CHAPTER 9

Substance Abuse in the Theater: The Big Story

. . . [O]ne young warrant officer who was described by his flight surgeon as "one of the better all around pilots in our unit" . . . was discovered to be smoking marijuana 10 to 15 times per day while flying combat missions. . . . [When confronted, he replied,] "It didn't bother me being shot at for . . . every time I was stoned on marijuana. It was beautiful to me. The tracers were even pretty. I got to where I could fly pretty good on marijuana, but sometimes when I landed I could hardly walk."[1(p57)]

Lieutenant Colonel Norman Evans
Army Psychiatrist and Flight Surgeon
98th Psychiatric Detachment
August 1967–August 1968

Heroin dealers at the 95th Evacuation Hospital compound fence. In this 1971 photograph, Vietnamese boys wait at the hospital's perimeter to trade heroin with US soldiers for prized goods, such as cigarettes. By mid-1970, 5 years into the war, earlier concerns by command in South Vietnam regarding soldier use of marijuana and other drugs had been eclipsed by threats to the health, morale and discipline, and combat readiness of the force stemming from the rapid spread of heroin use and addiction. Photograph courtesy of Norman M Camp, Colonel, US Army (Retired).

Alcohol abuse and marijuana use were persistent but mostly manageable problems for the US military during the first 2 years after ground troops were inserted in Vietnam in spring of 1965. As the US forces numbers grew and the war entered its middle phase (1968–1969), accelerating use of illegal drugs by soldiers—especially marijuana but also barbiturates and amphetamines—prompted command to increase suppressive efforts. Still, although many soldiers became psychologically dependent, and some developed disabling medical and psychiatric reactions, the scope of problems associated with drug use was limited and not perceived as a serious detraction to accomplishing the mission.

In early 1970, a new and far more pernicious problem arose following the emergence of a very efficient Vietnamese heroin marketing system and the enthusiastic embrace of heroin by the lower-ranking troops in Vietnam. Within a short span of time, concerns about rapidly accelerating heroin-related arrests, medical problems, and overdose deaths

greatly overshadowed earlier ones regarding marijuana use.[2] This epidemic of self-inflicted soldier disability fell especially on Army units, and all levels of command were hard-pressed to effectively respond. Furthermore, because its causes, effects, and attempted remedies were at the intersection of physical fitness, mental health, morale and discipline, and combat preparedness, Army psychiatry faced its biggest challenge of the war. Unfortunately, vigorous efforts by command and medical/psychiatric elements in Vietnam to address the new heroin problem through education and other suppressive means, detection, and treatment and rehabilitation had little effect. By 1972 the Army in Vietnam shifted to an unprecedented hybrid medical/law enforcement model: soldiers with positive urines were "quarantined" for observation, detoxified as needed, and returned to the United States as patients. This peaked in July with an annualized rate of one out of every eight soldiers medically evacuated back to the United States for this reason. Although that figure may be somewhat inflated because the Army was in the final stages of drawdown, it is nonetheless evident that rampant heroin use in Vietnam and the military's inability to find solutions proved to be one of crowning blows to America in its failed war in South Vietnam.

Chapter 1 made the case for the dramatic rise in drug use by young Americans over the course of the war. Chapter 2 described how this trend influenced the soldiers assigned to the Vietnam theater, including medical and psychiatric effects. This chapter provides the fuller story of drug use and abuse among Army troops in Vietnam, especially the heroin epidemic, and the collective efforts of Army psychiatry and other medical elements to provide humanitarian care while supporting Army leadership in the accomplishment of the military mission.

ALCOHOL ABUSE AND ADDICTION IN VIETNAM: A SERIOUS BUT OVERLOOKED PROBLEM

Pre-Vietnam

In the years leading up to the Vietnam War, the "substance" that generated the greatest ongoing concern for the US military was alcohol.[3] Across wars and between wars, alcohol abuse (drunkenness) and physical and psychological dependence (alcoholism), as well as related medical conditions and misconduct, were recurrent problems with serious consequences, as seen in reduced military performance, ruined military careers, and the consumption of military healthcare resources. However, in that the scope of these problems remained modest among troops deployed overseas (compared to other nonbattle conditions such as malaria, hepatitis, tuberculosis, and sexually transmitted diseases), and because alcohol possession for off-duty use was legal (compared with illegal drugs, as in Vietnam), at the time the United States went to war in Southeast Asia military leaders had not been inclined to address alcohol problems in wider, public health/epidemiologic terms (as command, medical, or law enforcement issues); for the most part, their definition as a problem remained centered on each affected individual.

From the historical standpoint, the prevalence of alcohol problems in the US Army can be appreciated from the following rates, which interestingly, steadily declined. During the Civil War, besides desertion, the primary psychiatric/behavior problem affecting US Army soldiers was alcoholism.[4] In the decade preceding America entering World War I, US Army admissions for alcohol problems were 16 per 1,000 troops per year. During the years of Prohibition (1920–1933), the admission rate was 7–8 per 1,000 troops per year. In the period following the Prohibition years and the repeal of the Volstead Act in 1933, the rate gradually dropped to 3.3 per 1,000 troops per year, apparently because of higher selection criteria for service in the Army, which was consequent to the Great Depression and high unemployment. Through World War II the alcohol admission rate was an even lower 1.7 per 1,000 troops per year, and the drug addiction rate was only 0.1 per 1,000 troops per year. Together they accounted for only 4.7% of all psychiatric diagnoses; and these rates held steady until the buildup in Vietnam.[5]

One important feature should be underscored: until 1970, Army regulations and policies distinguished alcohol problems (as well as the use of illegal drugs) from other psychiatric disorders. Alcohol dependency/alcoholism was regarded as the consequence of willful misconduct, along with "shirking," failure to pay debts, "inaptitude," homosexuality, enuresis, and character and behavior disorders—with the insinuation that they were the product of a character or moral defect.[5] This was true through most of the Vietnam War period despite alcoholism's inclusion in both the American Psychiatric Association's classification system of mental disorders[6] and the *Armed Forces Medical Diagnosis Nomenclature*

and Statistical Classification System (Army Regulation [AR] 40-401 dated 15 June 1963).[7] As a consequence, with limited exceptions the Army did not provide treatment/rehabilitation programs for alcohol (and drug) dependency for those on active duty. Treatment was provided for medical complications such as delirium tremens and liver cirrhosis, but personnel with sustained alcohol (and drug problems) were typically administratively eliminated from the Army as unsuitable under the provisions of either AR 635-212 for enlisted ranks or AR 635-105 for officers.[8] These regulations and policies were partially nullified during the last 2 years of the war as the result of federal legislation that included the stipulation that alcohol dependence be treated before an individual was released from the armed services (The Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment, and Rehabilitation Act, PL 91-616, 1970). However, in that Vietnam was a combat theater, this had little relevance there.

Finally, it should be noted that because of inconsistency of terms, confusion is somewhat inevitable when attempting to compare patterns of alcohol use with those for drug use within military populations. Whereas one can speak of "alcohol use" versus "alcohol abuse" (excessive or problematic use), any use of illegal drugs is commonly referred to as "drug abuse" simply because use is against the law and military regulations under all circumstances.

Vietnam

Prevalence of Alcohol Use

It is not surprising that there are few records that addressed the prevalence of alcohol use in Vietnam. It was a legal "drug" that was widely distributed and sold in Vietnam by the US government throughout the war. Ethyl alcohol in its many forms was available in the Post Exchange (PX) facilities and noncommissioned officers' (NCO) and officers' clubs (although those under 18 were prohibited from buying distilled beverages [hard liquor]), and it was openly served at unit functions (Figure 8-7A). Evidently, it was assumed by military planners that, apart from the predictable but acceptably small numbers of individuals who would manifest problems, alcohol would aid the troops in decompressing from the ordeals of combat and the stress of deployment.

For example, according to Harold SR Byrdy, a division psychiatrist with the 1st Cavalry, "[i]n the very early days of the division, the mail and the daily allotment of two cans of beer, usually warm, were crucial issues which were quickly perceived by command."[9(p9)] In Chapter 1 of this volume, Dennis L Menard, an enlisted social work specialist with the 1st Infantry Division (ID), described a beer ration in the field of two or three cans per day.[10] Herein is Douglas R Bey's postwar recollection from his experience as division psychiatrist with the 1st ID (April 1969–April 1970):

> For officers and NCOs, the drug of choice was alcohol. It was inexpensive and readily available. Every "Hail and Farewell" celebration, every T.G.I.F. [thank god it's Friday], every change of command was associated with alcohol. We had regular parties with steaks and booze. The medical officers had an officer's club and bartender. . . . The military encouraged drinking—to a point. However, if drinking led to problems with performance or discipline, the Army would come down hard, punish the drinker, and end his career.[11(p124)]

More broadly, the following is a description by Ronald H Spector, a military historian, of the place of alcohol within the military culture in Vietnam:

> As in all wars, soldiers [in Vietnam] turned to alcohol as a temporary escape from loneliness, boredom, and fear. "I was drinking two quarts of Old Grand Dad, 100 proof, every day," a soldier who served four tours in Vietnam recalled. "You drank it and you'd just sweat it out. You needed it to keep going, I guess. I got tired, real tired. You saw so much happening." In Vietnam the clubs and PXs made access to booze cheap and convenient, almost effortless in the rear areas. "You could go to the PX and buy . . . a whole fifth for a dollar," recalled one [soldier], "and some of the high-grade alcohol, even J&B scotch, only three dollars." Some commanders prohibited the sale of hard liquor to men below the rank of E-5 [sergeant]. Yet those men could easily obtain what they desired through purchases from other GIs [soldiers] not so restricted, and in any case had access to virtually unrestricted quantities of beer.
>
> Senior officers and career NCOs expected that soldiers far from home and in a war zone would do a good deal of drinking. Drunkenness was not exactly encouraged, but drinking was widely viewed as an acceptable outlet for the stress, fatigue, and tension of military life. So long as a man indulged himself while

> off duty and kept his behavior within certain broad bounds, heavy drinking was tolerated or ignored. Indeed, the tough, experienced soldier was almost expected to be a hard-drinking man as well.
>
> The generals recognized that there was a price to be paid in accidents, fights, and even occasional homicides, yet this price was understood and accepted, while the traditional apparatus of military control ranging from the tough old sarge who knew how to handle drunks to the Military Police to unit punishment to the military justice system was expected to keep a lid on things.[12(pp272–273)]

Apparently alcohol remained the preferred drug for off-duty use for the majority of assigned personnel in Vietnam, especially the NCOs and officers, despite the easy availability of marijuana throughout the war and heroin during the last third. (Although, in their summary of mental health activities in Vietnam [mid-1965–mid-1970], Colbach and Parrish declared that the young soldiers "generally avoided alcohol," which was replaced with illegal drug use.[13]) The majority of the drug use surveys conducted in Vietnam (reviewed later in this chapter) did not inquire about alcohol. One exception was the survey of lower-ranking enlisted soldiers departing Vietnam by Roffman and Sapol in 1967 (N= 484). Among their respondents, almost 95% acknowledged some alcohol use in Vietnam, with almost 55% indicating alcohol use "fairly often" or "a great deal."[14]

Incidence of Alcohol Problems: Abuse and Psychological/Physical Dependency

Overview. Because of the lack of available data, it remains difficult to ascertain the full extent to which alcohol abuse and dependency were problems for the Army in Vietnam. In his summary of Army psychiatric experience through the first third of war, William S Allerton, Chief, Psychiatry and Neurology Consultant Branch, Office of The Surgeon General (OTSG), declared that "[p]roblems with alcoholism, though present, do not seem to be in any way out of proportion to the problems observed elsewhere in the Armed forces."[15] Unfortunately Major General Spurgeon Neel's official overview of US Army medical experience in Vietnam through two-thirds of the war made no specific mention of alcohol-related problems, even though he did mention the emerging drug problems.[16] This did not mean that alcohol problems were insignificant, just not documented. Official counts for alcohol-related problems were evidently not compiled because alcohol-related statistics were not collected as such from Army medical units for analysis (see Appendix IV: USARV [US Army Republic of Vietnam] Psychiatry and Neurology Morbidity Report in Appendix 2, "USARV Regulation No. 40-34" to this volume). Spector suggested that military leaders might have been willing to overlook such matters to facilitate the troops using alcohol to blow off steam from combat stress and the various privations of deployment. This is consistent with the argument by Joseph R Rothberg, a Walter Reed Army Institute of Research (WRAIR) biomathematician, that, in general, there is good statistical evidence to suspect a long-standing tendency toward underreporting of alcohol problems within the Army throughout this time frame.[17] One measure of alcohol's clinical impact during the buildup period came from Hays, who indicated that out-of-country evacuees with the diagnosis of alcoholism, which he lumped with character and behavior disorders, constituted only 2.2% of all Army psychiatric evacuees from Vietnam between January 1967 and June 1967 (the same percentage as that for Air Force, but less than the 2.9% for the Navy).[18] Yet Jones and Johnson's postwar review of Army psychiatric problems over the entire span of the war referred to the "high rate of alcoholic incidents" and a "high frequency" of alcoholism—but unfortunately without metrics.[19]

The Datel and Johnson psychotropic prescription survey, although limited to mid-1967 and to outpatient care, did provide a partial measure of the clinical challenge of "alcohol abuse" in the theater.[20] Of the 233 Army primary care physicians assigned in Vietnam, which included battalion surgeons, 92 (84% of respondents) indicated that 2.6% of their cases warranted the diagnosis of alcohol abuse. In contrast, the six Army and two Navy (attached to the Marines) respondent prescribing psychiatrists (100% of respondents) reported treating alcohol abuse over four times as often (11.8% of their caseloads); however, these results are less certain because the study did not distinguish between inpatient care and outpatient care as it did with the primary care physicians. The Datel and Johnson findings received some confirmation from the 1982 WRAIR survey of veteran Army psychiatrists who served in Vietnam. Survey participants reported a mean of 10.4% for alcoholic dependence syndrome among their caseloads (see Chapter 5, Table 5-3). Furthermore, when asked about frequency of professional involve-

ment with a list of behavior problems in Vietnam, they estimated "excessive use of alcohol" as the second most frequent problem, somewhat less than characterological maladaptation but greater than problems secondary to use of marijuana, heroin, or other illegal drugs—estimates that held steady over both halves of the war (see Chapter 8, Table 8-4).

Reports From the Field. Evidently, the deployed medical and psychiatric specialists in Vietnam were often required to manage and treat soldiers with acute and chronic alcohol problems and associated medical conditions. From the beginning, most of the Army psychiatrists who published accounts from Vietnam indicated that alcohol problems were a prominent part of their workload. Robert E Huffman, the first Army psychiatrist assigned in Vietnam after the commitment of American ground troops in May 1965, reported that 18.5% (113) of the patients he treated, both combat and noncombat troops, had severe problems related to alcohol intoxication. "Men drank to excess in Vietnam so commonly that unless they engaged in extremely bizarre behavior, they were not usually referred."[21] Also in the first year, Byrdy, with the 1st Cavalry, indicated that of the 116 soldiers he hospitalized, 27 (23%) were either acutely or chronically alcoholic. However, unless these men were repeatedly hospitalized or were being considered for disciplinary or administrative action by their unit, they were "dried out" and returned to duty.[9] John A Bowman, with the 935th Psychiatric Detachment (December 1965–October 1966), referred to excessive drinking as a common form of regressive behavior, which resulted in punitive consequences or psychiatric attention in conjunction with administrative actions by commanders.[22] William F Kenny reported from the 17th Field Hospital in Saigon (May 1966–December 1966) that many of his cases, especially the characterologically dependent/emotionally unstable ones, were seen in their emergency room acutely agitated and under the influence of alcohol. He noted that, in general, it was common for soldiers who were poorly managing stresses of separation from home, marital discord, and frustrations with their jobs, to suffer with mixed anxiety and depression and resort to increasing alcohol intake.[23] Finally, Franklin Del Jones provided more detailed information. Besides his description of the numerous instances of "berserk" 25th ID troops (drunk and frenzied soldiers who threatened fellow soldiers with their weapons) mentioned in Chapter 3 in this volume, his study of Army patients at the 3rd Field Hospital in Saigon found alcoholism to be the primary reason for referral for almost 20% of the support troops and an associated symptom for an additional 7% (compared to 5% and none among his combat troop referrals).[24] (See also Appendix 16, "Vietnam Study: Reactions to Stress Comparing Combat and Support Troops.")

Two years later, in 1968, during the transition phase of the war, John A Talbott, also in the Saigon area, reported that during the fighting in Saigon in conjunction with the Tet offensives, 44 (of 100 consecutive patients) were diagnosed as character and behavior disorders, 26 of whom were alcoholics.[25] Also, Edward M Colbach recalled from the 67th Evacuation Hospital in Qui Nhon that "alcohol caused most of the trouble of a sensational variety [when compared with marijuana],"[26(p206)] and John Imahara, who was assigned to the Long Binh stockade, reported that alcohol was often correlated with violent crimes by soldiers.[27] Surprisingly, that same year, H Spencer Bloch indicated that soldiers with drug or alcohol dependency problems represented only 6.8% of their total caseloads at the 3rd echelon treatment center, the 935th Psychiatric Detachment,[28] suggesting that many of the soldiers who developed significant alcohol problems in Vietnam did not get referred for sustained treatment and rehabilitation.

