena as developed during intervals between doses. This "two-factor learning theory" of relapse could be expanded further by introduction of some additional concepts such as "secondary reinforcement," "drive (or stimulus) generalization," and "scheduling" of reinforcement for the purpose of redefining and testing other factors in the genesis of relapse already described in mentalistic terms, but only brief allusions to these concepts will be made in this paper because actual research to date has been confined to investigation of factors 1 and 2.

EXPERIMENTAL INVESTIGATIONS

Though some of the consequences of the two-factor learning theory of relapse may eventually be testable in man, both ethical and practical considerations require the use of animals for direct testing of the conditionability of physical dependence and the putatively reinforcing processes operating during addiction. With regard to the latter, similar hypotheses and data bearing upon them have been reported by Nichols et al. (19), Nichols and Davis (18), and Davis and Nichols (2), who employed forced drinking of dilute (0.5 mg per ml) aqueous solutions of morphine under water-deprivation conditions for reinforcement of "choice" drinking of the same solution by morphine-abstinent rats; by Headlee et al. (6), who reinforced head turning in a particular direction by making intraperitoneal injection of morphine contingent upon this operant in morphine-abstinent rats; by Beach (1), who reinforced running of rats to one arm of a Y maze by establishing temporal contiguity between "residence" in that arm and presumed reduction of morphine-abstinence phenomena there by prior intraperitoneal injection of morphine; by Weeks (22) and Weeks and Collins (23), who developed a technique for self-maintenance of addiction through intravenous (intracardiac) self-injection of morphine in rats; and by Yanagita et al. (32) and by Schuster

and Thompson (20), who utilized a similar method for reinforcing intravenous self-injection of morphine in monkeys.

In our own investigations (carried out exclusively in the rat so far) we circumvented difficulties encountered with forced drinking of morphine solutions or parenteral injections of morphine *for reinforcement* by use of a relatively new drug, etonitazene [1-(beta-diethylaminoethyl)-2-(*p*-ethoxybenzyl)-5-nitrobenzimidazole methane sulfonate] in very dilute aqueous solution for drinking. Though structurally unrelated to morphine (13) it has been shown to be 1,000 times as potent as morphine by parenteral injection for analgesia in the rat (5) and to have morphine-like effects not only in this species but also in monkey and man, in both of which it has been shown to suppress morphine-abstinence phenomena as well (3, 4). Preliminary studies (30) revealed that water-deprived rats would drink a 5 mcg per ml concentration of etonitazene in distilled water as avidly as tap water and that within 4 to 7 min after starting to drink, normal rats would show typical morphinelike effects (tail rigidity, exophthalmos, and stupor alternating with quick, jerky movements). This was also true for rats acutely (18 hr) abstinent from morphine, in which drinking of this solution also abolished an easily observable sign of abstinence, namely, increased frequency of "wet-dog" shakes (so-called because of their resemblance to those of a dog shaking water off its back). Later it was found that rats, morphine-addicted or not, will readily drink such dilute aqueous solutions of etonitazene even without any prior water deprivation, thus eliminating the necessity of introducing that condition as a complicating variable in the design of experiments on conditioning and reinforcement.

Because of these promising early results, more systematic investigations (17, 31) were then undertaken to characterize as precisely as possible the phenomena of the morphine abstinence syndrome in the rat, and the effects thereon of drinking dilute aqueous solutions of etonitazene, without prior water deprivation. Those results bearing most directly on the conditioning and reinforcement studies to be described later may be summarized as follows:

1. Elevated wet-dog frequencies are reliable indicators of early morphine abstinence in the rat, roughly paralleling other signs of early abstinence such as increased activity, hypothermia, loss of body weight, and increased defecation, urination, and hostility—all compared with observations made concurrently on normal control rats.

2. In rats maintained on single intraperitoneal injections of morphine at 8 A.M. daily (E's),* increased wet-dog frequencies, as well as other early abstinence phenomena, become manifest at least as early as 22 to 24 hr after the last previous injection of morphine.

3. When E's are permitted to drink a 10 mcg per ml aqueous solution of etonitazene instead of water over the preceding 17-hr period, no significant differences from normal rats receiving single intraperitoneal injections of saline at 8 A.M. daily (C's)* can be found on comparison 22 to 24 hours after the last previous injections.

4. Whereas E's drink very much larger volumes of 5 or 10 mcg per ml aqueous solutions of etonitazene than they do of water when only one or the other fluid is available from 3 P.M. to 8 A.M. next morning (during the latter part of which period E's are morphine-abstinent), the volumes of water or etonitazene consumed by C's during the same period under the same conditions are not significantly different (though one of a group of 4 C's died after drinking the 10 mcg per ml drug solution).

In light of this information, the studies on conditioning of physical dependence and reinforcement of drug-acquisitory behavior were designed in the following manner. Experimental conditions were arranged in such a way that over a 6-week "training" period, the occurrence of nocturnal morphine-abstinence phenomena in E's ($N = 7$) was repeatedly associated with "residence" in one (preferred) end of a three-compartment linear maze, where only distilled water was available for drinking, and relief from nocturnal morphine-abstinence phenomena was associated with "residence" in the other (nonpreferred) end, where only a 10 mcg per ml aqueous solution of etonitazene was available for drinking, the drug solution being also "tagged" with anise flavor to provide additional discriminative cues (food was available ad libitum in both ends at all times). Another group of E's ($N = 7$) was "trained" in exactly the same manner except that the drinking fluid in the nonpreferred end consisted only of anise-flavored water, and both training schedules were replicated concurrently for two groups of C's ($N = 7$ each) except that for the first of these two groups, the anise-flavored etonitazene solution contained 5 mcg per ml of that drug. For convenience, the four groups will be designated in the order described as ET, ENT, CT, and CNT.

