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# An Overview of Alcohol Use, Abuse, and Alcoholism

Commander  
**A. J. Eidson**  
U.S. Navy

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REPORT DOCUMENTATION PAGE

1a. REPORT SECURITY CLASSIFICATION Unclassified		1b. RESTRICTIVE MARKINGS	
2a. SECURITY CLASSIFICATION AUTHORITY N/A		3. DISTRIBUTION/AVAILABILITY OF REPORT Distribution Statement A: Approved for public release; distribution is unlimited.	
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE N/A		5. MONITORING ORGANIZATION REPORT NUMBER(S) Same	
4. PERFORMING ORGANIZATION REPORT NUMBER(S) NDU-ICAF-93- <i>A19</i>		7a. NAME OF MONITORING ORGANIZATION National Defense University	
6a. NAME OF PERFORMING ORGANIZATION Industrial College of the Armed Forces	6b. OFFICE SYMBOL (if applicable) ICAF-FAP	7b. ADDRESS (City, State, and ZIP Code) Fort Lesley J. McNair Washington, D.C. 20319-6000	
6c. ADDRESS (City, State, and ZIP Code) Fort Lesley J. McNair Washington, D.C. 20319-6000		9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER	
8a. NAME OF FUNDING/SPONSORING ORGANIZATION	8b. OFFICE SYMBOL (if applicable)	10. SOURCE OF FUNDING NUMBERS	
8c. ADDRESS (City, State, and ZIP Code)		PROGRAM ELEMENT NO.	PROJECT NO.
		TASK NO.	WORK UNIT ACCESSION NO.
11. TITLE (Include Security Classification) <i>An Overview of Alcohol Use, Abuse, and Alcoholism</i>			
12. PERSONAL AUTHOR(S) <i>Ann J. Eidson</i>			
13a. TYPE OF REPORT Research	13b. TIME COVERED FROM <i>Aug 92</i> TO <i>Apr 93</i>	14. DATE OF REPORT (Year, Month, Day) April 1993	15. PAGE COUNT <i>35</i>
16. SUPPLEMENTARY NOTATION			
17. COSATI CODES		18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)	
FIELD	GROUP	SUB-GROUP	
19. ABSTRACT (Continue on reverse if necessary and identify by block number)  SEE ATTACHED			
20. DISTRIBUTION/AVAILABILITY OF ABSTRACT <input checked="" type="checkbox"/> UNCLASSIFIED/UNLIMITED <input checked="" type="checkbox"/> SAME AS RPT. <input type="checkbox"/> DTIC USERS		21. ABSTRACT SECURITY CLASSIFICATION Unclassified	
22a. NAME OF RESPONSIBLE INDIVIDUAL Judy Clark		22b. TELEPHONE (Include Area Code) (202) 475-1889	22c. OFFICE SYMBOL ICAF-FAP

## ABSTRACT

Alcohol is a drug with potentially devastating effects on the human body. While no less dangerous than many illegal drugs, society has accepted alcohol's negative consequences. Growing evidence, however, indicates that alcohol abuse and alcoholism jeopardize our economic base through a loss of human resources with a potentially negative long term impact on our nation's security. Increased corporate and governmental focus on prevention and rehabilitation has resulted.

This paper provides a history of alcohol use and abuse, discusses the characteristics of alcohol, and examines the economic costs to American society. The process of abuser identification and treatment programs available in the military and civilian workforce are reviewed. Observations and recommendations are provided.

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"People ultimately are a nation's greatest strength, providing the human resources necessary to create wealth and defend the state from foreign adversaries. While numbers are important, it is the specific characteristics of the population that determines its economic and security value."<sup>1</sup>

Doug Bandow  
National Defense University

### INTRODUCTION

Whenever the quality of the American workforce is discussed, productivity, education and health related issues are inevitably major topics of consideration. Indeed, throughout the recent presidential campaign and the early months of the new presidency, these subjects have been in the spotlight. The reasons for this attention are simple. Real or perceived deterioration in the quality of our workforce jeopardizes the prominence of our nation, threatens our standard of living, and thus endangers our national security.

Few problems have affected our society more negatively, threatened our productivity and well-being more directly, than drug abuse. Drugs of abuse include both illicit drugs, such as marijuana and cocaine, as well as alcohol. Because the use of alcohol is legal, it poses more serious problems.<sup>2</sup> While the negative consequences of alcohol related behavior can be punished, the use of alcohol itself cannot be banned. And the abuse of alcohol costs society greatly. The abuser's psychological and physical health problems, his or her lost productivity from work, the time supervisors must spend in

dealing with the problem, the efforts of coworkers to absorb the abuser's work, and the strife in the abuser's family are costs we can not afford to bear. Internationally, alcohol abuse weakens our image among other nations and undermines our own self image as a society.