Some measure of explanation for the latter came from Bey the following year. He served as division psychiatrist in the 1st ID (1969–1970) and indicated that, despite widespread use of marijuana by troops, alcohol continued to be the major problem drug, and that violent incidents occurred most often while the soldier was under the influence of alcohol. However, for the most part, soldiers with chronic problems eluded clinically effective treatment. ("Psychiatric consultation . . . may harm an individual's chance for promotion, may jeopardize his security clearance and diminish his acceptability by his superiors."[29(ChapVII,p5)]) According to Bey, the alcoholic sergeant was a common problem. In fact, many alcoholics volunteered for Vietnam duty as a way to escape from rehabilitation pressures and an impatient company commander in the United States. In Vietnam he anticipated cheap liquor and social acceptance of high alcohol use, avoidance of family responsibilities, and decreased scrutiny by command. On the other hand, some men were sent to Vietnam by their commanders in the United States as a punishment for their drinking. As far as the consequences, Bey provided these observations:

> Nearly every type of acute and chronic problem associated with alcohol abuse was seen in the division. Cases of simple drunkenness, DT's [delirium tremors], pathological intoxication, Korsakoff's psychosis, acute hallucinosis, alcoholic paranoia and alcoholic deterioration were seen in our division.
>
> . . . It often appeared to us that the Army tolerated, supported and even encouraged the use of alcohol to a point, but once a man lost control of his dependence on alcohol he became a threat to the organization's security. [The commander's] first response to this confrontation was one of denial, by getting the individual out of sight through unit transfer. Where this was not possible, command urged increased controls on the part of the individual, and when this failed the alcoholic was often the scapegoat and punished.[29(ChapVII,pp7–8)]

Bey later noted that, "the vast majority of individuals who had problems with alcohol did not come to our attention."[11(p126)]

By the drawdown phase of the war, alcohol was apparently still an endemic problem, but it was so overshadowed by heroin use that it was hardly noticed as such by clinicians or the Army. Still, according to Richard Ratner, an Army psychiatrist with the 935th Psychiatric Detachment (1970–1971), "Drinking, when it occurs in excess, is at least as potent a cause of ineffectiveness among the troops as heroin . . . and marijuana [as a cause of ineffectiveness], is so rare it is reportable."[30] Contemporaneously, Howard W Fisher, a Navy psychiatrist who served with the 1st Marine Division, found that of 1,000 consecutive Marine referrals, 590 were presumed to be involved with illegal drugs, and "[a]lcoholism was an overwhelming problem in 130 men, but many more abused it."[31(p1166)]

Risk Factors for Alcohol Problems

Documentation regarding risk factors for alcohol problems in Vietnam is also sparse. Because alcohol problems tend to have a bimodal distribution, with problems of abuse and psychological dependency grouping in the late teens and twenties, and problems of physical dependency grouping a decade or more later, considerations for the younger soldiers are often separable from those of the older soldier.

Younger Enlisted Soldiers. Some measure of baseline for alcohol problems within the stateside Army during the war period can be derived from a study conducted by Cahalan et al in 1972 that found a third of the sample of young enlisted men (EM) were heavy drinkers and another third had drinking problems (vs civilian counterparts with 21% heavy drinkers and 9% with drinking problems[32]). The investigators concluded that enlisted soldiers drink more and get in more trouble than their civilian counterparts.[33]

However, the Army psychiatrists in the field in Vietnam had almost nothing to say bearing on risk factors for alcohol abuse, especially those specific for Vietnam. After the war, Jones and Johnson opined that the alcohol-related problems seen in Vietnam were attributable to "disorders of loneliness," too much leisure time, and the lack of potable ice, which led to drinking of canned beverages, especially beer.[19]

More definitive findings regarding the prevalence of alcohol use/abuse in Vietnam and associated risk factors among the young, enlisted soldiers, came from the large, government-sponsored study of drug use in Vietnam by Robins and her colleagues in 1972 (described later in this chapter). As part of their study, 451 randomly selected Army enlisted men who left Vietnam in September 1971 were interviewed 8 to 12 months after their return to the United States regarding their patterns of alcohol use. The percent acknowledging regular, nonproblem alcohol use before, during, and after Vietnam was 16%, 23%, and 16%, respectively, indicating a significant increase among that group while in Vietnam but a return to pre-Vietnam levels afterward. On the other hand, the percent acknowledging problem alcohol use (symptomatic or alcoholic) before, during, and after Vietnam was 26%, 15%, and 38%, respectively, indicating a large reduction of problem alcohol use in Vietnam, followed by problem-use levels back in the United States that were significantly higher than pre-Vietnam levels. Reciprocal patterns were found among the percent acknowledging (*any*) opiate use before, during, and after Vietnam (10%, 48%, and 10%, respectively), barbiturate use (11%, 24%, and 12%, respectively), and amphetamine use (22%, 27%, and 21%, respectively). Whereas, while in Vietnam, drinking levels declined among the subgroup that acknowledged pre-Vietnam drinking problems, use of illegal drugs (not including marijuana) there rose sharply, evidently as preferred alternatives to alcohol (almost one-half tried opiates, and 20% became opiate-dependent). Upon their return to the United States,

use of these drugs declined dramatically (less than 2% were opiate dependent), while the percent of those acknowledging problem drinking greatly exceeded pre-Vietnam levels (from 26% to 38%). Furthermore, among a set of demographic variables tested, the highest scores for preservice predictors of alcoholism were early age of drinking, school troubles, and parental alcoholism. The authors concluded that this general sample of lower-ranking soldiers indicated that alcohol was a more serious pre-Vietnam problem than were other drugs.[34] Unfortunately, it is difficult to generalize from their study. Not only was the sample gathered from those who served in the later, more tumultuous phase of the war, but the increased heroin accessibility there—a phenomenon that was limited to Vietnam and to the last couple of years—is a feature the authors acknowledged as having been quite influential.[35]

Career Soldiers. A whole different set of problems surround the older soldier who is more likely a careerist and who may develop a serious physical and psychological alcohol-dependency problem (alcoholism). Interestingly, the aforementioned stateside survey by Cahalan et al in 1972 also compared officers (n = 4,331) and enlisted soldiers (n = 5,579) and found that despite reported attitudes toward imbibing alcohol that were similar to the younger enlisted soldiers (37% of enlisted soldiers and 36% of officers endorsed the statement, "Getting drunk occasionally is a good way to blow off steam"), officers were half as likely to manifest problems associated with drinking, and half again as likely to develop health problems secondary to drinking, and half again as likely to require hospitalized treatment for alcohol-related problems.[33,36] Nonetheless, it seems reasonable to suspect from the anecdotal psychiatrist reports that many officers and NCOs in Vietnam did use alcohol to such an extent that their duty functions were affected and that the circumstances there discouraged them from seeking help. This refers to the likelihood that their superiors were reluctant to identify them as problem drinkers because of the previously mentioned Army policies and regulations that classified alcohol problems as misconduct, which meant that a career soldier with a recurring drinking problem faced the possibility of a career-ending administrative discharge from the Army.[5]

Treatment of Alcohol Problems in Vietnam

The foregoing material indicates that acute alcohol-generated problems among personnel assigned in Vietnam were a steady and significant issue for military leaders and medical personnel, including psychiatrists. However, there are no reports in the professional literature that documented the application of specific treatments for these cases. It seems likely that clinical reports did not emerge because referrals were expected and manageable in number, and the approaches for acute conditions were well established. The 1967 Datel and Johnson survey sheds some light on medications found useful in the treatment of "alcohol abuse" in Vietnam.[20] In particular, the majority of both the prescribing primary care physicians (91%) and the prescribing psychiatrist respondents (68%) favored neuroleptics (usually Thorazine) over the next most commonly used anxiolytics (usually Librium) and sedative/hypnotics. (See Chapter 6, Case 6-9, SP4 November as an example of a soldier with alcohol abuse requiring a brief hospitalization.)

Treatment of alcohol dependency was more difficult. Jones and Johnson mentioned that "[c]hronic alcoholism usually showed up as job inefficiency in a man who had a history of alcohol excesses in the past. Treatment by total abstinence was impossible in most cases and administrative handling usually resulted."[19(p55)] In their review of Army psychiatry in Vietnam through two-thirds of the war, Colbach and Parrish reported that two psychiatric specialty detachments sponsored Alcoholics Anonymous meetings; however, none of the anecdotal psychiatrist reports provided substantiation.[13] (In contrast, see Appendix 17, "Mental Hygiene Bulletin No. 1: Suggestions in the Management of Alcoholism.") There also is no indication in the record of the use of Antabuse (a medication that produces an immediate and severe negative reaction to the subsequent intake of alcohol) as a disincentive to drink. In general, Antabuse, or disulfiram, has proved very useful in restraining alcohol use among abuse-prone service members because the military's structured environment includes mechanisms to ensure compliance. Bey described its effective use with alcoholic service members when he served in the United States[11]; but, inexplicitly, he apparently did not use it in Vietnam. Case 9-1 below, the case of Lieutenant Colonel George, is an example of the emergence of depression and disabling alcohol dependency in a career soldier under the circumstances accompanying his assignment in Vietnam—symptoms that receded to subclinical status after he was returned to the United States and reunited with his family. It is notable that his medevacuation out of Vietnam was

command directed rather than a medical decision. This was likely also the disposition for numerous, uncounted individuals with higher ranks who manifested recurrent difficulties with alcohol in Vietnam.

CASE 9-1: Career Officer With Performance Failure Secondary to Repeated Alcohol Abuse

Identifying Information: Lieutenant Colonel (LTC) George is a 45-year-old, married, white, Medical Service Corps officer with over 20 years of Army service. After serving in Vietnam for 2 months, he underwent two hospitalizations at a field hospital in Vietnam for alcohol abuse before being medevacuated to Walter Reed General Hospital (WRGH) in Washington, DC, for alcoholism.

History of present illness: The patient describes increasing difficulty handling a series of jobs in Vietnam as well as a strained relationship with his wife in the States. He recalled mounting tension and despair; insomnia, anorexia, malaise, and work inefficiency after arriving in Vietnam; which lowered his self-confidence and contributed to disagreements with his superiors; and which led to attempts to relieve these feelings with alcohol. A series of transfers and reductions in responsibility only aggravated his condition. His first hospitalization revealed him to be objectively and subjectively depressed. After 10 days he was discharged with a diagnosis of "reactive depression manifested by acute mental syndrome due to alcohol intoxication," placed on the antidepressant Tofranil (100 mg/day), and instructed to not drink any alcohol. Although somewhat improved initially, further disagreements with superiors and episodic alcohol abuse occurred. He was again hospitalized after an incident of drunk and disorderly behavior. His commander directed his medical evacuation to the United States and recommended he be separated from the Army.

Past history: LTC George was the oldest of three sons. His father died of heart problems when he was 22. His mother is now 72 and also has heart disease. Neither parent had a drinking history. The patient completed high school and received several college credits. His childhood and adolescence were referred to as happy. He and his wife of 21 years raised two children; however, their relation had recently become strained. Both he and his wife were moderately heavy social drinkers. LTC George was drafted into the Army in 1943 and served as an enlisted soldier for 3 years before being commissioned. The character of his service was distinguished. He received the Bronze Star for performance in combat as an enlisted soldier in World War II (artillery). Since he married, he had never been required to be apart from his wife.

Examination: At Walter Reed General Hospital (WRGH) he was noted to be obese, pleasant, alert, and cooperative. He showed only minimal signs of anxiety and none of depression. His thoughts centered on arguing, with vehemence, that the record of his failure to meet his responsibilities in Vietnam and the contention of his misuse of alcohol was a distortion of the facts. More generally, there was no evidence of disordered thinking or intellectual impairment. Judgment and insight were also unimpaired. Physical exam was unremarkable and without signs of chronic alcoholism or dietary deficiency.

Clinical course: Unremarkable. He quickly adapted to the ward milieu at WRGH. There was no evidence of a thought or mood disorder or a significant personality disorder. He was discharged after a month of observation and milieu treatment.

Final diagnosis: (1) Transfer diagnosis: Alcoholism, chronic, not concurred in ["Not concurred in" was evidently a commonly used term to mean that the final diagnosis did not agree with the transfer diagnosis.] (2) Observation, neuropsychiatric; no disease.

Disposition: Returned to duty in the United States.

Source: Narrative Summary, Walter Reed General Hospital.

On 17 June 1971, President Richard Nixon, in a special message to Congress on drug abuse prevention and control, referred to drug abuse as "America's public enemy number one" and, among other provisions, directed the Secretary of Defense to establish a program to eliminate drug abuse in the military, especially in Vietnam.[37] This led to great interest in soldier use of

illegal drugs in Vietnam, but concerns for alcohol abuse and dependency continued to be overlooked there from the epidemiologic perspective.

In conclusion, the available documentation suggests that alcohol-related problems were widespread among Army troops in Vietnam and may have consumed roughly 10% to 20% or more of the clinical resources of the psychiatric specialists, especially in the evaluation and treatment of alcohol toxicity and acute alcohol dependence syndrome. This was evidently true across both halves of the war and included both combat and support troops. Acute alcohol problems were managed routinely on a case-by-case basis and did not exceed the threshold for professional reportability (ie, because the deployed psychiatrists found these to be neither qualitatively nor quantitatively exceptional). On the other hand, there was little or no provision for a sustained or systematic treatment of individuals with chronic or recurrent alcohol dependence syndromes in Vietnam, even though the anecdotal series of suicidal NCOs mentioned by several of the psychiatrists (see Chapter 8 of this volume) is consistent with the prospect of a sizable mental health problem regarding this subset of alcohol-related problems.

DRUG ABUSE IN VIETNAM AND THE SABOTAGE OF THE "GREEN MACHINE"

Problems associated with soldiers using drugs other than alcohol had been seen during foreign deployments preceding Vietnam, and most often these were attributed to boredom and ended as the troops were withdrawn. Marijuana use by American soldiers first aroused concerns in Panama in the 1920s and early 1930s, and several investigative boards were held, and one study of hospitalized marijuana users was undertaken. The conclusion was that "the effects upon military efficiency and discipline were practically negligible."[14] When US troops were first deployed in Southeast Asia, most medical authorities considered marijuana to be a dangerous drug and a rising public health problem.[38] However, as young adults in the United States were increasing their use of illegal drugs, especially marijuana, doubts were being raised by some civilian psychiatrists as to its deleterious effects. A prominent example is that of Joel Fort, public health specialist and former Consultant on Drug Abuse for the World Health Organization, who weighed in on the side of decriminalization.[38]

As for the much more serious matter of soldier use of narcotics, the end of the Civil War brought with it a sizable problem of opiate addiction among veterans, the then-called "Army Disease," in part because of the invention of the hypodermic syringe. Around the turn of the 20th century concerns arose regarding US troops smoking opium during the Philippines occupation. Within the civilian sector, narcotic use became a serious endemic problem with illicit features following the discovery of the opium derivative, heroin, in 1898, and the enactment of the Harrison Narcotic Act in the United States in 1914—a law whose strict control measures provided an opportunity for underworld exploitation. The typical addict of those times was white, female, rural, lower to lower-middle class, and middle-aged.[39] Use of narcotics does not appear to have been a problem for the US military in World War I. In fact, drug addiction was not an absolute disqualifying condition for service during the mobilization. In 1939 drug addiction became recognized as a public health problem in America, and in August 1940, the US Army removed drug addiction from conditions acceptable for special and limited service. According to Perkins, a psychiatric historian, although drug addiction represented 0.1% of all overseas psychiatric admissions through the course of World War II, there is no record of psychiatric attention in the literature.[40] When all cases of fatal narcotism in American military personnel between 1918 and mid-1970 filed with the Armed Forces Institute of Pathology were reviewed (N = 174), it was noted that the majority of deaths occurred in the Asian theaters in nonwhite males aged 18 to 25 and in the three lowest pay grades; most resulted from drug overdose or hypersensitivity rather than from the medical complications of narcotic addiction; rates before and during the mobilization years of World War II were insignificant, followed by a slight rise in the closing phases of the war; and between 1951 and 1953, an extraordinary increase in deaths occurred, primarily among troops assigned in Korea.[41]

As morale and commitment sagged during the Vietnam era and antimilitary sentiment grew among the lower-ranking EM, officers and NCOs came to be derided by many enlisted men as "juicers." This alluded to the presumption that they were abusing alcohol, just as the enlisted men were abusing other drugs. It was also meant to suggest there was hypocrisy in command's efforts to suppress soldier drug use, which in turn served as rationalization for troops not respecting military order and discipline, especially that regarding their own

drug use. In fact, the historically validated distinction between those more inclined toward simple drunkenness (ie, the younger soldiers) and those who developed alcohol dependency problems (ie, the older, career NCO or officer), took a new form: young, first-term soldiers often found their drug of choice to be an illegal one. This was corroborated by Rock, who found soldiers admitted to Tripler Army Medical Center (Hawaii) for chronic alcoholism in 1967–1970 were, on average, 39 years old, had 15 years of service, and held a rank of E-6; and soldiers also admitted for chronic alcoholism at Army hospitals in Europe between January 1972 and March 1972, were 35 years old, had 11.6 years of service, and held a rank of E-6; but soldiers admitted for drug abuse in Europe between January 1972 and March 1972 were in their early 20s, were on their first enlistment, and were lower-ranking EM.[42]

A particularly cogent explanation for the upsurge in preference for illegal drugs by lower-ranking enlisted soldiers of the Vietnam era was provided by Manning, an Army social psychologist. In past generations, sanctioned, alcohol-centered events had been a military custom because, by creating memorable episodes, the formation of small unit morale and cohesion could be accelerated. By contrast, as the younger, noncareer, Vietnam-era soldiers shifted to illegal drugs, they were pointedly seeking to form their own cohesive group that repudiated the military command structure and its values—that is, they sought a horizontal cohesion, unhinged from vertical (hierarchical) cohesion to their leaders and military priorities (what they referred to disdainfully as the "green machine."[43(p21),44(p98)])[45]

The material that follows will review, chronologically, the growing problem of drug use in Vietnam along with the various efforts by military leaders and the mental health component to counteract these trends. Interspersed are excerpts from Major General (MG) George S Prugh's summary of the military law enforcement activities in response to illegal drug use in the theater.[46(pp106–108)] MG Prugh served as Staff Judge Advocate at the US Military Assistance Command in Vietnam through July 1966 and later as the Army Judge Advocate General in the early 1970s. This review is set against the backdrop of the dominant social, political, and military events at the time (see Chapter 1) as well as the associated challenges to Army psychiatry in Vietnam (see Chapter 2).