Following the training period, all injections were terminated, and all rats were transferred to home cages (food and tap water ad libitum), where they remained thenceforth except on "relapse" and other test days conducted at intervals up to 155 days after termination of injections. On the morning of each relapse test day (9, 23, 44, 58, 72, 87, 94, and 142 days after termination of injections) wet-dog frequencies for each rat were measured immediately after removal from home cage, weighing, and returning to home cage, and also immediately after removal

*E, "experimental animals"; C, "control animals."

from home cage, weighing, and placing in the linear maze (preferred end), in alternate order from rat to rat; from 8 P.M. the same day to 8 A.M. next morning, each rat was afforded "free choice" between distilled water in the preferred and an anise-flavored, 5 mcg per ml aqueous solution of etonitazene in the nonpreferred end of its linear maze. Between the seventh (94th day of abstinence) and eighth (142d day) relapse tests, two successive extinction procedures were carried out. In the first free choice was permitted between distilled water in the preferred and anise-flavored water in the nonpreferred end, and in the second, between distilled water in both ends. In addition, six tests on forced drinking, without prior water deprivation, were made on all rats from 8 P.M. to 8 A.M. at intervals throughout the study—four on forced drinking of the anise-flavored 5 mcg per ml aqueous solution of etonitazene, one of the anise-flavored water, and one of the distilled water, each in the nonpreferred end. The purpose of these tests was to provide comparative data on how much each rat would drink of each of the fluids mentioned "by constraint" (forced-drinking tests) and "by choice" (relapse tests). Finally, a supplementary study was also carried out on four new E's and four new C's in which both groups were trained over a 9-day period in a manner similar to that already described for ENT and CNT, and then subjected, 9 and 23 days after termination of injections, to relapse tests conducted exactly as described above, except that the fluid in the nonpreferred end was only anise-flavored water, to determine whether or not previous addiction to morphine results in an increased affinity of rats for the anise flavor per se.

Considered in relation to the theory, the results were as follows:

1. Classicial Conditioning of Physical Dependence. On every relapse test, wet-dog frequencies of E's (ET + ENT) were higher in the linear mazes than in the home cages, and although on some tests wet-dog frequencies of C's (CT + CNT) changed in the same direction, the magnitude of change was less. A mixed type of analysis of variance revealed that on the second relapse test (23 days abstinent from injections), F ratios for variances due to previous treatment (E's vs. C's), test conditions (linear maze vs. home cage), and "interactions" (E's vs. C's linear maze vs. home cage) were all significant. On the first relapse test (9 days) only one, but on the third (44 days), fourth (58 days), and fifth (72 days), two of the three F ratios were significant. All three F ratios were again significant when the analysis was made on means obtained for each rat on twelve tests (including the sixth, seventh, and eighth relapse tests as well as the single-day tests during the extinction procedures) from the 84th through the 155th days of abstinence.

Especially significant theoretically is that such presumptive evidence of "conditioned abstinence" was manifested by E's long after "cure"—i.e., after body weight, 24-hr tap-water consumption (home cage), and wet-dog frequencies *in the home cage* had returned to the levels of C's (from the 23d day of abstinence onward, although through the 72nd day, wet-dog frequencies of E's were generally slightly higher than in C's). As between ET and ENT, or between CT and CNT, no significant differences in wet-dog frequencies were found.

2. Reinforcement of Instrumental Activity (Drug-acquisitory Behavior). In each of the first four relapse tests (through the 58th day of abstinence) and again on the eighth (142d day) relapse test (after completion of the extinction procedures), the percentage of fluids consumed in the form of anise-flavored etonitazene solution (5 mcg per ml) by choice was significantly greater for E's (ET + ENT) than for C's (CT + CNT) by the Mann-Whitney "U" test. The ratios, volumes of the anise-flavored etonitazene solution consumed by constraint to those consumed by choice, were about 8:3 for E's and 5:1 for C's at 9 to 10 days, and about 2:1 for E's and approaching infinity (almost zero consumption of the drug solution) for C's at 142 to 155 days of abstinence. In the supplementary study, the percentage of fluids consumed in the form of anise-flavored water on the two relapse tests (9 and 23 days abstinent) was *less* for E's than for C's, though the difference was significant only on the first test. These results indicate that the greater intake of anise-flavored etonitazene solution by E's than by C's in the first four and in the eighth relapse tests cannot be explained merely as a reflection of "residual cross-tolerance" (between morphine and etonitazene) in E's or of a greater affinity of E's for anise flavor per se. Rather, the data suggest that relative to C's, etonitazene solution is less negatively (or more positively) reinforcing for E's, even long after cure. Not predicted by theory, however, were the findings that the etonitazene solution was reinforcing to equal degrees for ET and ENT on the first relapse test, and that whereas such reinforcement continued with little change for the ENT group, it fell progressively for the ET group over the next four relapse tests. These observations suggest that such "self-training" as the ENT rats may have undergone during the 12-hr (8 P.M. to 8 A.M.) free choice drinking period in the first relapse test could have been sufficient for maximal positive reinforcement; whereas the forced drinking of the anise-flavored drug solution which the ET group underwent in the programmed training period could have produced, in addition, some negative reinforcement based on pharmacologic properties of etonitazene other than morphine-abstinence reducing ones. Presumably, the negatively reinforcing properties of etonitazene were even more pronounced for the CT and CNT groups, since they

were resistant to the extinction procedures, whereas the latter were effective for the ET and for the ENT group as well, which likewise exhibited evidence of negative reinforcement on the sixth and seventh relapse tests.

DISCUSSION

Though the data are consistent with the two-factor learning theory of relapse, this conclusion must be a tentative one at present, because the experiments described have not ruled out with assurance the possibility that the differences between E's and C's in the relapse tests were due to latent but long-enduring hyperirritability in the former as a result of previous addiction to morphine, rather than to the putative interactions between morphine abstinence and the specified stimulus arrangements in the linear mazes during training. While the low frequencies of wet dogs in the home cage on the relapse tests would seem to rule out such a possibility, they were somewhat higher in E's than in C's through the 72d day of abstinence as already noted, and in an earlier study (17) rats withdrawn from morphine at a final "stabilization" dose level of 360 mg/kg per day showed small but consistent differences from control rats for 4 to 6 months. Conceivably, therefore, the duration of time over which relapse tests in the present study were made may not have been sufficient to reveal the effects of conditioning and reinforcement during training as such.