The statistics of alcohol related accidents and deaths are frightening. Over 64% of all vehicular accidents are estimated to involve drivers who were drinking beforehand.<sup>3</sup> Additionally, high percentages of suicides, accidental falls, deaths from fire, instances of family abuse, and illegal activity have been shown to be alcohol related. Studies have estimated that abusers in the workplace are absent between two-and-a-half to sixteen times more often than their healthy counterparts.<sup>4</sup>

Fortunately, great strides have been made during the second half of this century to understand alcohol abuse and alcohol dependency or alcoholism. The founding of Alcoholics Anonymous (AA) in 1935 and the successes the program enjoyed gave hope to millions who suffered in some direct or indirect way from this abuse or dependency problem.<sup>5</sup> Today there are more than 93,000 AA groups throughout the world serving a membership of over 2 million. Numerous inpatient and outpatient treatment programs exist throughout the country. Through a variety of cost benefit analysis studies, organizations have realized the potential long term savings that can be realized by rehabilitating their employees who suffer from these difficulties.

In order for this country to remain the world's economic superpower, resources cannot be wasted. A few years ago, our society decided that smoking resulted in terrible illnesses and wasted resources. Concentrated educational efforts rallied a movement which has dramatically decreased the number of smokers and resulting disease. Such an effort is necessary to change the social atmosphere which continues to encourage alcohol consumption and, all too frequently, abuse.

The first step in this effort involves understanding why alcohol, the drug, is a problem and believing that efforts must be taken to prevent its use when possible and treat abusers when necessary. In that regard, this paper begins with a short history of alcohol use and abuse followed by a section focusing on the characteristics of alcohol that make it such a dangerous drug. In the next section, the economic costs of alcohol abuse to American society are discussed. A summary of how abusers are identified and then treated in the military and civilian workforce follows. In conclusion, several observations and recommendations are offered.

#### ALCOHOL ABUSE AND ALCOHOLISM DEFINED

The use and abuse of alcohol products can be traced back to biblical times. In the Book of Genesis<sup>6</sup>, Noah was the first man after the great flood to:

"...plant a vineyard. After he drank some of the wine, he became drunk, took off his clothes, and lay naked in his tent".

Noah's son Ham saw him in that state. This infuriated Noah and he punished Ham by condemning his son Canaan to a life of slavery. The history of the world is replete with additional examples of the effect alcohol has had on the course of world events and family life. Nevertheless, from those earliest times, many people have viewed wine as a gift of God to mankind.<sup>7</sup> And there were no acceptable excuses for those who could not "handle their liquor".

This attitude prevailed in colonial America. Alcohol was acceptable for personal pleasure and medicinal reasons but uncontrolled intoxication was taboo. Efforts to curb excessive drinking date back to 1632 when Virginia made drunkenness against the law.<sup>8</sup> Efforts to limit the consumption of alcohol gained momentum in the early 1800s when temperance organizations became common. As this movement advanced, various states passed laws prohibiting manufacture or sale of types of alcoholic drink. Oftentimes the laws were passed only to be repealed and the movement would work to pass another. This roller coaster ride continued well into the 20th century.

The prohibition movement finally gained enough momentum to sway Congress in 1919 to adopt the 18th Amendment to the Constitution. This amendment banned the manufacture, export, import, sale and transportation of alcoholic beverages.

Interestingly, the law did not ban people from buying or using these beverages. Because of the difficulties in enforcing prohibition<sup>9</sup>, Congress passed the 21st Amendment in 1933 which overturned the 18th. There has not been any serious effort to reverse that decision since.

Throughout the course of time, societies have viewed alcohol abusers and alcoholics as sinful, of weak moral character, and lacking in willpower and maturity. In other words, they viewed these problems as being psychologically and socially rooted. Many people still feel that way today. But towards the middle of this century, experts began to differentiate between the abuser and the alcoholic.