THE BUILDUP PHASE (1965–1967): MARIJUANA, HASHISH, AND OTHER DRUGS (PRE-HEROIN)

1965–1966

Following the insertion of US ground troops in Vietnam in May 1965, and once the buildup phase was underway, military personnel in Vietnam, especially those in the lower ranks, not only eagerly consumed alcohol,[14,21] but in addition, smoked marijuana. Some soldiers also smoked opium-soaked marijuana (the "OJ"—the opium joint).[47] (The references to marijuana that follow will also include hashish, a much more concentrated extract. Both are preparations from the plant Cannabis Sativa, [although Army psychiatrist Frank D Master, who served at the 67th Evacuation Hospital, said it was Cannabis Indica[48]] and the primary active ingredient is delta-9-tetrahydrocannabinol [THC].)

> MG Prugh:
>
> In September 1966 the U.S. Military Assistance Command made a survey of the availability of drugs in the greater Saigon area. The survey showed that there were twenty-nine fixed outlets in this area, and that drugs were readily available from cycle and pedicab drivers, bar girls, shopkeepers, hotel clerks, and others who dealt with the public. The Vietnamese drug laws were ill-defined. No central Vietnamese narcotic enforcement agency existed, and enforcement of existing laws was lax. There was no government control over marihuana and only a little over opium. The U.S. Embassy was informed of the results of the survey, and on 12 November 1966 General Westmoreland asked the embassy for action on the matter; none had been taken by the year's end. Of the 100 drug cases investigated in the U.S. command in Vietnam from 1 July 1965 to 30 June 1966, 96 involved marihuana.[46(p106)]

Numerous Vietnam veterans have published personal accounts of marijuana use in Vietnam. One written by John Steinbeck IV[49] received notoriety in the late 1960s. He served as an Army enlisted radio/television specialist early in the war and was stationed at Qui Nhon, the large logistical base midway up the coast of South Vietnam. Steinbeck noted the easy interpenetration of GIs and civilian Vietnamese and

FIGURE 9-1. First Lieutenant Roger A Roffman, Medical Service Corps, Social Work Officer with the 935th Psychiatric Detachment. Roffman conducted the first study of patterns of soldier drug use, especially marijuana, in Vietnam. In June 1967 he surveyed confinees of the Army stockade at Long Binh. This was followed by a similar survey (with Army Psychologist Ely Sapol) of troops leaving Vietnam. The results, along with findings from similar studies by others who followed them, ultimately permitted command to monitor the problem of growing drug use in Vietnam, a phenomenon that steadily undermined military morale and discipline and paralleled the rise in drug use among civilian peers in the United States Photograph courtesy of Roger A Roffman.

described the central role of marijuana for both sides in the war. "There is no central market for it in Vietnam. It is simply a way of life."[49(p34)] He also commented on the relatively tolerant attitude by American command structure for soldier use of marijuana and emphasized its ubiquitous availability and extremely low cost. Steinbeck was clearly in favor of soldiers using marijuana and had no reservations about impairment ("you can learn to function normally with marijuana"[49(p33)]), but with a rather critical proviso regarding combat troops ("[being stoned] is not the best condition to be in when confronted with an ambush, terror attack, or some like activity"[49(p33)]). He speculated that 75% of his fellow soldiers used it regularly. He provided the following interpretation as to why: "Everyone was taking the release from the war. Perhaps to many GIs [marijuana] was the only and last relief that Vietnam had to offer."[49(p35)] He observed that marijuana induced "a calm, perceiving detachment . . . [during which] a wonderful change in war starts to occur. Instead of the grim order of terror, explosions modulate musically; death takes on a new approachable symbolism that is not so horrible."[49(p35)]

Regarding the prevalence of psychiatric problems associated with use of so-called recreational drugs, like marijuana, the little available clinical data from this early point in the war suggested that drug abuse was not seen as a serious problem. Huffman reported that among his caseload (N = 573 American military personnel), patients with alcohol-associated psychiatric problems (18.5%) far overshadowed those associated with drug use (0.82%). Huffman was not specific about the drugs used in his cases, but he did note that "[t]he use of marijuana among American troops was known to be occurring, but among physicians seeing patients in Vietnam it was seldom mentioned as a recognized problem."[21] Also, among 22 combat soldiers treated by Jones at the 3rd Field Hospital in Saigon, there were no cases of drug abuse reported. However, among his 98 patients who were support troops, 5% had drug abuse as either a primary reason for referral or as an associated symptom. Jones also did not indicate which drugs were being used, but it was presumably marijuana.[24]

1967

Rising Prevalence of Drug Use

As troop strength in Vietnam increased, so did the prevalence of drug use especially marijuana and hashish, but including opiates to a limited degree among the soldiers assigned in Vietnam. This coincided with the increasing popularity of illegal drugs among the generation of young Americans in the mid-to-late 1960s. Although many soldiers felt that marijuana was simply an alternative intoxicant (comparable to alcohol), because its possession was illegal, it presented a new problem for the military.

MG Prugh:

> By 1967 marihuana cigarettes were selling for 20¢ each in Saigon and $1.00 each in Da Nang. Opium was $1.00 per injection, and morphine $5.00 per vial. Heroin had not appeared on the market. There were 1,391 US military investigations, involving 1,688 persons, for use of marihuana in 1967. This monthly rate of .25 per 1,000 troops was still lower than the Army-wide average of .30 per

> 1,000 troops. There were 29 hard narcotics investigations, involving 25 persons, for illegal possession, use, or sale of opium and morphine. There were 427 courts-martial for marihuana and hard narcotics abuse in Vietnam in 1967.[46(pp106–107)]

Three additional features prompted the Army's growing concern about the expanding use of marijuana by soldiers in Vietnam: (1) evidence suggested that marijuana was being used in the field,[12(p275),47,50,51] which could affect combat performance; (2) clinical reports indicated that it was negatively impacting the health of some troops in the form of neuropsychiatric conditions; and (3) the native-grown marijuana was more potent than that sold in the United States (estimates ranged from 2[52] to 5–10 times[51] as potent) and was inexpensive and ubiquitously marketed by the Vietnamese. With regard to marketing, Roger A Roffman (Figure 9-1), an Army social work officer assigned to the 935th Psychiatric Detachment, provided the following observation:

> Marijuana had become widely available in Vietnam, and its packaging was quite ingenious. The cellophane wrapping on American commercial brand cigarette packages was carefully unsealed by the Vietnamese marijuana distributors, and the twenty tobacco cigarettes were removed and replaced by nineteen rolled joints. The cellophane was then resealed and the package looked untouched.[53(Chap2,p7)]

In June 1967, Roffman surveyed 96 confinees (excluding those convicted for marijuana possession) in the Army stockade at Long Binh regarding marijuana use. He found that 63% acknowledged use at least once in their lives and 45% since they arrived in Vietnam.[54] This was followed closely by a similar survey by Roffman (with Ely Sapol, an Army psychologist) of 584 lower-ranking (E-6 and below) enlisted soldiers leaving Vietnam. Of the 32% who had ever smoked marijuana, 61% began in Vietnam, but only one-quarter of all users were classified as heavy users (defined as greater than 20 times while serving in Vietnam). The heavy marijuana user was unique in being younger, of lower rank, and more likely to have marijuana-using friends. He also was more likely to have used marijuana before coming to Vietnam, used it earlier in his tour, used other drugs, and had a history of at least one minor disciplinary action. Overall, reported marijuana use was higher among soldiers exposed to combat, tended to be a communal activity, and users overestimated prevalence among peers. The investigators also found that not only was alcohol use more prevalent among marijuana users, but 41.8% of the soldiers who described using alcohol "a great deal" were marijuana smokers compared to only 19.4% of those who indicated no alcohol use. In other words, among these soldiers, marijuana use did not replace alcohol use but was additive.[14]

Clinical Observations on Effects of Marijuana

Several clinical reports on the effects of marijuana were generated from the 935th Psychiatric Detachment near Saigon in 1967. Raymond A Fidaleo, an Army psychiatrist, described the effects of marijuana on soldiers and distinguished the "high" from the "trip." The high followed two-to-four long, air-filled inhalations of marijuana and consisted of a dreamlike state with feelings of well-being, exhilaration, and contentment. Imagination and perception were increased and pleasant experiences were reported. In contrast, when two to 10 cigarettes were smoked, a trip, similar to that experienced with LSD, could occur. This consisted of feelings of estrangement and depersonalization; perceptual illusions; distortions of time, space, and place; along with a euphoric feeling. Fidaleo noted that some combat soldiers on operations in the field maintained a high with marijuana to keep anxiety down. On the other hand, support troops were more likely to use it in greater amounts so as to obtain a trip, not just a high. However, in some instances this resulted in a "bad trip," which might include: nystagmus, ataxia, tremor, headache, dry mouth, flushed faces, dilated pupils, nausea and vomiting, diarrhea, and the typical red-eyed hangover state, as well as depression and hostile-aggression, apprehension and acute anxiety, paranoid delusions, and hallucinatory states. Fidaleo reported that they treated approximately two admissions per month (5% of admissions) for paranoid psychosis in combination with acute organic brain syndrome in soldiers with patterns of heavy marijuana use, and that these cases responded in 1 to 4 days to conservative management and Thorazine (300 mg–600 mg/day).[47(p58)]

John A Talbott, Fidaleo's colleague at the 935th Psychiatric Detachment, described treating a continuum of inpatients that had psychiatric complications from marijuana use ("pot reactions"). These ranged from a relatively benign intoxicating high to a frank

schizophrenic-like psychosis. He also noted that the diagnosis could be complicated because soldiers feared punishment and would not acknowledge their marijuana use. In general, the more typical reactions to marijuana requiring hospitalized care included: tachycardia and shortness of breath; anxiety and fearfulness; depression and tearfulness; confusion, disorientation, dissociation and depersonalization; and paranoia, delusions, and auditory hallucinations. Talbott commented that although those who developed such reactions may have had pre-Vietnam character defects, the etiological importance of susceptibility was difficult to judge because the locally grown marijuana was highly potent.[55] (See also Case #3 in Bloch's paper, "Some Interesting Reaction Types Encountered in a War Zone" [in Appendix 12 of this volume] for a more challenging clinical example of a soldier with a pattern of marijuana use who presented with bizarre and aggressive psychotic symptoms.)

Subsequently, he and Teague described 12 cases of "marijuana psychosis" (an acute toxic psychosis with paranoid features) treated at the 935th Psychiatric Detachment. They were noted to have acute attacks of disorganizing combinations of organic brain dysfunction and anxiety, with 10 cases showing paranoid symptoms. All were successfully treated and returned to duty within a week, typically without use of psychotropic medications. Notably these episodes often followed the soldier's first attempt to smoke marijuana, and in only two cases was a premorbid personality disorder diagnosed (the case of PFC King, below, serves as illustration). The authors posited that the primary etiologic agent for these cases was the Cannabis; however, they also mentioned that 50% of marijuana contraband seized in Vietnam contained opiates. They further speculated that because they were working in a tertiary treatment setting (the 935th), they were seeing only the tip of an iceberg of toxic reactions to marijuana that other soldiers were successfully managing by other means.[52]

CASE 9-2: Toxic Psychosis in a New Marijuana User

Identifying information: Private First Class (PFC) King is a 24-year-old, black soldier (MOS [military occupational specialty] and unit indeterminate) who was transferred to the 935th Psychiatric Detachment for additional specialized psychiatric treatment after 2 days of treatment at another Army hospital in Vietnam.

History of present illness: The patient was initially admitted after he had smoked a pipe full of "strange-tasting tobacco," which caused him to feel light-headed and "funny." He subsequently had feelings of depersonalization and derealization, and he thought his mind was split into two parts—good and evil. He expressed the morbid preoccupation that he was dead, admitted to unusual illusions or hallucinations (clouds pulling him in, bright lights coming out of the clouds toward him), and expressed frightening fears that he would kill someone or be killed. He was disoriented, confused, and forgetful. He was treated with Thorazine with some improvement before his transfer to the 935th.

Past history: The record regarding PFC King's history only included that he grew up without his father at home, he had aggressive outbursts in late adolescence, and he later manifested excessive drinking and difficulty keeping a job. The character of his military service was not recorded.

Examination: At the 935th he was noted to be apprehensive, worried, and preoccupied with fears, sensations, and impulses. His restlessness, tremulousness, agitation, and rapid speech alternated with staring, mutism, and inability to complete his thoughts. He continued to express the belief that his mind was split but denied hallucinations, delusions, or other unusual sensations. He seemed adequately oriented, and he denied prior exposure to marijuana.

Clinical course: The patient was treated with Librium and his anxiety rapidly abated. He was active in group therapy and presented no problems in ward management. He was discharged after 5 days with no residual symptoms.

Discharge diagnosis: Acute toxic psychosis associated with Cannabis intoxication in an individual with an aggressive premorbid personality.

Disposition: Returned to full duty.

Source: Adapted with permission from Talbott JA, Teague JW. Marihuana psychosis. Acute toxic psychosis associated with the use of Cannabis derivatives. *JAMA*. 1969;210(2):301.

To conclude, during the buildup phase the rise in the prevalence of drug use (especially marijuana and hashish) was substantial, but only a small percentage of users required treatment, primarily for toxic brain syndromes. The psychiatrists at the 935th Psychiatric Detachment described these as brief and self-limited (if marijuana use was discontinued), and they advocated that these soldiers be rehabilitated and returned to duty in Vietnam. However, as noted in Chapter 8 of this volume, Elliot M Heiman, an Army psychiatrist who received psychiatric patients at Fort Gordon, Georgia, who had been medically evacuated from Vietnam, suggested that the clinical course for some heavy marijuana users was not as benign as those at the 935th presumed. Heiman speculated that many acute psychoses seen in Vietnam who appeared to have a functionally based condition (eg, schizophrenia), may instead have chronic or excessive marijuana use as a critical, if ultimately reversible, etiologic factor.[56]

THE TRANSITION PHASE (1968–1969): A GROWING POLYDRUG PROBLEM (PRE-HEROIN)

1968

Because the raison d'être of the US Army is preservation of America's security through the maintenance of an effective fighting force, it would seem that prohibiting soldier use of illicit, mind-altering drugs requires no further explanation. Yet in 1968, in response to the growing drug problem in the US military, the Department of Defense reiterated that

> Drug abuse has a particularly important consequence for the Armed Forces. Unlike civilians, those in military service have a special dependency on each other. The lives of all those on a Navy ship may depend on the alertness of one man assigned to close certain watertight doors. Each member of a Marine Corps fire team is dependent on his buddies for survival in a combat situation. There are no 'passengers' in fighter aircraft or bombers, or in the Army's tanks. No commander can trust the fate of his unit, ship, or plane to a man who may be under the influence of drugs.[57(p9)]

Nonetheless, illegal drug use by the US troops became increasingly popular in Vietnam and alarming to military leaders.

MG Prugh:

> In October 1968 the Vietnamese government publicly condemned the use of or trafficking in marihuana and opium and issued instructions to province chiefs to forbid the growing of marihuana. The recently established Vietnamese Narcotics Bureau was expanded, and the U.S. government sent an agent from the Bureau of Narcotics and Dangerous Drugs to Saigon to provide professional assistance to the Vietnamese. A program of using aircraft to discover marihuana crops and sending in Vietnamese troops to destroy the crops was instituted. In June 1968 the marihuana use rate among U.S. troops, based on reported incidents, had risen to 1.3 per 1,000 (194 cases); by December it had climbed to 4.5 per 1,000 (523 cases). The opium rate rose from .003 per 1,000 in June to .068 by December.[46(p107)]

Prevalence of Marijuana Use

In early 1968, Wildred B Postel, the division psychiatrist assigned to the 4th ID in Pleiku, conducted the first survey regarding marijuana use with infantry units. Fifty psychiatry clinic patients and 76 surgical inpatients participated, all of them first-term enlisted soldiers. Fifty-six percent of psychiatry clinic patients and 46% of surgical inpatients acknowledged marijuana use overall, with 30% of the former and 21% of the latter qualifying as habituated (defined as having smoked marijuana five times or more). Compared to the surgical habituated, psychiatry clinic patients who were habitual users tended to have started marijuana before entering the service and experimented more with other drugs. All marijuana groups indicated that marijuana use tended to be a social group activity and was commonly used in the field, usually to calm down after a battle; however, one soldier acknowledged going into battle while under its influence.[50]

Edmund Casper, the division psychiatrist with the 23rd ID (Americal), along with Hugh Martinell Jr, an enlisted social work/psychology specialist, and James Janacek, a psychiatrist with the 98th Psychiatric Detachment, surveyed a cross section of 771 soldiers with the 23rd ID regarding marijuana use at Chu Lai. They reported that among the general population at least

20% had tried marijuana but only a few had become chronic users. Those who did not continue use said they found it either unrewarding or unpleasant. Furthermore, the investigators had the general impression that the chronic users had been users before joining the Army. A comparison of psychiatric clinic patients to general medical patients showed marijuana use rates of 52% and 33%, respectively (close to Postel's findings with the 4th ID). The authors also found a higher percentage of soldiers arriving in Vietnam who reported marijuana use (27%) than those leaving (20.6%) and hypothesized a more rapid rise in use among civilian peers.[58]

Clinical Effects of Marijuana Use

From the 67th Evacuation Hospital, which served the Qui Nhon catchment area of 45,000 mostly support troops, Colbach, an Army psychiatrist, and Raymond R Crowe, an Air Force psychiatrist, reported on their clinical experiences with a series of marijuana psychosis cases. Among the 40 to 50 soldiers hospitalized per month at the 67th Evacuation Hospital over a 10-month period beginning in late 1968, approximately five per month presented with a schizophrenia-like psychosis with paranoid features secondary to heavy marijuana use. These cases were similar to those described by Talbott and Teague the year before, but Colbach and Crowe indicated that in some cases the symptoms did not remit despite hospitalization for 1 to 2 weeks, phenothiazine treatment, and supportive psychotherapy. They also credited the much more potent marijuana in Vietnam, but they furthermore reported that the more prolonged treatment course was required by individuals with personality disorders. Colbach and Crowe provided the following case example of Private Love. Also of note, these investigators were the first to speculate on contributory antimilitary attitudes among the more serious cases.[59]

CASE 9-3: Toxic Psychosis in a Chronic Marijuana User

Identifying information: Private (PVT) Love is a 19-year-old combat soldier with 6 months service in Vietnam who was hospitalized at the 67th Evacuation Hospital for psychotic behavior.