These two interpretations (alternative or combined) of the data have a number of different consequences for further research and therapy in man. Thus, if the behavior of E's (compared with C's) in relapse tests was due only to residual hyperirritability, then the method of morphine withdrawal in the treatment of human addicts is not a crucial issue, provided it is sufficiently painless to ensure the addict's cooperation. Rather, the problem is to determine the exact physiological nature and the duration of such residual hyperirritability and to devise methods of treatment to shorten or control it by pharmacologic or other means. By use of the cold pressor test, Himmelsbach (12) was able to show that the autonomic reactivity of postaddicts is slightly greater than that of normal subjects for over 6 months after withdrawal of morphine. It is conceivable that with more refined techniques, differences of this sort would be revealed for even longer periods. If such proves to be the case, currently prevailing methods of treatment—withdrawal of morphine by substitution and subsequent withdrawal of methadone, supervised abstention from drugs of all kinds in a drug-free environment for as long a period of time as is practicable combined with institutional and postinstitutional psychotherapy and social rehabilitative measures—would need to be modified only in details, not in principle.

If, on the other hand, the behavior of E's relative to C's in the relapse tests was due to conditioning and reinforcing procedures employed during training, then the implications of the experimental results for the drug-withdrawal phase of treatment in man are quite far-reaching, for methods would have to be devised for extinguishing "conditioned abstinence" and reinforced drug-acquisitory behavior. This is not accomplished by *passive* withdrawal of, and prolonged abstention from, morphine in a "drug-free environment" with or without nonspecific psychotherapy, any more than satiating a rat with food and keeping it away from the Skinner box for a period of time will "cure" it of its lever-pressing "habit," previously reinforced by food rewards under conditions of food deprivation. Rather, true extinction of both processes would require an attack on each separately in reverse order under very different conditions. Thus, extinction of morphine-acquisitory behavior would require maintenance of the state of morphine deprivation, i.e. prolongation of the abstinence syndrome by some means passively, coupled with non-reinforcement of instrumental *activity* directed toward (unsuccessful) acquisition of the drug. Practical realization of such an extinction procedure would depend on the development of at least two new drugs, namely, one which if substituted for morphine would produce on abrupt withdrawal a prolonged, though not necessarily severe, abstinence syndrome, and another which, though not effective in suppressing abstinence phenomena produced by withdrawal of the first drug, would be sufficiently reinforcing on other grounds so that the addict would "work" for it on some schedule of reinforcement proven to be optimal by experiment. Of necessity, this phase of treatment would have to be carried out in an institution where, after its completion and withdrawal of the abstinence-maintaining drug, therapy could be directed toward elimination of the hypothetical residual hyperirritability discussed above.

In addition, some elementary principles of reinforcement therapy could be applied to what may be called "positive reconditioning" of the patient while he is still in the institution. This refers to scheduling of rewards for "work therapy." Monetary payment for socially useful work in crafts and industries within the institution would serve more effectively than verbal reinforcement for supplanting physical dependence on narcotic drugs as a motivational basis for "hustling" especially if such payment is made on a piecework (fixed ratio) schedule, and opportunities are provided for spending part of the wages for objects (other than drugs) that are immediately satisfying to the patient.

Ideally, however, extinction of conditioned physi-

cal dependence should be carried out in the addict's natural "drug-available" environment, so that he could be exposed to that conditioned stimulus and the secondary reinforcers (addict society) repeatedly, provided that the hoped-for extinction of drug-acquisitory behavior previously carried out in the institution, coupled with close surveillance and, if necessary, appropriate nonnarcotic pharmacologic therapy and psychotherapy for suppression of conditioned abstinence and reduction of anxieties probably involving the same physiologic systems (stimulus or drive generalization) is sufficiently effective to ensure against reexposure to the unconditioned response, namely morphine-abstinence phenomena generated by readdiction.

These speculations have been presented not for the purpose of recommending immediate changes in our treatment programs for addicts but to illustrate how restatement of some mentalistic concepts about drug addiction and relapse in behavioristic terms may enable us to test their validity by experiment. Though, as stated, the role of conditioning factors in morphine addiction and relapse is not yet fully elucidated, the "public" operations by which they may be are quite readily discernible, and further research along the lines indicated may yet enable us to deal with these clinical problems more effectively than heretofore.

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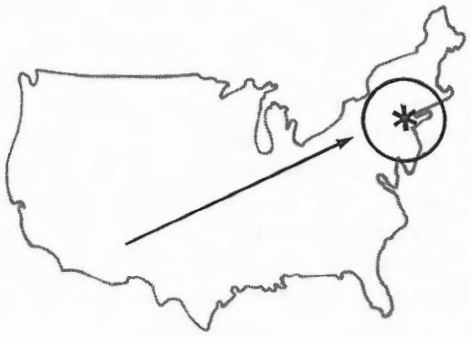
IN THE SPOTLIGHT



Silver Hill Foundation Substance Abuse Service

NEW CANAAN, CONNECTICUT

SILVER HILL FOUNDATION is a 77-bed, nonprofit, general psychiatric hospital. The substance abuse service is one of five separate programs at the foundation, which also has adolescent and young adult, general adult psychiatric, acute and extended care treatment teams.

The substance abuse program evolved in 1971, instigated by a Silver Hill board member, Mrs. Marty Mann, who had played a seminal role in forming the National Council on Alcoholism and was the first successfully recovered female member of Alcoholics Anonymous. The initial treatment team was directed by a psychiatrist, with the help of nursing staff, other staff psychiatrists, Mrs. Mann, and one recently discharged patient. The program staff now includes a psychiatrist who serves as its chief of service, an associate psychiatrist, a psychologist, five substance abuse counselors, nursing staff assigned to the units housing the patients, a recreational and an occupational therapist.

At the program's inception, treatment consisted of individual psychotherapy sessions and exposure to local AA meetings. The patients' average weekday schedule grew gradually over the ensuing years and now includes daily group therapy sessions co-led by a psychiatrist or psychologist and a substance abuse counselor. There is also a strong educational component to the schedule, consisting of daily films, lectures, and discussion groups related to physiological and psychosocial consequences of substance abuse. In addition, patients attend six local AA or NA meetings per week held either at Silver Hill or in neighboring communities. Films are purchased after being screened for pertinence, accuracy, and effectiveness. The film library is constantly being amended so that it is up to date and relevant to the needs of changing patient populations, which usually reflect trends in choice of substance.