Based on the wealth of research into the properties and effects of alcohol during the first part of this century, the American Medical Association officially designated alcoholism as a disease in 1956.<sup>10</sup> Many organizations, to include the American Psychiatric Association, the American Psychological Association, the American College of Physicians and the World Health Organization, have since defined alcoholism as a disease. The medical community has established criteria to determine dependency or alcoholism. Alcohol abusers are people who have exhibited unacceptable behavior as a result of alcohol use but who do not meet the dependency criteria.<sup>11</sup>

## WHY ALCOHOL IS A PROBLEM

The Random House College Dictionary defines alcohol as follows:

"Also called ethyl alcohol, grain alcohol, ethanol, a colorless, volatile, flammable liquid  $C_2H_5OH$ , the intoxicating principle of fermented liquors, produced by fermentation of certain carbohydrates...or obtained synthetically...: used chiefly as a solvent, in beverages, medicines, organic synthesis, lotions, colognes, as an antifreeze or as a rocket fuel."

In short, this is a potent chemical with potentially devastating effects on the human body.

When a person consumes an alcoholic drink, about 20% of the alcohol is absorbed by the stomach muscle and passes immediately to the bloodstream. The remaining 80% passes into the small intestine, through it's walls and into the bloodstream. The body can process and eliminate, on average, one half ounce of alcohol an hour.<sup>12</sup>

The Blood Alcohol Level (BAL) or Blood Alcohol Concentration (BAC) is one of several tests used to determine whether a person is drinking faster than the body can absorb and eliminate the alcohol. Breathalyzers are frequently used to determine alcohol levels. Various factors effect the body's processing mechanisms to include food consumption, weight and sex of the drinker, type of mixers used, temperature of the beverage, and, of course, the strength of the drink.

Distributed very efficiently by the circular system, alcohol has an immediate effect on every organ of the body. The brain and central nervous system are effected within minutes of taking a drink. Acting initially as a stimulant, alcohol begins to act as a sedative as the BAL climbs.<sup>13</sup> The "average" social drinker will cease drinking at this point. Alcohol abusers and alcoholics may continue to drink and increase their BAL. At blood alcohol levels higher than .30, the brain can lose control over the respiratory system and death may occur.<sup>14</sup> Alcoholics develop a tolerance for alcohol and can consume ever greater amounts before the stimulant phase ends and the sedative effect takes over. But their risks from elevated BALs remain.

The primary organ involved in the elimination of alcohol from the body is the liver.<sup>15</sup> In the liver, alcohol is quickly broken down into acetaldehyde. Without further breakdown acetaldehyde causes great physical discomfort to include confusion, nausea, headache, dizziness and rapid heartbeat. Quickly then, another enzyme breaks down the acetaldehyde into acetate which is eventually broken down into carbon dioxide and water and eliminated. The medical community takes advantage of this process and uses Antabuse to inhibit the breakdown of acetaldehyde. Any alcohol consumption while on Antabuse causes the drinker to immediately become a very sick person.

The alcoholic is susceptible to a host of additional dysfunctions.<sup>16</sup> Normal brain functions can be permanently

damaged and cause seizures and dementia like symptoms. Heart muscle can become diseased. Liver and esophagal cancers are more common. Also, because alcohol is full of nutritionally worthless calories, it inhibits hunger for good foods and causes the alcoholic to invariably be malnourished.<sup>17</sup>

Given these effects of the drug alcohol, why would anyone become an alcoholic? Abraham Lincoln, in an address to the Washington Temperance Society in 1842, stated the following:

"In my judgement such of us who have never fallen victims (to alcoholism) have been spared more by the absence of appetite than from any mental or moral superiority over those who have."<sup>18</sup>

The medical community now agrees with Mr. Lincoln. The answer seems to lie in a physiological predisposition to alcoholism compounded by psychological and social factors. In fact, the National Council on Alcoholism and Drug Dependence (NCADD) and the American Society of Addiction Medicine (ASAM) define alcoholism as follows:<sup>19</sup>

"Alcoholism is a primary, chronic disease with genetic, psychosocial and environmental factors influencing its development and manifestations. The disease is often progressive and fatal. It is characterized by continuous or periodic impaired control over drinking, preoccupation with the drug alcohol, use of alcohol despite adverse consequences, and distortions in thinking, most notably denial."

Obviously, alcohol is a lethal drug that poses serious problems for American society. But, how significant is the problem? What are the costs? If alcohol abuse has always been a

problem, why worry about it now? In the next section, those questions will be addressed.

### ECONOMIC COSTS OF ALCOHOL ABUSE AND ALCOHOLISM

There is a macro and a micro approach to studying the economic costs of abuse. At first, it helps to take a macro look and see what the problem is costing our society and country at large. We will see the results of a study done of the United States population. At the micro level, organizations must conduct their own studies to determine the extent of their problem and necessity for various remedial programs. We will look at research conducted for the Navy and its ramifications for other organizations.