History of present illness: At the time of his admission, he claimed he was smoking 20 marijuana cigarettes per day. Upon returning from the field, he began preaching about a new religion he was founding that would bring peace to all mankind. He swore at his commanding officer, calling him an instrument of the devil.

Past history: PVT Love came from a broken home and described his father as an alcoholic. He was a high school dropout who thought of running to Canada rather than coming into the Army because he was against the war. In the Army he had been a chronic disciplinary problem and had once tried to organize an antiwar protest.

Examination: On admission he was noted to be quite grandiose and hyperactive, and he immediately set about trying to convert other patients on the ward to his new religion. Otherwise he was oriented but had some recent memory loss, was very concrete in proverb interpretation, and had flight of ideas.

Clinical course: After 10 days and heavy Thorazine medication, he improved considerably. He was discharged to duty although he was still somewhat [*sic*] delusional.

Discharge diagnosis: Psychosis associated with marijuana use and personality disorder.

Disposition: He was released to the custody of his commanding officer, who kept him under strict surveillance in the unit orderly room to prevent him from using marijuana. After 2 weeks he was evaluated for administrative separation from the Army. At that time he was hostile and guarded, felt others were always picking on him, and related a long history of mistrust of others. He had no memory defect, and his proverb interpretation had markedly improved.

Source: Adapted with permission from Colbach EM, Crowe RR. Marihuana associated psychosis in Vietnam. *Mil Med*. 1970;135(7):572.

Clinical Effects of Other Drugs

Also in 1968, psychiatrists' reports were beginning to refer to clinical complications from soldier use of drugs other than marijuana. Colbach, with Scott M Wilson, a social work/psychology technician, described increasing barbiturate use, and in some cases, addiction,

among American troops in the Qui Nhon area after November 1968. Typically, this involved the use of a French preparation, Binoctal, a combination of amobarbital (50 mg) and secobarbital (70 mg), which American troops could purchase from Vietnamese pharmacies. A study of 100 randomly selected nonpsychiatric admissions to the 67th Evacuation Hospital over a 3-month period revealed 7% of patients had used Binoctal, with two acknowledging use more than five times. Among 100 randomly selected psychiatric inpatients, 16% were admitted for Binoctal use, and 15% of randomly selected psychiatric outpatients acknowledged significant use. The authors described the typical user of Binoctal as having been raised in a chaotic home of low socioeconomic status, became an anxious person with a long antisocial history, and had severe authority conflicts. He had been a marginal soldier and used marijuana before discovering Binoctal. He reported using drugs in Vietnam as an escape from the stress of military life there, and, whereas he had no goals for the future, he had no wish to stop his drug use. The authors underscored the additional clinical requirements associated with assessing the extent of barbiturate addiction while treating the acute intoxication. In cases of substantiated addiction it was necessary to avoid an abrupt withdrawal crisis using a 10-day barbiturate-tapering program and oral pentobarbital.[60]

David V Forrest, an Army psychiatrist who closely followed Talbott and the others at the 935th Psychiatric Detachment, reported that he and his colleagues were seeing regular marijuana users "almost always" also using Binoctal; Obesitol, a liquid amphetamine preparation; intravenous (IV) methedrine; and opium- or heroin-dipped marijuana. He also reported that some soldiers had requested hospital-level support for withdrawing from opiates, but he did not provide further details regarding their clinical course.[61]

1969

Prevalence of Use of Marijuana and Other Drugs

MG Prugh:

> [t]here was continued rise in the drug use rate in 1969, with 8,440 apprehensions.[46(p107)]

In the fall of 1969, M Duncan Stanton, an Army psychologist with the 98th Psychiatric Detachment, surveyed soldiers of all ranks entering or departing Vietnam regarding drug use (N = 2,547). When compared with the Roffman and Sapol survey 2 years earlier, sizable increases were noted in the reported use of marijuana among those who were leaving Vietnam (28.9% vs 50.1% respectively). However, most of the increase was accounted for by a comparable increase reported by soldiers entering Vietnam. Among Stanton's outgoing group, 21.5% used marijuana for the first time in Vietnam, which was only slightly higher than the 19.4% found by Roffman and Sapol. However, Stanton did find a shift toward heavier use among his sample of departing EM (only 7.4% of the Roffman and Sapol study group were heavy or habitual users vs 29.6% in Stanton's). Otherwise, when comparing his entering and departing groups Stanton found no sizable increases in reported use of amphetamines, barbiturates, or heroin/morphine during the Vietnam tour; however, the incidence of opium use in the form of the "OJ"—marijuana dipped in opium—carried a threefold increase (6.3% to 17.4%). Reported use of drugs was negligible among the officer and noncommissioned officer groups. Stanton also found a slight positive relationship between frequency of marijuana use and amount of exposure to enemy fire. Finally, he opined that much of the drug use in Vietnam served as a substitute for the alcohol of past wars, and he speculated that marijuana and some other drugs could actually allow certain types of individuals to function under the stresses of a combat deployment.[62]

The 4th Infantry Division Pilot Drug Amnesty/Rehabilitation Program

In the 4th ID, a drug "amnesty"/rehabilitation program was established in 1969. This was limited to soldiers who presented themselves as drug users to their commander, chaplain, or unit surgeon and who had not previously come to the attention of command for drug use. It provided rapid medical assessment, counseling including group therapy, and the assignment of a "buddy" to provide positive reinforcement in the soldier's effort to give up drugs. Otherwise, participants were expected to perform full military duties.[2] It is not clear, however, from the surviving information to what extent the division's psychiatric personnel were involved in the inception or operation of the 4th Infantry Division drug amnesty/rehabilitation program. Still, it was apparently successful enough that 2 years later it was adapted for Army-wide implementation as Army Regulation 600-32, *Drug Abuse Prevention and Control* (December 1970).[16]

Experience in the 1st Infantry Division

Bey's postwar account of his tour in Vietnam was quite illuminating regarding marijuana use in the 1st ID at the time. Bey noted that soldiers could buy a 6-pound bag full of very pure marijuana for $50, and a joint for $0.50. He estimated that 25% of soldiers in Vietnam used marijuana, including combat troops in the field who wished to reduce their anxiety. He described the 8 December 1969 publication of 1st ID Regulation 190-3, *On the Detection and Suppression of Marijuana and Illegal Drugs*, and he noted the Army's increased emphasis on apprehending and punishing drug users. Each division had a drug education team, but Bey recalled his satisfaction in being "kicked off" the team for his opposition to their "scare" approach to drug prevention. ("My assignment was to explain [to the troops] that drugs made you crazy."[11(p121)]) By his standards, "If a person used either [drugs or alcohol] in moderation and it didn't impair their functioning on the job, we [in mental hygiene] didn't see it as a problem."[11(p122)] (A perspective that was consistent with Stanton's.) He also noted that all but one of his social work/psychology techs used marijuana. "They functioned well in their jobs, and there was never a reason to bring the subject up. They knew that I drank booze with the officers."[11(p123)]

However, Bey was clear regarding his concerns about the soldiers for whom marijuana use was part of a pattern of maladaptation. "Our approach shifted from [scare tactics] to one . . . indicating that anyone using drugs or alcohol to excess . . . advertised his incontinence . . . [and] was probably having serious problems and needed help."[29(ChapVII,p18)] As examples, Bey and Zecchinelli, his social work/psychology technician, presented demographic and clinical data collected from 20 consecutive 1st ID soldiers treated for acute psychotic reactions associated with marijuana use. These reactions were successfully treated over 1 to 3 days using the *dauerschlaft* protocol described in Chapter 7, that is, 100 mg chlorpromazine taken hourly while awake to maintain sleep for 24 hours, with dosage being progressively decreased as the acute symptoms subsided. Subsequent examination revealed all the affected soldiers to have borderline personality features ("core problems of identity diffusion, ego weakness, low self-esteem, and inability to form close interpersonal relationships"[63(p450)]) and to be marginally adjusting to their Vietnam circumstance. In the authors' opinion, "[M]arijuana served directly and indirectly to assist patients [with predisposing personality defects] in achieving a costly homeostasis. . . ."[63(p450)] Besides the tranquilizing effects and the oral gratification attained through smoking the drug, they concluded that many appeared to also be using marijuana to reduce anxiety through developing a "head" group identity and membership in a clique whose affiliation centered on shared defense mechanisms of splitting and projection—that is, blaming the Army.[63]

Bey also mentioned that he learned at a drug and alcohol conference about the initial success of the 4th ID's drug amnesty/rehabilitation program for soldiers not currently under investigation and that this model was being adapted for use by most of the combat divisions in Vietnam. However, he indicated that following its implementation in the 1st ID, few soldiers volunteered for the program.[29]

Experience at the 67th Evacuation Hospital

Frank D Master, an Army psychiatrist, followed on the heels of Colbach at the 67th Evacuation Hospital and summarized his experience with the burgeoning drug problem during his year there. Of 58 psychotic patients treated by Master during his tour, 55 reported marijuana use, half of whom used it in conjunction with other drugs. In general, Master became convinced that "a very real organic brain syndrome regularly developed among chronic cannabis users (those who would smoke 5–10 marijuana cigarettes per day over a 3–6 month period)."[48(p195)] He also commented on the strong social pressure exerted by cannabis users on nonusers to join them. Barbiturate compounds, Binoctal, Iminoctal, and Ansional, which are central nervous system depressants, commonly accounted for addiction (two cases) or accidental overdose (20 cases). Equally available and popular were amphetamine mixtures, Obesitol and Maxitone Forte, which produced 80 cases of toxic psychoses. Master's approach for such cases was to advise the soldier's unit to provide 48-hour observation; then, if he failed to recover (as did 10 cases [12.5%]), he was hospitalized by Master and treated with up to 800 mg of Thorazine per day. Nonetheless, eight of the 10 maintained a schizophrenic-like course and required medical evacuation out of Vietnam. Narcotic use, typically in the form of smoking raw opium mixed with marijuana, was not a serious clinical problem at the time. However, Master noted that when he left Vietnam (October 1970), reports of heroin snorting were emerging.[48]

Experience at the 95th Evacuation Hospital/ 98th Psychiatric Detachment

As mentioned in Chapter 4 of this volume, Joel H Kaplan, the commanding officer of the 98th Psychiatric Detachment at that time, later reported his impressions from his tour in Vietnam that mostly centered on the growing drug abuse problem. Kaplan and his staff estimated that 50% to 80% of soldiers in Vietnam were using marijuana, at least as "experimenters." He also indicated that, during the year, 70% of 4,000 outpatients and 50% of roughly 500 inpatients they saw were drug abusers (defined as "using drugs heavily day in and day out"). Most of the drug use was marijuana, but soldiers commonly added barbiturates and opium (the latter was either smoked with marijuana or administered intravenously). Also popular with troops were amphetamines (Methadrine), lysergic acid diethylamide (LSD), glue, alcohol, and the dextropropoxyphene (a weak opioid) pellet out of the Darvon with aspirin capsule. Kaplan also noted that underlying personality disorders were typically found among the drug-abusing soldiers who required psychiatric care. Combat and noncombat troops were evenly represented, and the more extreme marijuana-associated reactions were not only shaped by personality defects but also by the social/environmental context. Whereas his case examples of combat soldiers suggested they were more prone to marijuana-associated violent episodes—"[the combat soldier may develop] paranoid feelings, become frightened and more angry and vengeful"[64(p264)]—amotivational syndromes were apparently more common among some marijuana-using support troops—"passive behavior, irresponsibility, lack of ambition, obstinacy, procrastination, irritability, poor concentration, and withdrawal from activities."[64(p264)] As for treatment efforts, the 98th Psychiatric Detachment's group therapy program (6 nights/week) became highly popular among soldier volunteers who attended because they were eager to "kick the habit" before rotating back to the United States. However, other than that, there were no easy answers to the growing "subculture of drugs" throughout Vietnam, according to Kaplan.[64]

In conclusion, by the transition years, (1968–1969), drug problems had begun to seriously erode military health and discipline in Vietnam. With respect to clinical challenges, psychiatrists in the field were not only able to measure increasing marijuana use prevalence and heavier use among their referrals, including combat troops, but the cases they described appeared to have more severe neuropsychiatric symptoms and required more prolonged recovery than earlier. There was also evidence of greater use of other illegal drugs, especially among support troops. The most clinically challenging cases involved barbiturate overdose or addiction and toxic psychoses secondary to heavy use of stimulants. Finally, reports from the field were starting to include evidence of troop disaffection as a motivating factor in increasing drug use. Nonetheless, despite evidence of mounting drug problems, in his summary of Army psychiatric experience in Vietnam up through 1969. Allerton, the senior psychiatrist in the Office of The Surgeon General, provided the following reassurance—similar to his assertion regarding low levels of alcoholism in Vietnam mentioned earlier:

> [T]here does not appear to be any significant statistical information which would lead one to believe that problems with marijuana, the opium alkaloids, or hallucinogens have any higher incidence among troops in Viet Nam than might be the case for the same age group in metropolitan centers in the [United States].[15(p10)]

THE DRAWDOWN PHASE (1970–1972): THE SHIFT TO HEROIN

1970

Waning Concern for Marijuana and Barbiturate Use

Through the first half of 1970, marijuana (or hashish) was still the most common drug used by soldiers in Vietnam, the sizable clinical challenges associated with its use continued unabated, and the Army still had not implemented a reliable system for monitoring soldier morbidity stemming from its use or that of other drugs.[2] The last drug-use survey in Vietnam that featured marijuana was conducted in the 173rd Airborne Brigade in early 1970 by JJ Treanor, a brigade surgeon, and JN Skripol, an Army social work officer. They surveyed all ranks (N = 1,064) and found that 31% acknowledged regular marijuana use, 37% admitted to an isolated incidence of experimentation, and 32% denied ever using an illegal drug. Of special note, 35% of soldiers with combat duty assignments reported regular use, and 48% of all subjects felt marijuana use should be allowed on fire support bases. There is no mention of heroin in

FIGURE 9-2. Major Richard A Ratner, Medical Corps, 935th Psychiatric Detachment. Ratner, a civilian-trained psychiatrist, served with the 935th between August 1970 and July 1971. Among his duties, he worked in the KO team's newly created "Crossroads" drug detoxification and rehabilitation program, which was attached to the 24th Evacuation Hospital on the Long Binh post. Ultimately, Ratner provided many unique and cogent observations regarding the heroin-dependent soldiers who were residents of the program. Photograph courtesy of Richard A Ratner.

their report, but opium users represented 6% of those surveyed. Increased marijuana use correlated positively with lower rank, age, military experience, and formal education level. It also correlated with higher incidents of civilian and military legal entanglements, low job satisfaction, and incidents suggestive of disaffection with the military such as absent without leave (AWOL) and insubordination. The authors concluded that marijuana users were primarily incapable, frustrated, and poorly educated soldiers with passive-aggressive personalities, that is, they were psychologically predisposed as opposed to expressing low morale and psychosocial anomie.[65]

From the psychiatric specialty detachments, Anthony Pietropinto, an Army psychiatrist who served with the 98th Psychiatric Detachment, estimated from the cross section of cases seen there that the incidence of marijuana use among the troops was "very high—nearly two-thirds have experimented with it and at least half are using it frequently."[66(p106)] A similar observation came from Ratner (Figure 9-2), with the 935th Psychiatric Detachment: "eighty percent or more of the men in Vietnam below the rank of E-5 use marijuana on a fairly regular basis."[30] However, in contrast to Treanor and Skripol, he believed that the high rates of drug use, including alcohol, also represented a passive-resistant means for soldiers to survive their discontent and opposition to the oppressive embrace by military authority. He quoted one soldier: "When I'm turned on, I don't get excited; I might feel like belting the First Sergeant for something, but when I'm high, I just close my eyes, and it doesn't bother me."[30] Ratner commented that most unit commanders denied their unit's drug problems, and he quoted a battalion surgeon as saying, "Most commanders have accepted that, so long as personnel don't get caught using drugs, or mess up while on duty, they should let sleeping dogs lie."[30]

More broadly, Colonel Thomas B Hauschild, a senior Army psychiatrist, polled the 22 Army psychiatrists in Vietnam and found that all had treated cases of acute marijuana intoxication or acute brain syndrome secondary to marijuana use. He also reported that 70% of psychiatric evacuees from Vietnam to the US Army hospitals in Japan had histories of drug abuse, especially marijuana. For some, their toxic states rapidly cleared, and they were diagnosed as acute brain syndrome; others did not and were believed to have had psychotic reactions that were precipitated by the disorganizing effect of these drugs.[38] Also, to offset the growing numbers of medical professionals in the United States who were minimizing the risks of marijuana use, Hauschild reminded his audience that, besides being a euphoriant, it:

- is a powerful intoxicant;
- distorts time, space, body image, and thought processes;
- has psychotomimetic properties (ie, can imitate psychotic states);
- produces a drug dependence syndrome that is very habit-forming (if not as addicting as morphine derivatives);
- can produce lethargy, apathy, and debilitation in chronic users; and
- can precipitate mental illness in predisposed individuals.[38(p108)]

Finally, the winter of 1970 saw testimony before the US Senate Subcommittee to Investigate Juvenile Delinquency, Senate Judiciary Committee, by Kaplan, a former Army psychiatrist and commander of the 98th Psychiatric Detachment (November 1968–November 1969). Kaplan felt that the Army was failing to recognize the enormity of the drug abuse problem in Vietnam

(at that time, primarily marijuana and barbiturates) and urged Congress to take action on their behalf.[67] Also testifying before the same subcommittee (August 1970) was Roffman, who presented findings from the aforementioned survey of lower-ranking enlisted soldiers departing Vietnam that he and Sapol conducted in 1967. His testimony included that: (1) in 1967 the enlisted soldier in Vietnam was no more likely to use marijuana, or to heavily use it, than his stateside peers; (2) the Army had sought to suppress his survey findings to avoid negative publicity; and (3) there was little evidence to substantiate that marijuana use in Vietnam accounted for combat atrocities as some had suggested.