The educational program developed as the staff became aware of the necessity to shorten the minimum length of stay from 8 to 4 weeks. Because patients no longer had the leisure to change thinking and habit patterns in a slowly evolving way, the staff decided to conduct a "crash course" with compulsory daily attendance at presentations of factual material, in addition to sessions of individual and group psychotherapy and AA.

All patients attend individual supportive psychotherapy sessions conducted three times weekly by the patient's doctor. The doctor is the coordinator of his or her patient's inpatient treatment and works in collaboration with the rest of the patient's treatment team. The psychiatrist has medical responsibility for the patient's physical condition, as well as sifting out coexisting psychiatric illnesses such as affective disorder, panic disorder or, rarely, schizophrenia. These assessments are usually accomplished after a drug-free period of 2 to 3 weeks. However, the focus of therapy is identification and change of drug-seeking attitudes and behavioral patterns. Group and individual therapy complement each other in this effort. Since psychiatrists and psychologists have had long and rigorous training in discerning maladaptive coping patterns and in helping patients to recognize them, their input contributes to the efforts of substance abuse counselors and increases the impact of the inpatient experience. The staff conducts a quietly persuasive peeling away of excuses and attempts at

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bargaining in group and family teamwork. The emphasis is on pointing out the need for change and suggesting drug-free coping mechanisms without damaging the patient's feelings of self-worth. In the minds of many patients and their families, it is the careful preservation of dignity that distinguishes this treatment center from others. Often, patients have been unable to face the notion that they are suffering from substance abuse or dependence because they conclude falsely that this suggests character weakness on their part. Hearing the diagnosis of substance abuse presented with emphasis on the disease concept is face-saving. Discharged and soon-to-be discharged patients often say that if their doctor had not been so convinced of the value of attendance at self-help groups such as AA, that they never would have had a chance at prompt recovery from their illness.

Although we are strongly aware of the need for preservation of self-esteem, we are nevertheless very clear about limit-setting. Visitors are not allowed until after detoxification is complete and not until after the first week of hospitalization if detoxification has not been necessary. Patients must participate actively in psychotherapeutic and educational components of treatment in order to qualify for off-grounds passes. Taking unprescribed drugs results in relinquishing of privileges, and repetition of this can lead to dismissal from the hospital. Patients who offer drugs to other patients are automatically discharged. Random urine drug screens are done on every patient.

Patients who have been admitted to other rehabilitation programs or readmitted to ours undergo pointed verbal confrontation from their individual and group therapists in order to help them isolate the "bug in the system" that led to relapse so that they can avoid this kind of self-deluding in the future. They are urged to spot ways in which they are reverting to old destructive patterns of reacting, such as minimizing the extent of their substance abuse, mouthing catch phrases in an attempt to appease others without really listening to them, or, preparing to use bruised feelings as an excuse for getting high. Lack of comprehension of the self-help program is another trap and patients are prevailed upon to be honest about their misgivings and to ask what is meant if they don't understand.

Families participate in educational groups as well as in individual family sessions. Family members are also encouraged to join ALANON, and ALATEEN, which have chapters meeting on the premises of Silver Hill and in their home areas.

In the early 1970s most patients' drug of choice was alcohol with occasional secondary sedative-hypnotic abuse. Because of social stereotypes about abusers of non-alcoholic substances, it was the experience of Silver Hill staff that AA was unreceptive to cross-addicted members and to those whose primary drug was not alcohol. There was a dearth of Pills Anonymous or Narcotics Anonymous chapters. Therefore, alcoholics enjoyed an extended family support network unavailable to other substance abusing patients. Although treatment outcome studies are at best conflicting and often based on self-report, most reports have indicated lower relapse rates for alcoholics with strong affiliation with AA. The important variable has appeared to this staff to be the link to a continuous support group after leaving the protection of the inpatient environment. We have always included patients with primary substance abuse of sedative-hypnotics, opioids, amphetamines, cocaine and cannabis with alcoholics in the same abstinence-oriented group therapies, and encouraged all patients on the service to attend AA regardless of substance choice. Gradually, communities in this area have increased their awareness of drug problems and their acceptance of other substance abusers at AA meetings. Self-help groups such as NA, PA, and CA, built on the traditions of AA, have proliferated. It has appeared to us that the standard of total abstinence fostered by these groups has been an additional factor improving outcome aside from the support system itself. Intuitively, AA has always advised its members to "Keep it simple" in relationship to coping mechanisms for staying sober. Although there is no ojective evidence for this, it would seem from our clinical experience that adhering to total abstinence from drugs of one category, alcohol and sedative hypnotics, for example, while attempting to use another drug like cannabis judiciously, is unsound. This is borne out by our admission histories of relapsers. Those patients previously treated for substance abuse here or at other institutions have most frequently listed decrease in attendance at self-help groups and/or substitution of one drug category for another with subsequent abuse of that substance as the reason for need of readmission.

As mentioned previously, our minimum length of stay has decreased from 8 to 4 weeks. For patients requiring detoxification from sedative hypnotics or opiates, the detoxification period may extend to 4 weeks. Since sedatives and opiates influence mental status, it is necessary to observe patients for at least 2 weeks after they are completely drug-free before making an accurate assessment of non-substance induced psychiatric disorders. This cannot always be accomplished during hospitalization. In addition, patients often experience cognitive impairment while still undergoing detoxification, which makes productive work in rehabilitative aspects of the program difficult. For patients needing shorter periods of detoxification, there is often sufficient temporary cognitive impairment or affective symptomatology to cloud rehabilitative efforts if patients are discharged sooner than 4 weeks after admission. Patients with a

diagnosis of substance abuse take at least the initial 2 weeks of hospitalization to become involved in the inpatient program. During the initial hospitalization period the patient is working through resentment at being regulated by others, accepting the diagnosis of substance abuse (or dependence) and understanding treatment goals. The remaining 2 weeks are important for training in drug-free coping mechanisms, facing families, employers, and other significant others and in making practical discharge plans.