#### The Macro Level

One of the problems with doing cost-benefit analysis studies on alcohol related problems is the difficulty in ferreting out all of the costs of problems that are specifically caused by the abusive or dependent behavior.<sup>20</sup> Additionally, putting a dollar value to all of the facets of the problem is immensely challenging. Values must be placed not only on the easy things such as cost of hospitalization, medication and so forth, but also much less tangible aspects such as lost productivity, costs of associated illnesses, etc. By necessity, researchers often rely on statistical methods to estimate these costs.

The estimates of a 1985 study of economic costs of alcoholism in the United States are reproduced in their entirety in Table 1. The costs of alcohol abuse in that year were \$70.3 million.<sup>21</sup> Estimates of cost for 1988 were \$85.8 million.

**Table 1. Economic Costs of Alcohol Abuse in 1985**

Type of Cost	Amount in Millions	Percent of Total Costs	Percent of Within Categories
Fetal Alcohol Syndrome	\$1,611	2.3%	-
<b>Direct Core Costs</b>			
Private/Fed institutions	\$2,281	3.2%	33.5%
Short-stay hospitals	\$3,071	4.3%	44.3%
Outpatient visits	\$ 141	0.2%	2.1%
Nursing home care	\$ 703	1.0%	10.3%
Treatment support	\$ 495	0.7%	7.3%
Subtotal	\$6,810	9.7%	100%
<b>Indirect Core Costs</b>			
Morbidity (hospitalized)	\$ 180	0.3%	0.3%
Morbidity (not hospitalized)	\$27,208	38.7%	53.3%
Mortality	\$23,983	34.1%	46.7%
Subtotal	\$51,371	73.0%	100%
<b>Direct Related Costs</b>			
Crime	\$ 4,251	6.0%	56.7%
Vehicle accidents	\$ 2,584	3.7%	35.0%
Fire destruction	\$ 457	0.7%	6.2%
Social welfare admin	\$ 88	0.1%	1.2%
Subtotal	\$ 7,380	10.5%	100%
<b>Indirect Related Costs</b>			
Victims of Crime	\$ 465	0.7%	14.7%
Costs of incarceration	\$ 2,701	3.8%	85.3%
Subtotal	\$ 3,166	4.5%	100%
<b>Total Costs of Alcohol Abuse</b>	<b>\$70,388</b>	<b>100%</b>	<b>-</b>

Notes: Core costs are those resulting directly from the illness of alcohol abuse. Related costs are those related to the secondary, nonhealth effects of illness. Within each category, there are direct costs (those for which payments are actually made) and indirect costs (those for which resources, such as income, are lost).

As startling as these estimates are, the actual costs are even higher. Researchers did not account for the lost productivity time or the pain and suffering of family, friends and coworkers of abusers and alcoholics in these calculations.

Using average life expectancies at the time of death, this same study estimated person-years lost as a result of alcohol abuse to be 2,672,458.<sup>22</sup> This number includes only those who died from abuse related cases. It would be significantly higher if the person-years lost for abusers yet living could also be estimated.

In this study, 22.5% of the estimates were attributed to direct costs with the remaining 77.5% to indirect costs. These findings were consistent with the estimates of major studies back to 1977. Additionally, and of particular interest to the predominantly male military services, 50.4% of all core costs of alcohol abuse were attributed to males under 44 years of age, an additional 30.4% to older males, with the remainder attributed to female abusers.

### The Micro Level

Considering the enormous costs of abuse, it is logical to ask whether or not it would be cheaper for organizations to simply fire the alcohol abuser and hire non-abusing replacements. Over the past years, cost-benefit analysis studies have been conducted to determine whether various treatment options are worthwhile. From the employer's viewpoint, the question is whether or not treating an individual's alcohol problems now will result in health cost savings for the organization over the long term. And, at the same time, will funding a rehabilitation program enhance the productivity of the workforce.

In March 1989, Calibre Associates addressed that question for the Navy. Their study concluded the following:<sup>23</sup>

"The overall conclusion of this study is that the Navy's Level III program is overwhelmingly cost-beneficial when one compares the cost of the program to the avoided costs of replacing Naval personnel with an alcohol or drug problem."