The Heroin Epidemic and the Scramble for Containment and Countermeasures

By mid-1970, earlier concerns by command regarding soldier use of marijuana and other drugs were greatly eclipsed after it became apparent that heroin use by lower-ranking soldiers was spreading rapidly throughout South Vietnam. The tipping point between a manageable level of drug abuse and that which seriously jeopardized the health, morale and discipline, and combat readiness of the deployed forces corresponded to an upsurge in heroin trafficking by indigenous South Vietnamese.[68] Now, soldiers could easily acquire extremely pure (95%[69]) and extremely inexpensive heroin, and were becoming avid consumers. A carton of cigarettes costing $2.00 at the PX could be traded for a 250 mg vial of heroin that would have been worth hundreds of dollars in the United States. Because heroin was so cheap, pure, and accessible, soldiers in Vietnam used it recreationally, most commonly mixed with tobacco and smoked in ordinary-looking cigarettes. In fact, soldiers bragged that they could smoke it on duty without fear of being detected because it did not give off a characteristic odor like marijuana and did not typically cause conspicuous functional impairment.[70] Many soldiers preferred instead to snort heroin (insufflation), and a minority injected it intravenously.[69]

Some illustration of the growing problem came from Ratner's journal:

> We had a visit from a division battalion surgeon today, quite unexpectedly. His responsibility is an Aviation battalion (Phu Loi), just a few minutes from Long Binh Post by helicopter. He dropped by because he has begun to feel overwhelmed by the magnitude of the hard drug problem in his area. At the moment, no less than 15 men were withdrawing from heroin overdoses. He reminded us that these men manned helicopters, and the dangers are obvious. Happily, no pilots seemed to be involved; the crew chiefs and door gunners were, however. The battalion surgeon confessed dolefully that, if he were to ground all the heroin users he knew about, not a single helicopter would get off its pad. It is, of course, impossible that the unit not complete its mission; therefore, the helicopters go up, and the unit "does not have a drug problem."[30]

Besides the rising rates for drug-related hospitalization and arrests for drug possession and distribution in late 1970, the first of many heroin overdose deaths also came to the attention of USARV Command. In August, the 483rd Air Force Hospital reported the first heroin overdose death of a soldier that was proven by autopsy. In fact, by October, the 483rd Air Force Hospital was receiving the largest number of Army personnel with drug problems among all medical facilities in the theater because of the very large concentration of Army support units in the Cam Ranh Bay area (see Bowen's End of Tour Report in Appendix 14).

Epidemiologic Measures

Two studies conducted by Army medical personnel sought to measure heroin use but produced widely divergent results. One survey administered by Cookson to 1,125 enlisted soldiers in 19 randomly selected companies yielded modest self-reported prevalence rates. Acknowledged drug use by respondents was as follows: (1) marijuana use by 30% (10.8% daily); (2) heroin use by 7% (2.3% daily), while 5% acknowledged infrequent opium use; (3) amphetamine use by 7%; and (4) barbiturate, hallucinogen, and sedative use combined was 4%.[71] Unfortunately, information as to the details of the Cookson's survey method and instrument or the types of units surveyed are not available.

A more alarming picture of the heroin problem in the field came from a survey conducted by Jerome Char, the division psychiatrist with the 101st Airborne Division. Char explored drug use patterns within his division utilizing three cohorts of lower-ranking enlisted soldiers: those departing after a year-long tour (n = 568), new arrivals (n = 111), and psychiatric outpatients (n = 467). Among those departing, 41% admitted use of some drug during their tours. Roughly one-third of the drug users (36%) acknowledged use of heroin or other

"hard" drugs, whereas the remainder limited their drug use to marijuana. The departing soldiers' overall drug use rate was roughly twice that for the soldiers arriving from the United States (21%). A drug use history was acknowledged by 71% of the psychiatric patient group. Of the men using drugs in all three groups, 58% reported they began as civilians.[72]

The Overlapping Challenge for Military and Government Leaders, Law Enforcement, and Medical Personnel

> MG Prugh:
>
> . . . During 1970 there were 11,058 arrests of which 1,146 involved hard narcotics.
>
> In August 1970 the Drug Abuse Task Force was formed to seek new solutions to the drug problem and make recommendations to General Westmoreland. The task force included representatives from most of the U.S. staff agencies, major subordinate commands of the MACV, the embassy, the U.S. Agency for International Development, customs, and the Bureau of Narcotics and Dangerous Drugs. The task force worked through September to complete a report, the conclusions of which were embodied in MACV Directive 190-4 of December 1970. The objectives of this directive were to eradicate the sources of drugs, to strengthen customs and postal procedures, to improve detection facilities, to co-ordinate the various drug abuse programs, to integrate law enforcement programs, to improve statistical reporting, and to rehabilitate drug abusers.
>
> The campaign against drug abuse was waged on many fronts. Commanders incorporated drug abuse talks as part of the command information program; drug abuse councils were established in commands throughout Vietnam; chaplains, physicians, and judge advocate officers worked to impress on the troops the dangers of drug abuse; amnesty programs were established and detoxification/counseling centers were opened; law enforcement agencies intensified their efforts. . . .[46(p107)]

As indicated by MG Prugh, responding to the Army's burgeoning drug problem in Vietnam required integration of the activities of command (mission, performance, morale, discipline), medicine/psychiatry (health, fitness, prevention, detection, treatment), and law enforcement. However, cooperation between these elements was sometimes complicated due to differences in perspective. Before heroin entered the picture, marijuana use, because of its relatively benign effects and because it was an illegal substance, was mostly regarded as misconduct. Also, although some soldiers became heavy users and psychologically dependent, evidence suggested that their compulsion to use it coincided with a personality disorder. However, heroin use and the use of other drugs, especially barbiturates, were associated with a powerfully complicating factor in the form of their addictive potential—a physically driven compulsion/dependence that carried with it the threat of a medical crisis under circumstances of abrupt withdrawal. (Recent research has established a significant, but substantially lower addictive potential in the case of marijuana—more on a par with tobacco.[73]) In other words, heroin use as widespread misconduct was also heroin use as medical epidemic.

Because of heroin's well-established reputation for causing physical dependence—that is, addiction—military leaders and physicians assumed this would be the case for most soldier-users as well. However, establishing a system for case identification and monitored detoxification in a medically supportive environment proved to be quite difficult for the following reasons:

- In general, symptoms of narcotic withdrawal are quite suggestible. Confirmation of the presence and extent of withdrawal requires monitoring of objective signs or laboratory measures.[74,75]
- Medical facilities in Vietnam had no reliable laboratory means for ensuring drug abstinence in soldiers undergoing withdrawal until roughly 1 year after the epidemic began.
- Inpatient facilities could not be kept free of illegal drugs.[76]
- Soldiers in Vietnam defended their drug use as being justified by the circumstances (service in Vietnam), or as generally not problematic; thus, their motivation for abstinence was very low.
- Medical observers noted that the withdrawal syndromes for many soldiers could be mild and managed through dispensary-level care.
- Despite these features, soldiers claimed that the likelihood of unbearable withdrawal symptoms necessitated their continued use. And, if pressed, especially when they were threatened with prosecution for drug possession, they demanded

TABLE 9-1. US Military Deaths in Vietnam Attributed to Heroin

	1970	1971	1972
January		9	1
February		10	1
March		2	
April		3	
May		4	
June		1	
July		2	
August	8	3	
September	7	0	
October	9	0	
November	15	5	
December	10	2	

Source: DoD Information Guidance Series. *Drug Abuse In the Military—A Status Report (Part II)*. Office of Information for the Armed Forces; 1972, August (No 5A-18):1-3.

hospitalization (for both detoxification and isolation from drug suppliers).

- By this time soldiers were so antagonistic to military authority and opposed to serving in Vietnam that identified heroin users welcomed removal from military duties as a medical diversion; thus heroin use alone served as an "evacuation syndrome."[4(p70)]
- The incidence of heroin use became so high that if inpatient hospital-level service was provided for all users, that is, without identifying those in need of 24-hour monitoring and care, the hospitals could be overtaxed, which meant that the care of other patients could be compromised.

Colonel Clotilde D Bowen, Psychiatry Consultant to the Commanding General/USARV Surgeon at that time, reported that as early as September 1970, all combat divisions were setting aside six to 25 hospital beds for the treatment of heroin-using soldiers. As for the even more numerous nondivisional troops scattered across South Vietnam, between September and December, heroin abusers were being admitted to the psychiatric services of field and evacuation hospitals in rapidly increasing numbers. After December, the various amnesty/rehabilitation programs took over the coordination of these inpatient functions. Also, after September, all Army psychiatric activities in Vietnam were to include in their monthly morbidity reports a list of drug-using soldiers by name, rank, unit, drugs used, and amount. (However, as late as June 1971, the system of patient classification and reporting, including for alcohol and drug hospitalizations, was still confused; see Bowen's End of Tour Report in Appendix 14 for further detail.)

Unfortunately, throughout this period there were problems in reaching consensus among the medical personnel in Vietnam as to operational definitions of problematic levels of use, psychological dependence, and addiction. As a result, some inpatient programs were more liberal in their admission policies, became swamped as a result, and in many respects found themselves mostly relegated to providing custodial services for antagonistic soldiers.[43] The following description by John Ives, an Army psychiatrist, most of which was written shortly after he returned to the United States, is illustrative:

> I was loaned to the 483rd USAF [US Air Force] Hospital [in August 1970] at Cam Rahn Bay as the Air Force had complained to the Army about all the Army troops burdening their case load. . . . Some [of the patients] had even re-enlisted to come back to Vietnam as they hated garrison duty in the states . . . [then] were enraged to find that by September 1970, Vietnam involved garrison duty as well, with little or no "action.". . . For them (as for me) Vietnam was more prison than combat. . . . Heroin withdrawal at the 483rd was a factory operation. We accepted all who were sent to us "for the amnesty." The withdrawals didn't seem severe. We used only Valium. . . . We then sent them back where they came from, and there was little or no communication with their unit.[77]

Other programs sought to limit admission to soldiers requiring inpatient-level detoxification support. By way of example, the psychiatrists at the 98th Psychiatric Detachment in Da Nang utilized the narcotic antagonist N-allynormorphine [Nalline] to screen for physical dependency[78] (see Appendix 1, Camp's Report of Activities of the 98th Psychiatric Detachment). In their experience, among the many soldiers who claimed to be physically dependent to heroin, only roughly one in ten tested positive.[79]

To illustrate the resultant confusion, one Army psychiatrist recalled to this author [Camp] many years after the war,

> One case I remember was a soldier withdrawing after having been in lock-up (the Army stockade). He was sweating and shaking. I did not admit him for gradual withdrawal as he wanted, but I gave him—I am embarrassed to say—Thorazine, I think. He was found dead of a heroin overdose the next day. This outcome haunts me today.[80]

Table 9-1 presents numbers of drug overdose deaths in Vietnam (proven by autopsy) for all services during the last 2 years of the war. Whereas this figure suggests rapidly declining levels after February 1971, this is misleading because the progressive reduction in troop strength is not taken into account. When the numbers for the last 5 months in 1970 (ie, the months following the emergence of the heroin market) are annualized, the rates for narcotic overdose deaths show only a modest decline, from 0.34 per 1,000 in 1970 to 0.30 per 1,000 in 1971. (Some of these figures in Table 9-1 are lower than those provided by Colonel Stewart L Baker Jr, a senior Army psychiatrist.[2] He indicated that in 1970, there were 75 confirmed or suspected incidents between August 1 and October 18, only 11 of which were confirmed by autopsy. He also said there were 14 before August 1970, and 11 in 1969 [all confirmed by autopsy]. However, it must be concluded that those before mid-1970 involved drugs other than heroin, such as barbiturates, because heroin was not being marketed. Recall from earlier that Bowen indicated that the first heroin overdose death of a soldier in Vietnam proven by autopsy was in August 1970.)

To some degree, overdose deaths were predicted. Froede and Stahl were impressed by the marked elevation of fatal drug overdose cases in the Vietnam in 1969 and 1970 (pre-heroin) and noted the parallel with the extraordinary increase in narcotic-related deaths between 1951 and 1953 within the US military, primarily among soldiers assigned in Korea. They projected that the high prevalence of narcotic use would continue among the troops serving in Vietnam through the end of the war.[41]

1971–1972

MG Prugh:

> Despite the concerted efforts of the command, there was an alarming increase in the use of hard narcotics in 1971, when the number of offenders involved with hard drugs, mostly heroin, increased sevenfold, to 7,026. This trend was particularly disturbing in view of the continually decreasing troop strength in Vietnam.[46(p107)]

Challenges in Implementing the Army Drug Abuse Prevention and Control ("Amnesty") Program in Vietnam

According to MG Spurgeon Neel, the former MACV Surgeon, "Growing awareness of the nature and extent of the drug problem in Vietnam led to a search for a flexible, non-punitive response. . . ."[16(p48)] In response to the growing Army-wide drug problem, especially in Vietnam, in December 1970 the Department of the Army published AR 600-32, *Drug Abuse Prevention and Control*, to provide "limited rehabilitation for restorable drug abusers, when appropriate, and consistent with the sensitivity of the mission. . . ." As noted, the program outline presented in this regulation was an adaptation of an "amnesty"/rehabilitation program implemented in the 4th ID in 1968.[16,76] The regulation defined the Army drug use prevention strategy and procedures for processing drug abusers, including conditions that would allow a commander to grant a soldier a one-time-only exemption from legal jeopardy if he voluntarily requested medical and rehabilitative help (but not for other acts associated with drug abuse).

The creation of this uncharacteristically lenient program by the Department of the Army meant that it believed it was up against a serious and urgent problem within its ranks. As previously noted, at the time the Army went to war in Vietnam, the management of soldiers using illegal drugs or misusing alcohol was straightforward—their behavior was treated as misconduct, which resulted in judicial and administrative consequences, often including discharge from the service. Associated medical conditions received in-service medical treatment, but the condition retained the final designation of "Line of duty, no, due to own misconduct," and the Army held the soldier financially responsible for costs of treatment and nonduty time.

The new regulation, AR 600-32, resembled policies stemming from the challenge of venereal disease in earlier conflicts. The Army had learned that associated medical and morale issues could not be mitigated as long as detection carried with it the consequence of punishment. However, in the case of drug abuse, a critical miscalculation may have followed the fact that,

whereas soldiers are most usually eager to be treated for venereal diseases, this same attitude was not the case for soldiers using illegal drugs in Vietnam.

Although AR 600-32 addressed command responsibilities in situations where a soldier voluntarily asked for amnesty and rehabilitation, and it listed the agencies (eg, local medical personnel, chaplains, and legal officers) that were to support the commander in rehabilitating the soldier, there was no specific program defined by this regulation. On 29 December 1970, USARV Headquarters distributed the "Drug Rehabilitation/ Amnesty Program" (nicknamed "the amnesty program") as a Vietnam theater adaptation of Army Regulation 600-32. It outlined procedures and conditions regarding "amnesty" as well as stipulated the elements that were to comprise a unit's rehabilitation program:

1. Direct the drug-using soldier to the nearest medical facility for any acute care that medical personnel determined was necessary.
2. Upon return to his unit, command was to assess the soldier's potential for successful return to previous duties and responsibilities and inform the soldier's supervisor of his ". . . key role in the rehabilitation of the soldier."
3. Pair him up with a (nonusing) "buddy"—a peer who could "act as a positive influence, and . . . provide counseling and supportive assistance in the soldier's endeavors to remain free of drugs."
4. "Establish a group therapy program wherein the rehabilitee may receive support from ex-drug abusers; associate with others who are attempting to stop using drugs; and receive professional counseling from the unit surgeon, chaplain or qualified visiting professionals."
5. Destroy all records of the soldier's participation in these programs (ie, amnesty and rehabilitation) when the soldier departed the unit.

However, the program was easier to describe than to implement. Firstly, once the drug-using soldier was identified and apart from ensuring that there were no other Uniform Code of Military Justice (UCMJ) charges pending against him and that he was medically cleared, the commander had to decide whether the soldier was genuinely motivated to discontinue drug use and whether he qualified as a one-time-only volunteer. This clearly represented a challenge because item #5 above meant that the commander had no way to know if this soldier had already been a participant in another unit's program. But more generally, as will be described, the whole program rested on the Army's capacity to objectively verify abstinence or monitor withdrawal among participants, which was impossible because of the lack of available laboratory screening procedures.

Nonetheless, to comply with the USARV amnesty program, major Army commands hastily improvised treatment/rehabilitation programs and facilities utilizing whatever resources they had at hand. This produced diverse approaches because command attitudes ranged widely with regard to commitment and material support. The result was a collection of unstandardized, semibootleg treatment/rehabilitation programs with colorful, nonmilitary names—Sky House, Highland House, Operation Guts, Head Quarters, Pioneer House, Crossroads, Operation Rebuild, Golden Gate, Freedom House, Reality House, Three-Quarter-Way House, and Black Amnesty.[81] They were typically staffed with individuals with little or no experience in treating substance abuse and counselors who claimed to be former addicts.