Patients are detoxified on the substance abuse service admission unit. Librium is used for detoxification from alcohol. Phenobarbital is used in decreasing doses for patients who have been dependent on sedative hypnotics. A test dose of 200 mg of Nembutal® is given to establish tolerance and estimate a baseline starting dose of phenobarbital. Total daily dosage is then gradually decreased by 10% each day. Heroin addicts are detoxified from opiates with clonidine, an alpha 2 agonist, which minimizes the adrenergic firing primarily responsible for the anxiety associated with opiate withdrawal. This provides an opiate-free method of detoxification. Detoxification with methadone is provided for those patients who cannot tolerate the hypotensive side-effect of clonidine administration. Selected narcotic addicts may be referred to outpatient facilities in order to receive naltrexone for 6 months after they are discharged. Compliance with taking naltrexone is low, however, and it hoped that continued attendance at NA and AA will help to discourage a return to narcotic use.

The service admitted and discharged 258 patients from January 1983 to January 1984. Typically, patients are referred to us by private therapists or internists. Our Cocaine Hot-line listing has increased the number of self and family referrals in the past year. In spite of an overall increase in polydrug abuse which would lead one to expect a younger patient population, the average age is 45. Surprisingly, this does not reflect a change since the service began. The population is evenly divided in terms of gender. Male patients are corporate executives, self-employed businessmen or professionals. Women are most often the wives of corporate executives but, with increasing frequency, they are single and successfully employed. Geographical distribution is wide. The majority of referrals are from Connecticut, New York, and New Jersey, with roughly 10% of patients referred from other parts of the United States and from other countries. Patients on the adolescent service with primary and secondary diagnoses of substance abuse are involved in appropriate components of both the adolescent and substance abuse services. Young adults who are employed and have a primary diagnosis of substance abuse are referred directly to the substance abuse service.

Although the psychiatric literature contains reports of major depression following an amphetamine or cocaine "crash," we have seldom witnessed depression that we thought severe enough to warrant immediate institution of antidepressant medication. Within a few days most patients who initially present a clinical picture suggestive of affective disorder, become euthymic. This has been the case not only in patients who abuse amphetamines and cocaine, but in those who have abused all other substance categories. A diagnosis of affective, generalized anxiety, or panic disorder does emerge in 10% of our patients, who are then treated for these conditions with appropriate psychotherapy and medication while continuing to address their substance abuse. Less than 1% of our substance abuse population are diagnosed as suffering from schizophrenia. Antisocial personality occurs in less than 10% of our patients.

Silver Hill has a mutual referral system with surrounding general hospitals and has a good working relationship with branch offices of the N.C.A. or with local alcoholism councils. Members of the staff represent the hospital in collaboration with drug awareness organizations locally and in substance abuse education for children and parent groups connected with neighborhood schools.

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BOOK REVIEWS

Addictive Drinking: The Road to Recovery for Problem Drinkers and Those Who Love Them
Clark Vaughan
New York: Penguin Books, 1982, $7.95 (paper), 317 pp.

This paperback is another addition to the ever-growing library of self-help books for problem drinkers. The book was written by a former addictive drinker and it purports to be different from other works by providing "a practical do-it-yourself kit, with step-by-step instructions, an all-in-one recovery program planning guide" . . . (p. x). Although at times this kit seems little different from the well-known shotgun approach to treatment (use whatever works and keep shooting until you hit something), there is a provocative unifying theme that ties the book together. The thesis of the book is that the traditional treatment system, consisting of medical and other experts and pure A.A., has failed and that the individual is his or her own best diagnostician and treatment provider. Although this will be considered a radical notion by some, it seems a very reasonable idea. There is no research evidence that *any* current treatment method is consistently effective and it is probable that many (if not most) problem drinkers make changes in their drinking *without* any assistance by either A.A. or a mental health professional.

Addictive Drinking is organized into five parts. Part one is concerned with the author's perception of the differences between normal-but-heavy drinking and addictive drinking. First, a typical self-report test is provided to determine if one is an addictive drinker. Next, Vaughan presents his argument that addictive drinking is caused by emotional stress. According to Vaughan, the addictive drinker suffers from a compulsion. It is not a compulsion to drink, however, but a compulsion to relieve emotional distress (addictive drinkers are those who spell relief, A-L-C-O-H-O-L). In the same vein, Vaughan also makes an interesting argument against the use of the term "alcoholic" because we should be concerned with the *reason* for the addiction (emotional stress) rather than the painkiller used to address the reason.

Vaughan also describes three other differences between the heavy drinker and addictive drinker, and there are sections discussing the addictive drinker's body chemistry (the hypoglycemia hypothesis), faulty perception of reality (similar to the concepts of Rational-Emotive Therapy), and denial of the problem.

Part two is devoted to describing "short-term" methods for achieving and maintaining abstinence, including discussions of cold turkey versus gradual detoxification, the NCA, A.A., residential treatment resources, Antabuse®, tranquilizers, and initial relapse prevention. Despite several disagreements the author has with the process of A.A. and some of its tenets, he devotes the largest subsection in the book to promoting A.A. as a method of stress reduction, apparently conceptualizing it as a useful adjunct to self-recovery.

Part three encourages the reader to evaluate the major aspects of his or her life, including housing, interpersonal relationships, work, marriage, sex, finances, and religion, as sources of stress. Vaughan provides some interesting and provocative notions about the interaction of alcohol, abstinence, and these life areas, based on his personal experience. This part ends with a Situation Inventory and an outline of the basic problem-solving steps that many readers will find to be the most helpful components of the book.

Part four is the most ambitious section of the book, in terms of the changes that Vaughan encourages drinking readers to make for themselves. This section contains references to and material based on a wide variety of previously articulated theories of behavior change (e.g., Rational-Emotive Therapy, fixed role therapy, A.A., behavior therapy, and self-actualization), but the theme that pervades this section is the importance of changing one's self-perception and self-esteem. Vaughan describes methods the addictive drinker can use to change his or her negative/defeatist beliefs to positive beliefs and to control anger, frustration, guilt, shyness and the other "fears" that cause emotional stress.