The study found that the average total cost of rehabilitation for an abuser was \$5,029. Factoring in recruiting, training, pay and all other costs, the study ascertained that it would cost \$122,829 to provide a replacement for that average individual. The data indicates that, if only one in twenty-four patients were successfully rehabilitated, the expenditures would be worthwhile. In fact, the Navy's success rate is slightly over 50%, making the program extremely cost beneficial.<sup>24</sup>

Unfortunately, the Navy is the only military service with a formal cost benefit analysis study. The other services have relied on the Navy's research efforts for many years. Their programs are fairly different, however, in their facility structure and patient base, and specific studies would probably be beneficial. In the civilian community, numerous studies have been conducted but Calibre Associates found that:<sup>25</sup>

"As a whole, the literature contains conceptual errors, methodological difficulties, assumptions which are at best questionable, and limitations imposed by the availability of data. There has yet to be a definitive cost benefit analysis of alcohol rehabilitation and there was no perfect model to be followed for Navy study."

In a summary report of a series of seminars held in 1985 on alcohol abuse, there was general concurrence with that finding. The participants found that:<sup>26</sup>

"While many firms with well-developed Employee Assistance Plans do not conduct evaluations of their efforts, they still almost invariably express satisfaction with the programs, and are convinced that they are cost effective."

So, for many organizations, treating abusers is a smart, cost effective effort. Before the abusers can be treated, however, they must be identified and that is a difficult task. In the next section, the evolution of diagnostic tools used in identifying the alcohol abuser will be explored. Leaders and managers in all walks of life should be familiar with these methods of problem identification. The use and effectiveness of these tools are critical in the effort to return individuals to a productive place in society.

## DIAGNOSING THE ALCOHOL ABUSER AND ALCOHOLIC

There are several simple questionnaire type screening tests for alcohol abuse and alcoholism.<sup>27</sup> In addition to these, there are clinical laboratory tests that can detect physical problems that are indicative of alcohol related problems. The questionnaire tests can be self-administered and quickly evaluated by a clinician. These tests and their characteristics are as follows:

- \* CAGE questionnaire - four questions
- \* Michigan Alcoholism Screening Test (MAST) - twenty-five questions
- \* Self-Administered Alcoholism Screening Test (SAAST) - thirty-five questions
- \* Adolescent Drinking Inventory - twenty-five questions

If, based on these simple screening tools, a clinician believes a person should be more thoroughly evaluated, there is a structure in place to do so. In the United States, addictive disorders are diagnosed by medical professionals using the guidance of the Diagnostic and Statistical Manual of Mental Disorders (DSM). In other parts of the world, the International Classification of Diseases (ICD), compiled by the World Health Organization, is used.

The first DSM, or DSM-I, was published in 1952. Both DSM-I and its subsequent revision, DSM-II, discussed alcoholism under the category of personality disorders. People were diagnosed as alcoholic if their "alcohol intake was great enough to impair personal or social functioning or health, or to become a required

part of normal daily functioning".<sup>28</sup> Alcoholism was also divided into three categories:

- \* Episodic excessive drinking - intoxicated 4 or more times a year
- \* Habitual excessive drinking - intoxicated more than 12 times a year or under the influence of alcohol more than once a week
- \* Alcohol addiction - unable to last a day without drinking or has withdrawal symptoms

DSM-III was published in 1980 and incorporated the vast amount of research and data that had been studied over the past twenty-eight years.<sup>29</sup> Alcohol disorders were addressed in a separate section of the manual even though they were still under the caption of mental disorders. Additionally, alcohol abuse was distinguished from alcoholism in that tolerance and withdrawal symptoms present in the alcoholic were absent in the abuser.

DSM-III-R was a major revision that is still in use today. In it, the authors attempted to further define the concepts of dependence and clarify the distinguishing characteristics of abuse as compared to alcoholism.<sup>30</sup>

Several versions of a new DSM-IV are being studied. The new versions shift some of the criteria around but basically remain the same. Major changes to the criteria set forth in DSM-III are not expected until researchers gather more data to substantiate changes that can be made in DSM-V.<sup>31</sup>

At the same time the DSM-IV is being studied, the World Health Organization is preparing the ICD-10 for publication. Despite somewhat different emphasis on weighting criteria, there is general agreement that alcoholism would be diagnosed consistently using either the DSM or ICD publications.<sup>32</sup> Similar diagnosis of abuse would be more difficult. Researchers are striving to make the two systems as similar as possible.

In order to determine whether these criteria have been met, clinicians and researchers interview the individual. There are a variety of formal interview techniques based on the DSM series that are used.<sup>33</sup> These interview techniques can be fully structured, semi-structured or unstructured.