Ratner, with the 935th Psychiatric Detachment/ Crossroads program illustrated some of the attendant difficulties in establishing such a treatment/rehabilitation program in a 3 January 1971 post in his journal:

> Drug use has become the star of the psychiatric show here in Vietnam. In anticipation of a visit by some Congressman, the 68th Medical Group commander has ordered the 935th [Psychiatric Detachment] to create a drug amnesty [detoxification] and treatment center in nine days, separate from our already existing psychiatric facilities and services. The Colonel emphasized that he did not want it to look like an "opium den" with "psychedelic posters" as decorations. The program calls for a ten-day hospitalization in two wards of the 24th Evacuation Hospital. These facilities previously served as prisoner of war confinement wards, have barbed wire all around, and create a general atmosphere of incarceration. But more ironic, the three men picked from among our enlisted specialist staff to run the program include a regular heroin smoker and another who possesses the largest [drug] habit in the entire barracks. I can see using reformed users in a program like this, but I am dubious about continuing users. More generally, I have gradually become aware of a

> rather high degree of drug use among the personnel of the 935th. It seems as if nearly everyone uses "grass" in the unit—the frequency differing with the person, from less than once weekly to more than once daily. But what shocked me was the use of "smack" (heroin) by our young enlisted corpsmen [and Ratner lists the initials of six of them]. These men could in no way be construed as the dropouts of society—in fact, they are often brighter, though I think more troubled, than most EM.[30]

By June 1971, apparently because of these kinds of problems, the Crossroads program was removed from medical authority of the 935th Psychiatric Detachment/24th Evacuation Hospital and transferred to the post commander, and the staff was replaced with nonmedical personnel from other Long Binh Post activities [see Appendix 14, "Bowen's End of Tour Report" and Appendix 18, "The Baker/Holloway Report"].

Public Alarm and Increased Scrutiny

As word of the soldier heroin epidemic reached the United States, the American public became alarmed and further insistent that the troops be brought home immediately. The first of many congressional hearings regarding rising drug abuse in the military had begun with the aforementioned subcommittee hearings by the Senate Judiciary Committee to Investigate Juvenile Delinquency. This was followed by hearings before the Special Subcommittee to Investigate Alleged Drug Abuse in the Armed Services, House Committee on Armed Services.[76] In April 1971, a congressional visit to Vietnam reported an estimated 30,000 to 40,000 troops—10% to 15% of deployed soldiers—were addicted to various drugs, especially heroin, and proposed that high among possible causative factors, along with boredom, group pressure, and experimentation, was the soldier's dilemma of being sent to risk death or injury when the government has elected not to seek to win.[82]

An inspection visit was also made in March 1971 by Colonel Stewart L Baker Jr, the Neuropsychiatry Consultant to the Army Surgeon General. Especially notable, in his official report Baker catalogued the wide diversity of medical approaches to the detoxification of soldiers suspected of being physically dependent on heroin:

- at the 18th Surgical Hospital in the Quang Tri area, they prescribed Valium and Donnatal to support withdrawal as outpatients;
- at the Drug Center of Camp Eagle, Headquarters for the 101st Airborne Division, morphine was used for withdrawal symptoms;
- at the 67th Evacuation Hospital in Qui Nhon, they employed methadone; and
- at the Pioneer House (II Field Force headquarters) they advocated a "cold turkey" approach, but 25% of participants required medical support at the hospital, which utilized thorazine, probanthine, and valium.

Appendix 18, "The Baker/Holloway Report," has a fuller account of Baker's findings.

Two months after Baker's visit, a team from the Army's Medical Research and Development Command led by Colonel Harry C Holloway, a research psychiatrist, toured throughout Southeast Asia, including visits to 30 drug rehabilitation facilities in Vietnam (May–June 1971). Holloway's official report verified the pervasive nature of the problem of soldier use of serious drugs, especially heroin, including within combat units. It also documented the unsystematic nature of the Army's efforts at identification, detoxification, and rehabilitation and the very limited success these programs achieved in keeping enrollees from returning to heroin use.[83] From interviews and surveys of over 1,000 servicemen, Holloway constructed a profile of the typical Army heroin user in Vietnam: 18- to 23-years old, low ranking, and employed in a less-skilled job; might not have completed high school; probably used marijuana, alcohol, or other drugs prior to heroin and preferred smoking or snorting to injection (10:1) in Vietnam.[69] Holloway and his associates concluded that "[t]he heroin abuser is not distinguishable from the average soldier in any practically helpful way."[84(p7)] (See Appendix 18, "Excerpts From the Baker/Holloway Report," for a fuller account of Holloway's findings.)

Reports From the Field by Psychiatrists and Other Medical Personnel

Some accounts from the medically sponsored Army detoxification/rehabilitation programs in Vietnam have survived and testify to the enormous challenges faced by the Army and the deployed medical resources. Regrettably, none included case examples (see Case Prologue-3, PVT Charlie).

From the heroin user's point of view, the following disguised material is from an interview that took place in summer 1971 of a soldier (truck driver) who was recovering at the 67th Evacuation Hospital from wounds sustained when his truck was hit by enemy fire:

> For a while, when I first got [to Vietnam], I didn't use any [heroin]. Then, in October and November there was a period when I snorted quite a bit and got strung out. Then, I think about the 10th of December, a couple of friends and I said, "Well, we're going to quit." About the 17th, I got a little Christmas spirit. My aunt sent me a bunch of presents, you know, and I thought, "Wow, what am I doing on dope?" So I quit until around the middle of January. I got off by myself. It was kind of tough the first couple of days, you know? And the only kind of drugs I used to come off was grass now and then. I'd smoke a little grass to help me sleep a little better, you know? You just kind of drift off. And after I got off of it I really felt good. I got my health back again. I wasn't losing weight. And I just felt freer, healthier. And then . . . I don't know what made me go back. I never snorted it again, but I started smoking it. And I even stayed on until I got hit. I don't think I even had anything that morning. I might have . . . I think I did smoke skag [heroin]. But, No, I drove on the road before and I remember I used to take a lot of dope, and I could handle the truck very good because I was used to it, I guess. When I was in the hospital, the doctor asked me what kind of narcotics I was on because I was going through withdrawal, you know? I had cold sweats and cold chills, so I told them I was on heroin. So they gave me some pills and stuff. I didn't wake up until, like about a day and a half. But that's why I'm glad they're sending me home, because I'll never have the temptation to go back to that again, you know? I think I've learned my lesson. Christ, I could go outside the hospital right now and get some, but I just don't want to mess with it no more, you know?[85]

From the psychiatric point of view, Ratner provided the following impressions after he and his colleagues treated over 1,000 drug-dependent soldiers voluntarily admitted to the 935th Psychiatric Detachment/Crossroads program between January and June of 1971:

> [The prototypical soldier/patient is a SP4] who has gotten strung out on heroin. The olive drab uniform . . . hangs listlessly [on] a weak, cachectic, sallow and sickly looking young man whose adolescent acne stands in dreary relief to his pasty coloration and sunken cheeks. He has lost thirty pounds; he is unkempt and dirty."[43(p15)]
>
> . . . [However], the withdrawal syndrome, known as "Jonesing" to the troops, was far milder than I had expected when undergone in our Amnesty Center. The "hard" symptoms of cramps, muscle pains, restlessness, vomiting, diarrhea, sweating with running nose and tearing, nausea, and somewhat paranoid ideation almost never took more than five days to clear up. We attributed this to the psychological climate of the center, in which perhaps twenty-five men were simultaneously withdrawing under the supervision of a trained and experienced staff. For one thing, most men were reluctant to suggest that they were less able to withstand pain than their neighbors. . . . But even more important was that nearly everyone was strongly motivated to get off drugs, since a majority of our patients had three months or less to go before returning home.[43(p15)]

However, as described in Chapter 2, Ratner was frank about their program's general lack of success and the resultant professional discouragement he and his psychiatric colleagues there shared. He also speculated that alienation from the military and its mission in Vietnam was chief among the psychosocial variables responsible for heroin use ("a drug traditionally so reviled and feared") and underscored the ubiquitous despair he encountered among program participants.[43(p15)]

Somewhat in contrast is the perspective of Army psychiatrist Ives, over at the 483rd US Air Force Hospital at Cam Rahn Bay. As noted earlier, he seemed cynical as well (withdrawal at the 483rd was a "factory operation"), but he favored predisposition as the primary etiologic factor:

> . . . I was struck by the fact that they all seemed to be virtually the same person. I rarely saw a combat soldier or a draftee. Their backgrounds almost invariably included divorce or separation, poor relationships between the addict and his parents,

> and use of alcohol or tranquilizers by the parents. The addict himself would almost invariably have dropped out of high school, mostly for disciplinary rather than academic problems, and he often had difficulty finding and holding a job. He usually enlisted in order to get away from home or avoid a jail sentence. The addict rarely took any drugs in the states, with the exception of moderate use of alcohol and slight use of marijuana. . . . [In short] he was a disaster that was waiting to happen.[77]

At their program with the 1st Cavalry Division (Airmobile), Frank Ramos, the Army-trained psychiatrist, and David J Kruzich, the division social work officer, favored an etiological mix that combined elements of both perspectives. They initiated a heroin detoxification program in November 1970 within their division using a 20- to 30-bed inpatient service and biweekly group therapy for outpatients. Over five months they hospitalized 236 soldiers under the amnesty program, 40% of whom were listed as combat soldiers. The median age was 20, the median education level was 12 years, and the mean time in Vietnam before hospitalization was 9 months. Besides their drug use histories (72% of participants reported use of illegal drugs prior to joining the Army, but only 14% had used opiates), review of their civilian and military records did not suggest significant delinquent behavior. The combination of availability of drugs, peer group pressure, boredom, frustration, and "unmet dependency needs" best explained the high heroin use rates in Vietnam. ("[T]heir personalities and socioeconomic backgrounds were not greatly dissimilar to those of the average high school graduate."[86(p2)]) Ramos and Kruzich were only able to confirm outcomes for a third of those who completed the program; and, of those, the ratio of success to failures was two to three.

In a separate document, Kruzich estimated that, among the troops of the 1st Cavalry Division, 25% used heroin and over half of those were addicted, and that detoxification only succeeded for soldiers within a week of their DEROS (date expected return overseas). He also noted that, because the heroin sold was of such purity that it could be smoked, it allowed soldiers to avoid the more objectionable injection route, which in turn fostered wider use. In addition, it was a common misconception among soldiers that they were using cocaine, which allowed them to rationalize that what they were smoking was not as addictive.[87]

Further information regarding heroin-using soldiers and treatment approaches came from Samuel J Lloyd and Ralph C Frates, both Army battalion surgeons, with SP4 Douglas C Domer, who summarized their treatment of 81 consecutive heroin soldier-patients at a brigade clearing station with the 101st Airborne Division in Vietnam. These soldiers were program volunteers, and all were of lower enlisted ranks. For 23%, it was not their first attempt at withdrawal under medical supervision. Demographic comparisons with an equal number of controls revealed that the heroin users included a higher proportion of first-enlistment Regular Army soldiers who more often came from disrupted homes. The average daily consumption of heroin was six to eight vials (about 600 mg–800 mg of 97% pure heroin). The majority either smoked or snorted the drug. In the authors' opinion, most of the patients appeared to have begun using heroin as a transitory reaction to the distorted environmental and peer pressure in Vietnam. Physical withdrawal symptoms were typically managed using low doses of Thorazine combined with Librium. Detoxification success was qualified (67%) and was strongly correlated with the soldier's intent to pass DEROS drug screening test.[88]

An interesting contrast came from Brian S Joseph, an Army flight surgeon and partially trained psychiatrist, who described his voluntary 3-week program for heroin users at an Army airfield in the Mekong River Delta. The program could accept 11 residents per week, and its staff included a psychiatric social worker and a chaplain. The program design was that of a "therapeutic community," which began with a 5-day detoxification process. After 6 months of operation, Joseph and his staff concluded that the program was a failure because participants acquired heroin surreptitiously despite being housed in a closed ward. They also surmised that the program failures were soldiers with character disorders who entered the program to evade disciplinary action, and that the more stable users apparently were able to continue to function and escape detection. In Joseph's opinion, heroin use in Vietnam was primarily a social problem rather than one of individual psychopathology.[89]

Also pertinent is the report by Golosow and Childs, two Army psychiatrists assigned in Hawaii. They provided findings from their treatment of 36 soldiers from Vietnam who developed withdrawal symptoms from heroin while temporarily in Hawaii (September 1970–June 1971). Twenty-seven of their subjects were on R & R (rest and recuperation) leave from

Vietnam, and nine were in transit after completing their tour there. Thirty-one subjects manifested abstinence syndromes in three levels: "mild" (nine) included mild myalgias, restlessness, chills, diaphoresis, rhinorrhea, lacrimation, anorexia, and mild insomnia; "moderate" (eight) included moderate distress, severe agitation, insomnia, and severe myalgias; and "severe" (14) included severe distress in addition to the above, cramps, nausea, vomiting, and diarrhea. These were treated with methadone or drugs such as Valium and chloral hydrate. Seventeen of the 36, roughly half, had received treatment and rehabilitation in Vietnam under the amnesty program, and all but one were rehabilitation failures.

Collectively, their subjects resembled lower socioeconomic civilian addicts in having histories of broken homes, disturbed family relationships, academic failures, and juvenile delinquency; however, they were also different in their majority-group membership, middle-class origins, presence of paternal figures in the family, and absence of criminal activity. Psychological testing did not reveal a unifying diagnostic pattern, but all received a psychiatric diagnosis in addition to one identifying their substance abuse status; 31 were personality disorders and five were psychotic or neurotic. Nonetheless, the authors concluded that, although these soldiers demonstrated increased premorbid susceptibility, conditions peculiar to Vietnam were necessary for addiction to develop in most (eg, increased drug availability, environmental stressors, peer group pressures).[90]

Initiation of Urine Screening for Drugs

Some realistic containment of the drug epidemic in Vietnam became possible in June 1971, when urine-testing technology was standardized and employed to screen the soldiers who were scheduled to DEROS from Long Binh, Cam Ranh Bay, and Da Nang. Refinement of the existing clinical technology for use as a drug-screening tool was the result of an urgent and ambitious effort by DoD. Once implemented in Vietnam, the military finally had a biochemical means for identifying drug users (opiates, barbiturates, and amphetamines) and could begin to assess the prevalence, at least among those departing Vietnam and unable to free themselves of these drugs, and to monitor detoxification in controlled centers.[91]

As of 21 September 1971, 92,096 soldiers had been tested before leaving Vietnam, and 4,788 (5.2%) positives were detained for detoxification and rehabilitation.[92(p859)] (Also of note, positive urine testing results were lower for officers, women, and members of the Navy and Air Force than for Army enlisted men.) However, these numbers invariably and substantially underrepresented actual use prevalence in Vietnam because, as has already been made clear, soldiers who were preparing to leave were extremely motivated to discontinue their heroin use on their own in order not to delay their departure. It also suggested that the level of addiction was not as high as presumed by military medical authorities.[93] Five months following the establishment of a DEROS urine-screening program, the technology was extended for unannounced screening of units operating throughout South Vietnam (November 1971). Once employed, the rate found for "dirty urines" was also roughly 5%, however the variability between units ranged from 1% to 20%.[94]

MG Prugh:

> On 18 June 1971 the Secretary of Defense sent a message to the US services informing them of the presidential directive that the drug problem be given urgent and immediate attention and announcing a program to identify military personnel leaving Vietnam who were on narcotics and to give them the opportunity for drug treatment at facilities in the United States. . . .
>
> As the drug problem intensified . . . , the legal emphasis for dealing with drug offenders gradually shifted from prosecution to administrative action.
>
> It became increasingly clear that trial by court-martial was an awkward, ineffective, and expensive means of attempting to cope with a large-scale problem. Moreover, the public attitude toward individual drug users, particularly young soldiers, was changing; the public began to see these men not as criminals deserving punishment, but as suffering individuals requiring treatment. This attitude was reflected by the government and the armed services. . . . Soldiers whose behavior indicated that they lacked the desire or ability to rehabilitate themselves were eliminated through administrative channels. Soldiers who had unresolved court-martial charges pending against them for drug offenses and who did not wish to remain in the service often were allowed to resign for the good of the service rather than face trial by court-martial, unless the facts pertaining to the charges indicated they were active, commercial pushers of drugs, in which case trial was sought.[46(pp107–108)]

The Investigative Visit by Psychiatrist Norman E Zinberg

In August and September 1971, Zinberg, a civilian psychiatrist and addiction specialist, toured Vietnam at the request of the Department of Defense to study heroin use patterns and efforts toward the rehabilitation of users, which resulted in two published reports.[74,95] Zinberg's principal observation was that heroin use there was unusual in being a widespread, social group phenomenon among otherwise healthy young soldiers who self-administered extremely inexpensive and available heroin. In general their behavior was motivated by efforts to get relief from the stresses of low morale; mistrust of military authority; insignificant jobs; jail-like restriction to military bases; and the perception that Americans at home had discredited those serving in Vietnam. Furthermore, soldiers considered the military's heroin education programs neither credible nor effective.

According to Zinberg, heroin users in Vietnam belonged to three groups: (1) an urban type with a criminal record; (2) a middle-class individual with a record of trouble in school; and (3) a small-town dweller in good physical condition and representing all ethnic groups. The 16 Army rehabilitation and treatment programs he visited were of three types: (1) psychologically oriented programs outside of either medical or penal authority, managed by former addicts and minimizing the physical symptoms of withdrawal; (2) medically oriented programs with reversed priorities; and (3) involuntary programs emphasizing detoxification enforced through urine testing.