Part five is written for the family members of addictive drinkers. It consists of discussions of Alanon, the importance of family and environmental confrontation to facilitate entry into treatment, and the treatment needs of family members. Finally, Vaughan provides a recommended reading list of self-help books that includes a variety of well-known authors.

As a book for its professed audience of problem drinkers, *Addictive Drinking* has several characteristics that recommend it. For example, it is a very readable book. It is basically a collection of relatively short essays, many of which contain anecdotes, that are written in a style and vocabulary that should be understandable for most readers who have at least a high school education. Also, the book appropriately emphasizes the actions addictive drinkers can take to change *themselves*.

Professional readers also will find the book interesting and useful, most likely as part of their library of books provided to clients for bibliotherapy. The professional reader will already be familiar with the stress etiology model and many of the techniques discussed in the book, and may want to use *Addictive Drinking* to introduce a client to this perspective. One aspect of the book professional readers may not like are the subtle and explicit insults of "experts" and Vaughan's unproven assertion that the recovered alcohol counselor "will almost certainly be able to do a better job" (p. 70) than the non-addict clinician.

Despite its positive qualities, both professional and problem-drinking readers will be disappointed with some of the gaps and inconsistencies in the book. For example, there is no discussion of the controlled drinking controversy, but one implication of a stress etiology of addictive drinking is that if an individual learns to cope sufficiently with stress, then controlled drinking is possible. Second, Vaughan discusses only the stress model of addictive drinking and, although one book need not address every etiological model, this is only one of many hypothesized causes of alcohol problems. Third, Vaughan refers to addictive drinking as an illness and disease, but there is no rationale provided for why he conceptualizes the use of alcohol to relieve emotional pain as a disease. As a final example, it is confusing when Vaughan seemingly contradicts himself by noting, "*There is no way to get dry and stay that way. Each individual must choose his own . . .* " (p. 138, original italics) and shortly thereafter states that, "A.A. should be choice number one in any . . . plan" (p. 140). Despite these weaknesses, however, the book provides a variety of well-written proposals, often times based on well-known models of psychology or alcohol treatment, for changing one's drinking and life-style.

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The Encyclopedia of Alcoholism
Robert O'Brien and Morris Chafetz
New York: Facts on File Publications, $40.00, 378 pp.

Encyclopedia is defined by Webster as "a work that contains information on all branches of knowledge, or treats comprehensively, a particular branch of knowledge." By this standard, the work by O'Brien and Chafetz does not measure up. However, as a dictionary, "a reference book listing alphabetically terms, or names important to a particular subject or activity . . . "—the work stands as a first of its kind.

The 378-page volume contains an alphabetical listing of 500 terms, concepts and data relevant to the alcoholism field. It is easily readable and congenial to reference with large print and tables which are highlighted for clarity. The print quality is excellent. A major strength of the volume is its simplicity. The authors have attempted to strike a balance between being overly technical and, hence, overwhelming, and overly simple and, hence, superficial. They have accomplished this balance and the work shows a great deal of attention to this important issue. As such, it stands as a "user friendly" volume where information is easily found. The writing style is direct and avoids overly technical, or complex, unnecessary detail. Many of the entries are cross-referenced so that the reader is led to other related information in the volume. Many entries contain references where additional, in-depth information can be obtained on that particular subject.

The entries cover a wide range of areas from psysiological drug interactions, to psychological concerns (e.g., "dry drunk"), to ethnic considerations (e.g., "Irish Americans"), treatment definitions (e.g., "detoxification" and family/community concerns (e.g., "enabling").

The appendix section is a particularly strong area of the volume. Just enough data are presented in each table or chart to satisfy the reader's initial interest; footnotes and references are used for fuller explanations. Sample tables include information on alcohol-related arrests for each state; mortality rates for cirrhosis, alcoholism and alcoholic psychosis; public revenues generated from the sale of alcoholic beverages by state and the cost of alcohol abuse to the United States in economic, health care, motor vehicle, fire and related areas; and utilization rates of alcoholism treatment facilities for each state as of 1980. The 43 tables and 10 figures stand as a body of valuable information drawn into one easily referenced volume. A 24-page bibliography and a cross-referenced index are included. The price of $40.00 is reasonable.

However, the work suffers from some serious shortcomings. Its claim to be "comprehensive" is the very thing that makes it limited in value. It is not comprehensive and suffers from a lack of clear conceptual focus. It appears to have been compiled for the widest possible audience and as such, appeals to entry-level professionals rather than those requiring a more focused approach. In the preface, the authors acknowledge this dilemma citing the need for a series of volumes rather than one that will be a "concise desk reference." The authors are correct in claiming that "the 500 entries provide extensive information on the substance alcohol itself, on the social institutions, customs and socioeconomic interrelations that have an impact on alcoholism, and on the physical

and psychological manifestations of alcoholism." By limiting themselves to one volume of fewer than 400 pages, they have, by design, provided only surface attention to each of these areas, each of which could deserve its own volume.

Hence, the volume is recommended for those who require an entry level reference document rather than those needing a more sophisticated indepth approach. The lack of focus makes its value limited to various professional groups. For example, paraprofessional counselors and entry-level professionals in the treatment field of alcoholism will find the volume useful in orienting themselves to basic concepts. For these groups, it is clearly appropriate, but for the experienced professional counselor, the volume is of little value since its handling of treatment concepts is limited in both number and scope. Much information would be irrelevant, or of peripheral value in a counseling role.

The administrator/program planner will find the volume useful in providing helpful data on program utilization, nature of services in other states and related administrative concerns. Yet, its cursory attention to these issues of central importance makes it of limited value to them.

In short, the volume's goals are too ambitious. It tries to accomplish too much in too little space and hence does not meet the needs of any specific professional group. The volume is, however, very valuable to another group of readers. Lay counselors and paraprofessionals commonly lack a clear definition of relevant terms and concepts that they are called upon to use in their practice. This volume is clearly an asset as an orientation to the field. It is also of real value to the lay public who is interested in exploring a fuller understanding of the alcoholism field; this book should be available in public libraries. In addition, the volume is an important reference manual for other professionals outside the field of alcoholism. For example, nurses, physicians and psychiatrists could use the book in their professional training to obtain a basic understanding of the field. Test questions could be developed from the volume for various exams given for professionals to insure their knowledge of basic concepts of alcoholism (e.g., disease concept). In addition, most states have a licensing/credentializing process for paraprofessional counselors. State licensing examinations usually test the ability of the applicant to understand basic concepts of the alcoholism field and this volume could be a valuable reference manual. In addition, the volume is of value to undergraduate and graduate students developing scholarly papers on the subject of alcoholism.