In a fully structured interview, the interviewer uses a predetermined set of questions and does not deviate from that list. In an unstructured interview, the interviewer is able to formulate whatever questions deemed necessary to gain enough information to make a diagnosis. A semi-structured interview is a combination of the two. The following is a listing of the diagnostic interviews, and the characteristics of each, that are most commonly used today<sup>34</sup>:

- \* Schedule for Affective Disorders and Schizophrenia (SADS): a semi-structured interview
- \* Diagnostic Interview Schedule (DIS): a fully structured interview; often used as a survey tool
- \* Structured Clinical Interview for DSM-III-R (SCID): a semi-structured interview

- \* Alcohol Use Disorders and Associated Disabilities Interview Schedule (AUDADIS): a new, fully structured interview

Once a person is diagnosed as alcoholic or as an alcohol abuser, the type of treatment that individual needs must be determined. Many different sets of criteria have been in use at different treatment facilities in the past. Considerable confusion resulted and the demand from self-paying patients, insurance carriers, and treatment centers themselves became great for a universally acceptable set of treatment criteria.<sup>35</sup>

In response, the National Association of Addiction Treatment Providers (NAATP) and the Association of Addiction Medicine (ASAM) joined in an effort to create these guidelines. The "Patient Placement Criteria for the Treatment of Psychoactive Substance Use Disorders", published by ASAM, is the result of that effort.

In the ASAP guidelines, admission, continued stay and discharge criteria for four levels of care are addressed:

- \* Level I: Outpatient Treatment
- \* Level II: Intensive Outpatient/Partial Hospitalization Treatment
- \* Level III: Medically Monitored Intensive Inpatient Treatment
- \* Level IV: Medically Managed Intensive Inpatient Treatment

The differentiating characteristics of the four levels are the degree of direct medical management provided; the degree of

structure, safety and security provided; and the degree of treatment intensity provided.<sup>36</sup>

Within each level of care, six primary areas of concern are addressed<sup>37</sup>:

- \* acute intoxication and/or withdrawal potential
- \* biomedical conditions and complications
- \* emotional/behavioral conditions or complications
- \* treatment acceptance/resistance
- \* relapse potential
- \* recovery environment

The individual's treatment plan and estimated length of stay are dependent on the clinician's evaluation of these areas.

Once the abuser has been identified, the organization must decide on a course of rehabilitation. In the next section, treatment options within the United States military are discussed. The military section is followed by a summary of civilian care options.

#### RETURNING THE ABUSER TO PRODUCTIVITY

Procedures and practices regarding alcohol abuse and alcoholism in the United States military vary significantly between the Navy, Army and Air Force. The Marines and Coast Guard members use the treatment centers of the larger services. Levels of treatment, criteria for treatment eligibility, the location of treatment facilities, command support and structure all vary. Once inside the door of a treatment facility, however,

the actual course of treatment does not vary significantly. It should also be noted that most, if not all, of the individual service facilities treat members from all services, not just their own.

Much the same can be said regarding differences between the military rehabilitation system and that found in the civilian community. Here, however, the differences are even greater regarding who is eligible, what level of treatment is necessary, when treatment may take place, where it will happen and who will pay. The basic courses of treatment, however, remain much the same.

#### The Military Rehabilitation Structure

The military's strong interest in ensuring the well-being of its own workforce and that of the population in general is threefold. First, recruiters need a healthy civilian workforce from which to recruit the all volunteer force. Secondly, their reserves and standby options must be available and ready to support the active force in the event of mobilization. And thirdly, stable and disciplined soldiers and sailors are cheaper to train, easier to manage, and more successful in finding ways to stay alive in combat.<sup>38</sup>

Because our society continues to encourage the consumption of alcohol, there will inevitably be those who abuse the drug or become dependent. At that point, the Navy, Army and Air Force

have programs aimed at rehabilitating the member and returning him or her to a productive position. A short description of the service's systems follows.

U. S. Navy.

The Navy first offered inpatient care for alcoholism at Long Beach Naval Hospital in 1967. In the 1970s, as the Vietnam War ended and with Admiral Zumwalt as the Chief of Naval Operations, the Navy Alcoholism Prevention Program flourished. Alcohol Rehabilitation Centers Norfolk, Jacksonville and San Diego became operational. Additionally, the first fourteen Alcohol Rehabilitation Units (now Departments) began treating patients at Naval Hospitals.

Under the current guidelines, there are three levels of treatment available. Level I is primarily a prevention program that is also used to provide initial intervention and education to members who are guilty of some sort of alcohol related misconduct. Level II treatment involves outpatient type treatment for members who have been diagnosed as alcohol abusers but have not been found to be dependent. This program involves counseling, education, and referral to other sources of assistance. Level III treatment is inpatient treatment of roughly six weeks duration for members diagnosed to be alcohol dependent.