Still, despite differences in orientation, the results of these programs were uniformly poor (estimated at fewer than 10%). Success was mostly limited to soldiers nearing their DEROS who could sustain the motivation to discontinue heroin use. Zinberg believed the unsatisfactory outcomes ("counterproductive") from these efforts were fostered by three common programmatic errors:

1. Case selection: There was a failure to separate out those with characterologically based drug dependence for specialized medical/psychiatric attention, from the larger segment of socially [drug] habituated soldiers ("Their fury at the Army is boundless, and the group reinforcement of this bitterness is virtually palpable"), who needed other rehabilitative or administrative steps.[74(p290)] Zinberg also noted that, whereas occasional and moderate users often recovered, heavy, committed users did not benefit from these programs.
2. Treatment design: Zinberg questioned the emphasis on group treatment and indicated that this approach had been shown among civilian addicts to foster persistence of low motivation and strong countermores. More specifically, he was puzzled by these programs' "lack of discussion of the personal reasons a man uses heroin" (eg, the typical line of soldier discussion was impersonal: revolt against Army authority and the conditions in Vietnam).[74(p282)] In civilian substance abuse programs, it is unacceptable to blame one's use on outside authority or the social setting.
3. Case disposition: According to Zinberg the post-treatment planning for soldier participants was especially problematic:

   > [T]he soldier returns to his unit immediately after detoxification or after a few days in a different ward or halfway-house arrangement. His unit contains the very group structure that may have been a crucial factor in his initial drug use. One might imagine that, with the enormous importance of peer groups in Vietnam, the pull to rejoin one's friends would be very great. The alternative of sending him to another unit seems equally inadequate.[74(p290)]

Inception of the Drug Confinement Facilities

In August 1971, the Army opened a new, more restrictive, holding facility on the Long Binh post near Saigon for acute treatment (detoxification) and rehabilitation of soldiers who showed positive urine-testing results. It was officially known as the Drug Treatment Facility, Long Binh, and participation was mandatory. The facility had a capacity of up to 150 patients/confinees within 10 wards, two of which were set up to provide intensive care. Admissions were searched for drugs and issued hospital pajamas and slippers to be worn exclusively during their stay (averaging 5 days). Their baggage was also searched and secured. They were physically evaluated upon entry and continually observed by medical officers and other healthcare staff until they were released either into the custody of the medical evacuation system (most) or back to their units if they were not due for reassignment back to the United States.[96] However, the latter disposition

was extremely unpopular for confinees. The following is Zinberg's description of this facility:

> The nonvoluntary treatment program I visited is a division of a base hospital, but a security fence and locked gates sharply separate it from the rest of the installation. The population varies from about 180 to 250, all housed in barracks. A career Army physician is in charge, with a staff whose size varies according to patient load: there are always at least 2 physicians, 15 to 25 nurses, and 25 to 40 technicians. There is also a detachment of security police for periodic drug and weapons searches. The mood of this installation is ugly. Most of the patients have been picked up by the [urine screening] and are held until they can pass it. Detoxification and a final negative result for urine tests are the grim goals of every man. Average patient stay is 4.2 days. Appetites return on the second day, and patients are so ravenous that snack carts must be protected by technicians. Small doses of methadone hydrochloride (20 to 40 mg) are given on the first and second nights to relax the patients, according to the medical officer in charge, and to make withdrawal a less trying procedure for them and the staff.[95(p488)]

According to Shelby Stanton, a military historian, the military police were soon stretched thin by guarding this and a similar facility established at the 6th Convalescent Center—the Drug Treatment Center at Cam Ranh Bay. The following is his description of the heightened security requirements for the Cam Ranh Bay facility:

> By mid-August the 97th Military Police Battalion had to be reinforced, and finally, the separate 127th Military Police Company was permanently assigned. It was charged with protecting the lives of volunteer patients and medical staff, preventing the entry of drugs and other contraband, stopping unlawful exits prior to detoxification, and maintaining order at the center. Static guard posts had to be manned along all fence lines, and police armaments at gate entrances were increased to shotguns and submachine guns. The company guarded messing areas, occupied patient wards at night, and built a separation ward with one and two-man cells.[97(p358)]

The Final Shift to a Law Enforcement/Custodial Approach

By September 1971, watershed legislation had been passed in Washington, directing the Secretary of Defense "to identify, treat and rehabilitate members of the Armed Forces who are drug or alcohol dependent." Public Law 92-129 required the military to participate in full compliance with the earlier noted Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment, and Rehabilitation Act of 1970. As a result, detection efforts were no longer aimed at identifying soldiers for the purposes of treatment and rehabilitation within Vietnam; their objective was to keep from sending serviceman home addicted to drugs. The failure of the Army's efforts at treatment and rehabilitation of heroin users in Vietnam was acknowledged, and the US military adopted a law enforcement–custodial approach.

All soldiers found to have morphine breakdown products in their urine were quarantined in one of three detoxification centers (Cam Ranh Bay, Long Binh, and Da Nang) and, when medically cleared, returned to the United States as medevac patients and distributed among 34 Army hospitals for further evaluation and treatment.[81] As a consequence, rates for heroin arrests, hospitalizations, and positive urines dropped rapidly in Vietnam until all combat troops were pulled out in mid-1972 (in May 1972, DEROS screening yielded 1.5% positives). Allowing drug-using soldiers to utilize the medical evacuation system represented an unprecedented relaxation of US Army Medical Department criteria—a modification that was limited to the Vietnam theater. As a side effect, however, the profile of psychiatric evacuation rates during the drawdown phase of the war became materially confounded.[19,98]

In June 1972, Department of the Army (DA) Circular (Cir) 600-85 was published stipulating the Army's Alcohol and Drug Abuse Prevention and Control Program (ADAPCP), which sought to balance humanitarian considerations and mission requirements with respect to drug and alcohol problems.[5] But again, by then the implementation of these changes was meaningless in Vietnam as the drawdown was nearing completion.

To conclude, the drawdown years saw rampant heroin use by first-term enlisted soldiers, including those within combat units, which was associated with addiction in about one in ten users. As a result, in addition to humanitarian costs, the Army faced a

significant threat to combat readiness. Furthermore, concerns for marijuana use, or even alcohol abuse, were completely overshadowed. In response command and the medical/psychiatric component hastily expanded treatment facilities, devised a program offering limited amnesty to drug users who expressed a willingness to abstain, and mounted an urgent effort to develop laboratory technology for drug use detection and to support treatment and rehabilitation programs in the theater for the thousands of affected soldiers. However, results were spotty and mostly failed to curb this serious and unprecedented epidemic of self-inflicted soldier disability. Ultimately, public alarm and congressional pressure forced the medical evacuation of many of these soldiers from the theater. In the end, the Army psychiatrist who was the most knowledgeable about the subject, Holloway, could only offer this consolation: "[Despite their failure, these programs] were at least a source of hope to heroin users seeking help and commanders concerned about the welfare of their troops. The effort, creativity, and enthusiasm of the treatment program personnel must be admired."[69(p109)]

COLLATERAL DATA

Other Service Branches in Vietnam

Parallel experiences with identification and treatment/rehabilitation of heroin users by the other armed services in Vietnam, as well as those of Army units serving in Thailand, suggest insights into use patterns among Army troops in Vietnam.

US Marine Corps

As mentioned in Chapter 2, during the drawdown in Vietnam the Marines had their own problems with drug abuse, including heroin. Nonetheless, of the four military services in Vietnam, the US Marine Corps is the only one not to adopt some form of limited amnesty for personnel who could be rehabilitated. Their heroin use prevalence was estimated at 10%, and most identified users were subjected to legal or administrative discharge procedures.[83] Anecdotally, the experience in 1971 by Fisher, a Navy psychiatrist with the 1st Marine Division near Da Nang, is quite remarkable. Although his report did not center primarily on drug abuse, of the 1,000 consecutive Marine referrals he saw, 960 were diagnosed as personality disorders, and more than half (590) were "presumed to be involved with illegal drugs."[31(p1166)]

US Navy

Kolb, Nail, and Gunderson compared demographics of heroin inhalers (those who smoked or snorted heroin) versus injectors among 121 men serving in the Navy on shore in Vietnam. Although inhalers believed that by not injecting they would not become addicted, about two-thirds did become addicted. Inhalers did not differ significantly on demographic characteristics from other nonheroin drug users in Vietnam or from a Navy control sample serving aboard Navy ships off the coast. However, injectors demonstrated lower socioeconomic status (based on father's educational level), decreased family stability, and greater reported tension between the service member and his family, especially as a result of harsh paternal discipline.[99]

US Air Force

Descriptions of two US Air Force heroin rehabilitation programs in Vietnam paint a more favorable picture than do those of the aforementioned Army programs. Johnson and O'Rourke, both physicians in the US Air Force, reported a 73% success rate for their program on the US air base at Phan Rang, South Vietnam, in 1971. The program rested on the US Air Force Limited Privilege Communication (LPC) policy, which was similar to the Army's amnesty program but not as lenient. They described a three-pronged approach—that is, (1) prevention, (2) isolation from the source, and (3) rehabilitation of the heroin user. Treatment and rehabilitation procedures utilized weekly urine testing, psychological testing, and individual and group therapy.

Program candidates were classified as drug addicts ("those with deeper psychological problems") or situational drug abusers ("victims of drug abuse"). The addict group generally had pre-Vietnam histories of heroin involvement, and it was concluded that it was impossible to deal with them within the scope of the program. Apparently, they were administratively separated from the Air Force. Situational drug abusers were relatively open to therapy and, in general, were successfully rehabilitated. Most participants were assigned to the rehabilitation barracks ward, but a small number required initial hospitalization for withdrawal. In general, physical withdrawal lasted 3 to 5 days and left the individual in a weakened state for approximately 2 weeks. After acute withdrawal symptoms abated, participants returned to their jobs but were required to live in the rehabilitation barracks for at least 6 weeks and

participate in 10 to 12 hours of group and individual therapy per week.

Johnson and O'Rourke felt that the (relative) success of this program was the consequence of urine-test monitoring, the active involvement of each individual's commander and supervisors, and the US Air Force's high enlistment selection criteria.[39] It also likely benefited from the exclusion of the "drug addict" group.

Similarly successful (relatively) was the US Air Force Drug Abuse Rehabilitation Therapy (DART) program at the Da Nang Airfield in 1971. Dehart and Sorrentino, both US Air Force physicians, noted that the explosion of heroin use by Air Force personnel in the fall of 1970 was similar to that reported by the Army, and they described their experience with detoxification of nearly 100 users stationed there. Like at Phan Rang, several individuals with long-term drug abuse histories were not included in the program but instead were returned to the United States. Dehart and Sorrentino's program was more inpatient-focused than that described by Johnson and O'Rourke, but it included a base-wide program, which was coordinated by a multidisciplinary staff council and had the full support of the base commander. Also like the program at Phan Rang, urine testing was a critical element.

Dehart and Sorrentino found the typical user to be of low motivation with few established goals, low tolerance for frustration, immaturity in dealing with authority figures, and boredom with his job, Vietnam, and life. However, his drug use history was short, and he resembled the situational drug abusers at Phan Rang who had the better prognosis. Of the 35 patients who could be followed for at least 3 months after completing the program and returning to duty, 74% (26) remained drug free, essentially the same outcome as reported at Phan Rang.[100]

US Army in Thailand

Considering the mostly successful outcomes reported by the Air Force programs in Vietnam, and the mostly unsuccessful outcomes of multiple Army programs there that had varying approaches, it is tempting to speculate that a critical variable was combat participation, direct or indirect. Perhaps serving stress mitigation and reducing overall heroin use prevalence, or compulsion to use, was the fact that airmen were not routinely combat participants. An opportunity to test the relation of combat participation (direct or indirect) and heroin use among Army troops arose in Thailand, where large numbers were assigned near, but not in, the theater of combat operations, and heroin was readily available.

Major Arthur J Siegel, the drug control officer for the Army hospital in Bangkok, provided his general impressions from the treatment of 200 drug abuse cases among Army support troops stationed there in 1971 and 1972.[70] The population at risk had easy access to a wide range of illegal drugs, including highly pure and very inexpensive heroin, and, by Siegel's estimate, the prevalence of drug use in Thailand was identical to that occurring in Vietnam. Whereas the stressors affecting the soldiers assigned in Thailand did not include the combat environment, like the troops in Vietnam they did involve: (*a*) isolation from home, (*b*) service in a foreign (Southeast Asian) environment, (*c*) lack of identification with the military and opposition to its mission, and (*d*) absence of close military supervision. Of course, these soldiers were also affected by prodrug-use peer influence, and they reported extensive preassignment drug use experience (70%, primarily marijuana). According to Siegel, "Drug taking assumes an even stronger appeal in [Thailand], less for recreation than as a refuge from unpleasant reality."[70(p1259)] Although other drugs were commonly used by soldiers, serious morbidity from drug use as measured by the rates for hospitalization was limited to heroin users. Most heroin users preferred the oral-respiratory route because it removed the fear of needles, hepatitis, overdose, and the stigma of the stateside "junkie." Many users continued to function in their jobs while under its influence and remained inconspicuous—"a population of quasi-competent habituated users developed, quite distinct from the stereotype of the obvious 'smack freak.'"[70(p1260)]

According to Siegel the majority of heroin users suggested major underlying personality deficiencies, histories of adaptive failure, and a poor prognosis. A minority demonstrated personality strengths, and their habituation seemed to be consequent to the special setting where loosened social and legal constraints were reinforced by intense peer-group pressures to use heroin. Detoxification relied on urine monitoring, and abstinence syndromes generally proved to be "strikingly benign" (insomnia, mild agitation, and transient muscle cramps), which were controlled by reassurance or small doses of antianxiety compounds. Although 5% had a more severe flu-like illness, rarely were narcotic replacement medications required. Otherwise, Siegel's report did not include information regarding a treatment program or treatment success rate.

The similarities between the patterns of drug use in Thailand and in Vietnam suggest that being a soldier in the theater of combat operations was a minor risk factor for heroin use. However, contemporaneous with Siegel's observations, Zinberg also visited Army units and rehabilitation programs in Thailand and provided contradictory data. He judged there to be a pattern of lower heroin use among these troops and correlated this with the drastically reduced social and environmental stresses affecting the soldiers compared with those serving in Vietnam. "In Thailand, the men get days off, they can go off base, the Thais are friendly, soldiers can travel freely in the country when they have time off, there is no war anxiety, and the small numbers remaining have jobs which, while often boring, seem to have a function."[74(p268)]

As a postscript, a later report from Thailand by George Kojak Jr, an Army psychiatrist, and John P Canby, the Army hospital commander, is of less certain relevance because it occurred after all ground troops were withdrawn from Vietnam (in other words, for practical purposes the war was over) and because the study participants were a mix of Army and non-Army personnel. Kojak and Canby compared a group of 25 heroin-dependent American servicemen with a matched control group of men not dependent on heroin. The heroin dependent group averaged significantly lower IQ scores, education levels, and work performance records, and many revealed difficulties related to a distant or negative relationship with their fathers. However, overall the authors felt that their population of heroin users did not confirm a relationship between heroin dependence and any particular personality pattern.[101]

RESEARCH AND ANALYSIS: WAS THE RUNAWAY DRUG PROBLEM IN VIETNAM BEST EXPLAINED AS RECREATIONAL, AN ADDICTIVE COMPULSION, SELF-MEDICATION, COUNTERCULTURE "SACRAMENT," OR COLLECTIVE DISSENT?

The preceding review of the reports by the military physicians and psychiatric specialists and the related literature associated with use of drugs in Vietnam indicates that the management of the acute medical and psychiatric conditions there did not present unique clinical challenges. However, with respect to questions regarding epidemiology and obstacles to treatment and rehabilitation, four dimensions of soldier drug use in Vietnam warrant further exploration: (1) prevalence of use; (2) prevalence of addiction; (3) extent of soldier impairment (health and fitness, duty performance, morale, discipline, military commitment, unit cohesion, and combat readiness); and (4) motives for use. Answers to these questions also bear on the question of post-Vietnam effects, especially regarding the widespread use of heroin in Vietnam, because addiction typically carries a poor prognosis for health and general adaptation. Specifically, was use of heroin likely to recur after leaving Vietnam? Did the introduction to heroin in Vietnam initiate a seriously disabling, chronic condition? Or was soldier use of heroin there a transient phenomenon predicated on a unique collection of environmental extremes and sociocultural dynamics?

Prevalence of Use

By the drawdown phase of the war, the Department of Defense estimated that 60% of deployed personnel in Vietnam were using marijuana and 25% to 30% were using heroin[44]—figures that coincide with the unprecedented rates for use of illegal drugs reported from the field and surveys of soldiers departing Vietnam. However, the DEROS urine-identification system implemented in Vietnam after June 1971 found that only 5.2% of departing personnel were positive for morphine breakdown products (the test was not able to identify marijuana users). The likely explanation for this discrepancy is that the urine testing only captured those who were unable to discontinue use of heroin by themselves—either because they were seriously addicted (eg, physically dependent), substantially psychologically dependent, or both. In other words, 5.2% probably significantly underrepresented the prevalence of heroin use in Vietnam at that time.

Studies of Vietnam returnees permit some further clarification of heroin use patterns and prevalence in the theater late in the war. In a survey of over 1,000 returning enlisted soldiers being honorably discharged from the Army at Oakland Army terminal, also in early 1971, 23% acknowledged using heroin or other opiates while in Vietnam, and almost two-thirds of these acknowledged use greater than 10 times during their last month in Vietnam.[102,103] The 23% is somewhat less than the Department of Defense (DoD) estimate, probably because only those receiving honorable discharges were queried;

but it is substantially higher than the 5.2% with positive DEROS urines in Vietnam.

The most thorough research addressing the prevalence of heroin use in Vietnam came from the government-sponsored study of US Army Vietnam returnees conducted by Robins et al mentioned earlier. She and her colleagues interviewed 900 Army enlisted men (accompanied by urine testing) between May and September 1972, 8 to 12 months after their return to the United States. Only 16% were still in the service at that time. "User" subjects (n = 449) were a representative sample of those whose urine was opiate-positive when they left Vietnam; the remaining "general sample" (n = 451) represented all men who returned in September 1971.

These investigators found that of the general sample, 69% reported any use of marijuana, 44% reported having tried any narcotic, and 34% reported any use of heroin, usually through smoking it with tobacco—a rate that is somewhat higher than the DoD estimate. Twenty percent reported using narcotics more than weekly for at least 6 months (which the investigators labeled "addicted"). One-fifth of all heroin users began within the first week of arrival and three-fifths within the first 2 months.