The volume is uneven in its reporting of data. Some data are dated, while other information is provided that was inserted just prior to publication. For example, arrest rates for alcohol-related causes are provided for 1979—certainly current, given a publication date of 1982. On the other hand, mortality from cirrhosis of the liver in 26 countries is only provided through 1974, eight years prior to publication. The reader should be aware of this factor and check the references for currency.

An additional limitation is the lack of attention to substance/chemical abuse issues in general and how they relate to the alcoholism field. Practitioners report that the majority of alcoholic patients present with a multiple drug use/abuse and that this is particularly true of younger clients. One would have welcomed definitions of various drugs (e.g., cocaine) and a brief discussion of physiological and psychological properties. Perhaps a later edition of the volume will address this issue.

In summary, the "encyclopedia" is an overstatement of the scope of this volume. A more appropriate title would be *The Dictionary of Alcoholism*. It makes a clear contribution to the field, but is limited in its audience appeal to entry-level professionals, the lay public, lay and paraprofessional counselors, and professionals from allied health fields.

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The Counselor's Guide to Confidentiality
Christine D. Weger, Esq. and Richard J. Diehl, Esq.
Honolulu, Hawaii: Program Information Associates, 1984, $12.95, 98 pp.

Attorneys Weger and Diehl have written an excellent guide for all of us who deal with confidential records of alcohol and drug abuse patients—A practical tool for both lay people and attorneys.

Admittedly I approached the guide with a certain skepticism. Attempts to please both lawyers and their clients are either so technical that they convince the nonlawyer to retain counsel or so general that the lawyer deems them literary negligence. *The Counselor's Guide to Confidentiality* (hereinafter referred to as *The Guide*) is a rare instance wherein authors have sailed safely between Scylla and Charybdis, skirting both dangers and satisfying all. The rules and regulations are clearly explained in every day English for the generalist and amply supported with citations and references to give counsel all he or she will need to represent his client.

The Guide is more akin to a pamphlet than a book (apologies to those unprepared for a "pamphlet review"). Its 54 pages of narrative and 44 pages of ap-

pendix are typed rather than type set and stapled together with a paper cover. The small size and light weight make it convenient, easy to keep handy, and easy to carry.

As an attorney I feel that the inclusion of the regulations (42 CFR Part 2) is a thoughtful addition, permitting the reader to consult the regulation itself while reading the authors' interpretation. Particularly helpful is the rich use of the legal opinions of the General Counsel of the Department of Health and Human Services. These are the opinions that count. If you've sought and relied on an official opinion of the regulatory agency administering the law you've acted in good faith, which goes a long way with most courts. The authors were thoughtful enough to also provide titles of publications containing these opinions, an address to write to for an opinion on a problem you may have, and even the phone number of the H.H.S. General Counsel.

Both Counsel and generalists will also appreciate the H.H.S approved forms that have been included. A form for a Qualified Service Agreement (QSA), a consent to release information, and a court order are provided. The authors might consider adding motion papers to quash subpoenas; they are available from the Legal Action Center in New York. Unlike consents and agreements you usually don't have much time to draft, a ready form could be crucial.

Weger and Diehl dedicate a chapter to a discussion of some of the common situations we all confront. Those of us who work in both treatment and criminal justice should appreciate the section on Disclosures to Law Enforcement Officials as well as the H.H.S. guidelines on how to handle reguests from law enforcement officials for information about patients. I recommend *The Guide* for those working in TASC (Treatment Alternatives to Street Crime) or pretrial services programs throughout the country.

The thorny issue of child abuse disclosure is another of the common issues reviewed. An engrossing inspection of the "catch-22s" and dangers to avoid makes for good reading. So engrossing was this section that I sought out additional articles on the subject and in doing so unsettlingly found that the authors omitted an H.H.S. ruling reported by the Legal Action Center in New York permitting treatment programs to report child abuse "without written consent or court order if such a report can be made without identifying the abusing parent as a patient in alcohol or drug abuse treatment." This would be applicable to any institution that is involved in more than just drug or alcohol treatment, such as a hospital. One can't cover everything and perhaps this will be corrected in the next edition. I hope so because it was just a spot check and it was an important bit of information to many of the programs.

No matter how monumental, penetrating or sublimely written a book (or pamphlet) of law may be, its most practical virtue is that it is current. *The Guide* is the latest word on today's law but not for long. As the authors point out, H.H.S. is currently in the process of revising the confidentiality laws. A section on the proposed changes detailing the alterations under consideration along with the mailing address and phone number of the legal assistant presumably working on the changes at H.H.S. is thoughtfully included. In speaking with Richard Diehl I learned that they intend to publish a sequel should the laws change.

Those interested in obtaining a copy of *The Guide* are encouraged not to discard this review after ordering. A fatal omission in printing left out the address of the publisher from the first edition. Diehl believes that a forthcoming second printing will contain their Hawaii address. Let's hope so because I believe that its going to be a guide in demand.

Weger and Diehl's guide is an ambitious and successful effort to pull together the regulations, court decisions, and administrative opinions into a compact and readable form. Other articles and pamphlets do exist but none, to this reviewer's knowledge, has included all the essential material or references to material that both practitioner and counsel need to do their job. *The Guide* is a job well done.

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The Kennedys, An American Drama
Peter Collier and David Horowitz
New York: Summit Books, 1984, $21.45

This skillfully organized book written by two Kennedy scholars and historians is presented as a psychosocial, historical, intergenerational study of a wealthy, prestigious and charismatic family who have left an indelible mark on the national and international stage. What makes this book most appropriate for a review in a substance abuse treatment journal is the authors' emphasis on the intergenerational family dynamics, with the assumption that a family can be visualized as an operational system with organizational characteristics, and that psychopathological behavior is a product of interactional relationships with special emphasis on the role definition of the various players in this drama.