Currently, a member suspected of an alcohol related problem is referred by their Drug and Alcohol Program Advisor (DAPA) via their commanding officer to a nearby Counseling and Assistance Center (CAAC) for evaluation. The CAAC will obtain a medical doctor's evaluation, conduct an interview with the member, and recommend a course of treatment and follow-up with the member's commanding officer.

There are four Alcohol Rehabilitation Centers (ARCs) in the operational chain of command of the Chief of Naval Personnel. Additionally, there are nineteen Alcohol Rehabilitation Departments (ARDs) located in Naval Hospitals worldwide. The ARDs are under the shore activity coordination of the host hospital and thus are in the Bureau of Medicine (BUMED) chain of command. In 1991, a total of 3,864 members entered Level III inpatient treatment for alcoholism either at one of the ARCs or at an ARD. Outpatient and inpatient data is collected via manually prepared monthly and quarterly reports submitted through the appropriate chain of command.

Organizationally, Navy policy matters are coordinated by the Treatment and Rehabilitation Branch within the Bureau of Naval Personnel. Administratively, the ARCs and ARDs report through their appropriate chain of command.

U. S. Army.

The Army responded to a growing social crisis towards the end of the Vietnam War and began treating alcohol dependency at hospitals in Europe during the early 1970s. The Army formalized their program in the post Vietnam era. Currently, the Army offers three levels of care. In Level I, soldiers receive a course in Alcohol and Drug Abuse Prevention Training (ADAPT) conducted by their command's full time alcohol and drug counselor. Level II and Level III treatment are much the same as the Navy programs.

A soldier suspected of an alcohol problem is referred by his commanding officer to a nearby Community Counseling Center (CCC). A thorough evaluation, including medical, is conducted and a recommendation for treatment is made to the member's command.

As a part of the Department of Defense drawdown, the Army has closed four of it's Alcohol Rehabilitation Departments (ARDs) over the past several years. Six ARDs currently remain in operation. Three of these are in the continental United States and the other three are in Europe. One of ARDs in Europe is closing this year which will bring Army's total number down to five. As in the Navy, the Army's ARDs are located in Army Hospitals and are in the Army Medical Department's chain of command. In 1991, approximately 1900 members were treated on an inpatient basis at Army ARDs. The Army's Drug and Alcohol

Management Information System (DAMIS) is an fairly new on-line system that is designed to track statistical information regarding alcohol abuse and alcoholism treatment. They are still experiencing difficulty with the system, however. The old, cumbersome way of retrieving data by phone or letter and manipulating it by hand still prevails.

Organizationally, alcohol policy matters are determined by the Deputy Chief of Staff for Personnel (DCSPERS). Clinical issues, and advice on policy, are handled within the Office of the Surgeon General.

#### U. S. Air Force.

The Air Force began a pilot program in inpatient alcohol rehabilitation at Wright-Patterson Air Force Base in Ohio during 1966. Current guidance on alcohol abuse and alcoholism is contained in Air Force Regulation 30-2. There are currently five "tracks" of care (similar to "levels" of care in Navy and Army). Track I is generally just the identification and evaluation stage. Track II is an education program of about four to six hours duration. Track III provides more indepth education of up to a week long intensive program with the possibility of follow-up consultations. Track IV is either 1) a formal outpatient care arrangement conducted by the Air Force Social Action system (similar to the Navy's CAAC or Army CCC) or inpatient treatment of roughly 4 weeks duration. Track V is basically a transition stage for members awaiting administrative action.

An Air Force member's command may refer that person to a nearby Social Action Office (similar to Navy's CAAC network) for evaluation by staff and medical personnel. A recommendation is made to the command for the member to take part of one of the five tracks of care.

The Air Force currently operates nine inpatient Alcohol Rehabilitation Centers (ARCs). Each of these ARCs is located in an Air Force Medical Center (hospital) and is organizationally similar to the Navy and Army ARDs. In 1991, approximately 1500 members entered Track IV inpatient treatment in one of the ARCs. Data collection is by phone or letter. The system is not computerized nor are there plans to do so.

Organizationally, the Air Force has two individuals, both assigned at ARCs, that are responsible for policy, statistics, and so forth. There is no specific higher level oversight of this program.