What is especially striking to this reviewer are the many forms of isolation that the authors dramatize so graphically in this most controversial family. The narcissistic, isolationistic mechanism is probably best exemplified by the overt message to family members—*that it is not what you are, but rather what people*

think you are (italics mine). The tragic consequences of this family ideology include a constant seeking of verification and confirmation of self-value and significance from the external environment, which then ultimately becomes a chief source of self-definition for the system and its enmeshed members.

As in any family where one or more individuals are "selected" for outstanding achievement and, in effect, deemed as destined for greatness, the family's efforts are organized and maintained in a manner that channels its most powerful and influential resources towards the achievement of that goal. Similarly, the Kennedy family has also chosen specific family members to be destined for greatness. Fueled by incredible wealth and powerful influential affiliations with church, state, high finance and prestigious academic institutions, an enormous and-far reaching network was established to merchandise the family's belief systems and myths which, for the Kennedys had the effect of serving as a homeostatic function.

It is not surprising that effective family therapy and psychological help were not given high priority in this inwardly focused family when "the lost boys" found another substitutive myth in the tragedy of drug and alcohol abuse. "In desperation she (Ethel Kennedy) called in her husband's friend, a Harvard psychiatrist, to deal with her son. The therapist tried to use the family's deepseated fears about 'headshrinkers' and about the possibly paralyzing effects of self-assessment in urging Bobby Jr. not to become mired in the confusion that threatened his generation but rather to project himself onto the outer world as his father had (p. 383)."

Psychiatric interventions were minimal, band-aid-like and quite ineffective. There were hospitalizations for the identified patient who destabilized the system; there were unlimited prescriptions for Percodan® written by a psychiatrist. In England there was a course of "Neuro Electric Therapy" and numerous advice-giving sessions as to what to do with one's life.

Myths can be sold to outsiders, including even well-meaning therapists in terms of countertransferential reactions. Experienced family therapists know very well that myth merchandising can be a formidable resistance in treating powerful, affluent and influential families. What becomes clear in the book and what we can learn clinically, is that the rigid and impermeable boundaries of this family not only aided and preserved its narcissistic isolation, but also prevented the utilization of extra-family resources, like effective psychiatric help to possibly save the "lost boys" from their self-destructive acting-out behavior.

Following years of intensive research, Collier and Horowitz have written a four-generational chronicle of a family that lived within a fortress. They have, indeed, opened that large iron door. But what we may have imagined to be a fortress is rather a carefully constructed shell that houses a deeply suffering family—a family which has sustained many traumas, losses and separations and, sorrowfully, a family that could only mourn alone, trying to draw sustenance from each other and the system.

There is much in this book, almost too much to assimilate for the believers in the Camelot fantasy. The non-clinical readers can easily come away a little depressed and forlorn, for they too wanted to believe in the illusion. There is also much in this book for the clinician, the family therapist and for the mental health professional interested in the addictive process, whether the addiction is to money, power, sex, narcissism or chemical substances. It is an extremely well written and organized book and perhaps more of an American tragedy than Theodore Dreiser could ever have authored.

One of the "lost boys," Chris Lawford said it best when he told the authors "the Kennedy story is really about Karma, about people who broke the rules and were ultimately broken by them."

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Conference Calendar

May 22–26	4th CONFERENCE ON ALCOHOLISM AND THE FAMILY, Philadelphia, Pennsylvania. *Contact:* The Caron Foundation, Box 277, Galen Hall Road, Wernersville, PA 19565.
June 9–13	WESTERN CONFERENCE ON ALCOHOLISM & THE FAMILY, Anaheim, California. *Contact:* U.S. Journal Training, Inc., 2119-A Hollywood Boulevard, Hollywood, FL 33020
June 12–16	9th ANNUAL MEETING OF THE NATIONAL ASSOCIATION OF ALCOHOLISM & DRUG ABUSE COUNSELORS: ADULT CHILDREN & FAMILIES. Atlanta, Georgia. *Contact:* Conference Coordinator, NAADAC, 921 South George Mason Drive, Arlington, VA 22204.
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Organizations interested in listing upcoming conference announcements please send details to:

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JOURNAL OF SUBSTANCE ABUSE TREATMENT

Author and Keyword Index

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JOURNAL OF SUBSTANCE ABUSE TREATMENT

The *Journal of Substance Abuse Treatment* is published in cooperation with North Shore University Hospital in Manhasset, New York.

The Drug Treatment and Education Center, Department of Psychiatry, North Shore University Hospital, founded in 1971, is a multi-modality, interdisciplinary substance abuse treatment program providing a wide range of outpatient and inpatient clinical services, including prevention, health education and a continuing clinical conference series. The Center was developed in response to the needs of the hospital's surrounding communities and seeks to emphasize the appropriateness and responsibility of hospitals in addressing the epidemic health problem of substance abuse.

The Drug Treatment and Education Center receives funding support from the New York State Division of Substance Abuse Services, and the Nassau County Department of Drug and Alcohol Addiction.

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JOURNAL OF SUBSTANCE ABUSE TREATMENT
Instructions for Contributors

The *Journal of Substance Abuse Treatment* features original contributions and articles on the clinical treatment of substance abuse and alcoholism. The *Journal* is directed towards treatment practitioners in both the private and public sectors, including those involved in health centers, clinics, hospitals and community agencies. The *Journal* provides for the academic presentation of clinical practice issues that are meaningful to the treatment of drug abuse and addiction, including alcoholism.

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The *Journal* will publish approaches to standard and innovative treatment regardless of outcomes, with the understanding that the material presented enhances the practitioner's ability to provide more effective treatment. In this regard, authors are invited to explore the implications by which their specific approaches may be applicable to other substance abuse/alcoholism treatment settings, and specific suggestions are encouraged.

MANUSCRIPT SUBMISSION

Manuscripts for all sections should be sent to:

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Jackson, J.K., & Connor, R. (1953). Attitudes of parents of alcoholics, moderate drinkers and non-drinkers. Quarterly Journal of Studies on Alcohol, 14, 596–613.

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