#### Rehabilitation in the Civilian Community

Prior to the establishment of the National Institute for Alcohol Abuse and Alcoholism (NIAAA) in 1970, the National Council on Alcoholism (NCA) worked to broaden the acceptance by society in general and businesses in particular of the disease concept of alcoholism. As Alcoholics Anonymous became well-known and fledgling treatment centers returned more and more successfully rehabilitated employees to the workforce, businesses

began to look favorably at this as a means of saving long-term costs and increasing productivity.<sup>39</sup>

Employee Assistance Programs (EAPs) emerged as early as the 1940s but did not begin to flourish until the 1970s. Much of this growth can be attributed to the then new NIAAA and the Rehabilitation Act of 1973. This Act protected the rights of handicapped persons and specifically included those with alcohol dependency.<sup>40</sup> Initially pushed towards EAPs by that legislation, businesses began to offer counseling and guidance to workers, they soon realized significant reductions in employee turnover and medical costs.

An integral part of the EAP concept was to provide training to supervisors in dealing with problem employees and guiding them in the fine art of referring an employee for help. The EAP concept involves training the supervisor to concentrate on the performance aspects of an employee and knowing how to help their employees improve their performance and thus their productivity.<sup>41</sup>

A 1988 survey by the U. S. Department of Labor indicated that 31% of all employees had some sort of EAP available. Availability of EAPs was found to be highly dependent on the size of the organization. 86.8% of organizations with more than 5000 people had EAPs while the number for those with fewer than 50 employees was 11.2%.

Many organizations choose to set up internal EAP programs. Others opt to contract out for those services. Most of the current growth of EAPs is in the smaller companies and they are tending to contract with external sources.<sup>42</sup> At the federal government level, all federal agencies and offices were required to provide EAP services beginning in 1970.

Seeking help through an EAP is obviously not the only means of problem identification and assistance. Alcoholics Anonymous is available as are doctors, psychologists, counselors, clergy and a host of self-help books. All provide direction to those who recognize distress in either themselves or another.

#### CONCLUSION AND RECOMMENDATIONS

President Clinton has stated on many occasions that the United States cannot stand to waste any of its resources as we move into the global competitive environment of the future. Our society is slowly realizing that alcohol abuse and alcoholism are a drain on resources that we simply reduce in every way possible. The medical community, clergy, teachers, family, friends and everyone effected by the abuse of alcohol must make a commitment to dramatically decrease our collective acceptance and reliance on this drug. Doing so would significantly enhance our ability to compete economically, politically and, whenever necessary, militarily.

All too often in today's environment of ignoring the problem, meager preventive measures fail and some level of abuse occurs. Dramatic progress has been made in understanding, diagnosing and treating alcohol abuse and dependency. In many respects, however, this has been a disjointed effort. Current efforts to consolidate information and coordinate systems are promising. Efforts by researchers of the American Psychiatric Association, the World Health Organization, and the Alcohol, Drug Abuse, and Mental Health Administration to eliminate differences between the ICD-10 and the DSM-IV are most notable. Additionally, ASAM's efforts to provide a universally acceptable set of treatment placement criteria should significantly clarify this critical area of concern. There remain numerous possibilities for research and growth in this field of study.

In the treatment area, researchers are currently studying inpatient and outpatient care to determine the relative effectiveness of both. Since inpatient treatment is much more costly, greater utilization of outpatient programs could result in significant savings. The Navy is also currently studying the effectiveness of four week inpatient care versus a six week program. Any findings in favor of greater use of outpatient care and lesser time in inpatient programs will result in savings that could be realigned into other needy budgeting areas.

Concerning the military treatment network, a cost effectiveness study of consolidating all alcohol treatment facilities should be conducted. This should run concurrently with the Office of the Secretary of Defense's efforts to consolidate the military's health services.

Foremost, however, an alcohol abuse prevention campaign, similar to the anti-smoking campaign, must gain national prominence. The importance of leading healthy lives, to include limited alcohol usage, must be stressed. Banning smoking in the workplace and raising taxes on the purchase of cigarettes have caused a significant number of smokers to quit. If smoking can be banned, limits can be placed on alcohol consumption. Taxes on alcohol should be high enough to provide the same discouragement as they do for smokers.

An intensified, coordinated effort to educate all of society about the nature of alcohol and its potential problems is crucial. When education and prevention fails, each of us must be ready to intervene and encourage the abuser to seek help. A coordinated health care system must be in place that is capable of reliably identifying and rehabilitating abusers and alcoholics. And, as a society, we must be ready to welcome these survivors back into the workplace with support and encouragement in their quest for renewed opportunity and productivity.

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