Robins et al also found among the general sample surprisingly large numbers who reported using amphetamines (25%) and barbiturates (23%) in Vietnam. Only 2% of those reporting any heroin use there had used heroin specifically prior to their arrival in Vietnam (whereas 11% reported using "any" narcotic before Vietnam), and only 11% had positive urines detected at the time of their rotation home.[93,104,105] This latter figure appears to substantiate that the numbers of those who screened positive at DEROS significantly underrepresented narcotic use prevalence in Vietnam.

The last attempt to measure drug use in Vietnam was made by Frenkel et al who surveyed noncombat soldiers stationed in three locations in Vietnam (N = 1,007) compared with counterparts assigned to a stateside post (N = 856). The most striking finding—that 13.5% of the Vietnam soldiers and 14.5% of those in the United States reported use of heroin (not a significant difference)—was interpreted by the investigators as contradicting those of Robins and others, who believed that the heroin epidemic in Vietnam was unique to that theater. However, there were important differences in the findings from these studies, including that 32% of the heroin users in Vietnam reported that they started in Vietnam and that the number who used within the previous 72 hours was significantly higher among the Vietnam participants (69%) than those in the United States (44%). Frenkel et al acknowledged that their data were questionable because the late date of the survey (1972) meant that many changes had already taken place in Vietnam, particularly the implementation of unannounced urine screening of units.[106]

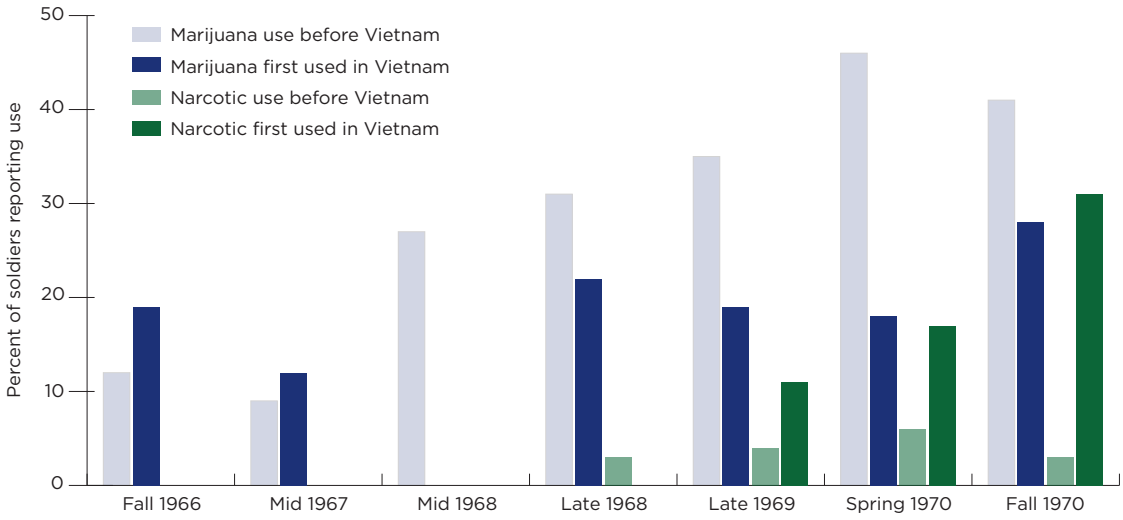
Following the war, M Duncan Stanton reviewed results from the most credible drug use prevalence studies in Vietnam, which were centered on marijuana and narcotic use and were conducted at various points during the war (Figure 9-3). Although the data he included in the review were not collected at regular intervals, Stanton's composite still revealed: (*a*) steadily rising pre-Vietnam marijuana use among the soldiers deployed there (with some decline after mid-1970); (*b*) a parallel but less pronounced rise in first use of marijuana in the theater (through 1970); (*c*) a dramatic rise in first use of narcotics by soldiers in the theater after mid-1969; and (*d*) a more modest increase in narcotic use before deployment among those serving after the midpoint of the war (late-1968).[94]

Not only do these data portray the rise in use of marijuana in Vietnam through the course of the war and heroin later in the war, but collectively they suggest a trend in which soldiers assigned during the drawdown phase preferentially used marijuana in the United States but switched to narcotics, or added narcotics, to their drug use repertoire in the theater. (Also worth recalling is the survey by Robins et al of EM alcohol use before, during, and after service in Vietnam mentioned in this chapter. Twenty-five percent of their general sample of recent returnees reported drinking problems before Vietnam; but 20% to 50% of those switched to opiate use in the theater, only to revert to alcohol upon returning to the United States.[34]) In conclusion, these studies appear to indicate that EM use of both marijuana and heroin peaked in 1970 and 1971, with roughly two-thirds of EM reporting any use of marijuana and roughly one-third reporting any use of heroin.

Prevalence of Addiction

The medical problems in Vietnam directly linked to soldier use of marijuana were evidently limited, including because of marijuana's far lower potential to be addictive compared to other illegal drugs.[73] The prevalence of narcotic addiction, however, became a critical question from mid-1970 until ground troops were withdrawn in mid-1972. Apart from obvious concerns as to heroin's effect on the health and fitness of the troops, the political

FIGURE 9-3. Trends among Army enlisted personnel in pre-Vietnam use of marijuana and heroin/morphine, and in new use of marijuana and heroin/morphine in Vietnam.



Data source: Stanton MD. Drugs, Vietnam, and the Vietnam veteran: An overview. *Am J Drug Alcohol Abuse*. 1976;3(4):560.

storm at home in response to publicity regarding soldier use and addiction in Vietnam[107] made it incumbent on the Army to distinguish between those who used heroin recreationally (a discipline problem) and those who had become addicted to heroin (a combined medical and discipline problem). Unfortunately, as the reports from the field indicated, making this distinction with confidence was practically impossible until June 1971, when a reliable laboratory method could be implemented for mass urine screening.

Considering heroin's demonstrated high addictive potential among at-risk civilians, the Army naturally assumed that rates of addiction would closely parallel rates of use. Some even considered prescribing methadone as a maintenance narcotic substitute for participants of in-service rehabilitation programs.[70,81] The observations by Zinberg from his Vietnam inspection visit in 1971 were especially revealing. He was impressed by the range of withdrawal-symptom intensity seen between the various detoxification/rehabilitation programs compared to what could be predicted based on civilian experience and concluded these differences arose because of the suggestibility of withdrawal symptoms. From this, he deduced that physiological withdrawal among the soldiers in Vietnam was most likely not as severe as the soldier, or those providing care, had anticipated.[74(p285)]

As it turned out, the apprehension of government and military leaders that the military needed to identify and treat large numbers soldiers for heroin *addiction*—that is, physical dependency—after their return from Vietnam proved to be greatly exaggerated. Although the aforementioned field reports and the DEROS urine-testing results had suggested a "relatively" low addiction rate (the 5.2% positive rate mentioned earlier), corroborative data came from a study by WRAIR. In early 1972, a team from WRAIR under the leadership of Holloway conducted physiological studies of 31 heroin users (with 5 controls) undergoing withdrawal in Vietnam. Both patients and controls were observed and monitored continuously for 5 to 7 days in a specialized ward.

The investigators were impressed by how much these heroin users differed from civilian addicts, especially the soldiers' youth, good general health, and brief exposure to heroin. The pattern of use for most of the study subjects was that of nasopulmonary insufflation ("snorting") of extremely pure heroin (92%–98%). This is a route that was not typical of most heroin users in Vietnam (who smoked it mixed with tobacco), resulting in absorption of heroin of approximately the same magnitude as through intravenous injection. However, the study subjects showed a surprisingly

brief and benign withdrawal symptomatology. This was notable considering their tolerance to very large quantities of heroin and despite the fact that morphine metabolite excretion was found as late as 14 days after their last dose. In fact, especially striking was the fact that abstinence syndromes were so mild that it was possible to conduct these withdrawal studies without pharmacologic intervention. Holloway et al concluded that the withdrawal patterns in Vietnam were less severe than anticipated, in particular because of an uncoupling of tolerance and physiological dependence.[68,108–111]

Also strongly confirming a low prevalence of physical dependence to heroin in Vietnam were post-Vietnam adjustment findings from the aforementioned survey by Robins et al of Army enlisted soldiers who left Vietnam in September 1971. As noted, close to half of the general sample (44%) reported having tried one or more narcotic drugs in Vietnam and 20% used narcotics more than weekly for at least 6 months (so labeled, addicted). However, most of those who used narcotics heavily stopped on their own when they left Vietnam and had not begun again 8 to 12 months later; and only about 5% had received some treatment for drugs in the United States—mostly mandated by the military. One percent reported addiction since their return (and 1% had positive urine tests at the time of the study), whereas the percentage reporting addiction before they were assigned in Vietnam was negligible.

Finally, among substance abuse patterns in Vietnam, a preference for heroin snorting or injecting (versus smoking), combined with frequent use of amphetamines or barbiturates and little use of alcohol, was the strongest predictor of continued narcotic use after Vietnam. Robins concluded that "[t]he results of this study indicate that dependence on narcotics is not so permanent as we had once believed. . . . Not only did many of the addicted stop their drug use without any special treatment at the time they left Vietnam but many of those who continued use have not been re-addicted."[93(p63)]

In conclusion, the findings of Robins et al are consistent with the rates for positive urine tests on DEROS testing and the unannounced unit urine testing in Vietnam and suggest that 5% of soldiers is a reasonable figure for narcotic addiction prevalence in Vietnam in 1971, the peak year for heroin use. Furthermore, drawing upon the findings of Robins et al, the DoD settled on the rate of 1.3% for those who had persisting narcotic dependence following return to the United States. Thus, of the 315,500 Army enlisted soldiers who served in Vietnam in 1970–1972, it was projected that 4,075 returnees would need government-sponsored treatment and rehabilitative services.[91]

Extent of Drug-Induced Soldier Impairment

Of course, the greatest concern of Army leaders and the Army Medical Department in Vietnam was regarding the possible negative effects of soldier use of illegal drugs on military discipline, preparedness, and performance. Confusing the picture is that the professional literature surrounding marijuana and heroin use in Vietnam made various references to soldiers using these drugs electively, stably, and without noticeable performance degradation. Some even suggested that these drugs served adaptation to the especially aversive circumstances there (to be discussed below).

Marijuana

Colbach, when he served as Assistant to the Psychiatric Consultant for the Army Surgeon (October 1969–October 1970), summed up the Army's experience with marijuana in Vietnam before it was eclipsed by heroin use. According to Colbach, although marijuana smoking became a significant problem in Vietnam, it was not as serious as the mass media indicated. ("The consensus was that marijuana had thus far not seriously affected the military mission and that there was no real sense of urgency about eliminating it."[26(p206)]) This impression coincided with Bourne's—that marijuana use, at least in the buildup phase, created almost no psychiatric problems in the theater.[112] On the other hand, in recalling his own clinical experiences serving as a psychiatrist at the 67th Evacuation Hospital in Vietnam (November 1968–November 1969), Colbach noted, "[Although] I came across no case in which there was definite evidence that aggression directed toward the self or others could be attributed primarily to marijuana [it] was associated with ineffectiveness, panic states, and psychoses. . . ."[26(p206)] Bey and Zecchinelli were not completely sanguine about marijuana use among the soldiers of the 1st ID in 1969 either. In their opinion, under those circumstances it provided a "costly homeostasis," at least among psychologically susceptible soldiers, because of its potential to generate disabling neuropsychiatric reactions.[63]

Heroin

In Stanton's review of the drug use prevalence studies across the course of the war mentioned earlier,

he speculated that both Robins' finding of a remission rate of 95% for heroin-using soldiers once they returned to the United States and the lack of other data indicating that heroin use degraded individual or group performance in Vietnam, suggested that heroin may not have been more deleterious than alcohol use in previous wars.[62,94] Echoing this perspective, that is, that regular heroin use was not broadly disabling, were some findings from Zinberg's inspection visit to Vietnam in 1971. Among various corroborative observations, Zinberg recalled the military judge who indicated that, to his surprise, 80% of the men appearing before him because of heroin use had top efficiency ratings from their commanding officers.[74]

The report from Joseph, an Army flight surgeon, appeared confirmatory as well. He and his rehabilitation program staff felt that they had little impact in part because most of the heroin users in their area had stable habits and did not desire to stop their drug use.[89] Siegel, an Army physician with the Army hospital in Bangkok, was more specific. He indicated there was a large population of habituated soldiers in his area who continued to function in their jobs while they were inconspicuously under the influence of heroin ("quasicompetent").[70]

Finally, there were the observations of Baker from his 1971 inspection visit to Vietnam and the Pioneer House rehabilitation program on the post of II Field Force headquarters:

> Analysis of the most recent 100 graduates of the program revealed a surprising profile of the hard drug user compared [to] that of civilian addicts: his average age was 20 y.o.; 25% of the time he's married; in 90% of the instances both parents are alive, and in 75% of the instances the parents are neither separated nor divorced; 50% of cases had no record of disciplinary actions and another 25% have had only one Article 15. In summary, the profile of the potentially rehabilitatible drug user was described as strung out on heroin, but you don't know it—he's doing his job. [See Appendix 18, "Excerpts From the Holloway/Baker Report."]

Still, it cannot be overlooked that the aforementioned clinical reports from Army psychiatrists and other physicians indicated they were required to treat a sizable subset of soldiers in Vietnam who became disabled by neuropsychiatric conditions, including serious withdrawal syndromes, associated with both marijuana and heroin use. These were individuals who adopted atypical patterns of drug use, for example, heavy use of marijuana and heroin, intravenous use of heroin or use via snorting, and polydrug use, which led to psychological dependency, and, with respect to heroin, physical dependency. They also typically had premilitary histories of personality deficits and other forms of individual psychopathology, including polydrug and narcotic use.

Effects on Combat Performance

Of course, among combat troops, nothing rivals the importance of the effects of drug and alcohol use on the capacity of the soldier to perform in battle. Unfortunately, specific conclusions regarding combat efficiency in Vietnam for drug-using soldiers must remain impressionistic because of the lack of data. With respect to marijuana use, Spector, the military historian, noted that at least through 1968 and 1969 (before heroin was available), few if any soldiers used drugs during combat; however, marijuana was used by some after a battle to help them calm down.[12(p275)] The latter observation was corroborated by the Roffman and Sapol survey of soldiers departing Vietnam in 1967,[14] by Postel with the soldiers of the 4th ID in 1968,[50] and by Treanor and Skripol with soldiers of the 173rd Airborne Brigade in early 1970.[65] As late as fall 1971, senior Air Force psychiatrists Mirin and McKenna inspected a dozen military installations in Southeast Asia and conjectured that marijuana's sedative and tranquilizing properties were beneficial in helping combat troops diminish anxiety and blunt the hyperaroused state frequently seen between periods of combat.[51] Sanders came to a similar conclusion from his interviews with returning veterans between 1967 and 1970: that although few reported use of marijuana while on patrol, they habitually used it to unwind after the intense pressures of combat.[113] However, perhaps as a contradictory finding, Stanton's survey of soldiers departing Vietnam in late 1969 found only a slight positive correlation between frequency of marijuana use and "exposure to enemy fire."[62(p285)] (See also Chapter 7, Exhibit 7-4, "Use of Pharmaceuticals to Bolster Combat Performance.")

Matters are more ominous once widespread heroin use entered the picture in Vietnam. Even if habitual heroin users could meet performance standards, risks of use would invariably become magnified because of the necessity of an accessible supply. In their survey of 1,000

returning enlisted soldiers in 1971, Bentel et al found some who spoke of using drugs to increase sensory awareness. They described soldiers reporting that they carefully titrated the use of marijuana plus heroin while on combat patrols to calm down, enhance alertness, and increase suspicion of enemy activity.[114] During his inspection visit in 1971, Holloway found evidence of prevalent heroin use among combat and combat support units. According to Holloway, "Trips to nearby fire bases verified that heroin was being used in the field and on patrol, but heroin use had infiltrated every level of the brigade structure including the medical battalion."[83(p2)] More broadly, he and his research colleagues ultimately concluded that drug abuse, primarily heroin, among US military forces represented a "significant threat to combat readiness."[68(p1191)]

Risk Factors for Drug Use

In many respects the dominant patterns of soldier use of the most common drugs used in Vietnam—marijuana and heroin—resembled those of alcohol in previous wars, that is, they were casually and spontaneously consumed in off-duty circumstances among socially defined groups for the purposes of emotional numbing, disinhibition, and promoting group solidarity. But understanding the motivation for the skyrocketing rise in the use of these drugs as the war prolonged, especially marijuana and heroin, by lower-ranking EM requires consideration of additional features, including predeployment variables—(*a*) the youth drug culture; and (*b*) individual predisposition; and Vietnam theater variables: (*c*) the ubiquitous drug market; (*d*) reduced combat activity and military demobilization; (*e*) social dynamics of enlisted troops there; (*f*) antiwar, antimilitary authority passions; and (*g*) drug use as "self-medication."

Predeployment Variables

The Drug Culture. The most conspicuous predeployment influence on drug use among the general population of young EM in Vietnam was that of peer group norms. Chapter 1 made the case for the increasing popularity of illegal drug use among civilian peers, especially marijuana. But it should be remembered that this was more than a peer group fad and an alternate means to increase pleasure; marijuana had also become emblematic for the burgeoning antiestablishment passions shared by young adults in America at the time. The serial drug use surveys in Vietnam reviewed in this chapter substantiated that the sequential cohorts of soldiers brought these drug attitudes and habits into the theater with them. However, as Stanton demonstrated, their civilian counterparts were not as accepting of heroin use as they were of marijuana use,[94] thus the enthusiasm for heroin among the soldiers in Vietnam requires further explanation.

Individual Predisposition. Extent of pre-Vietnam susceptibility is a more complex variable. Soldiers alleged that their heroin use in Vietnam was a reasonable adaptation to the unreasonable situation the Army had thrust them into; that they were not sick or impaired and could stop heroin use when they were released from Vietnam and the Army; or, if not, it was the Army's fault and the Army should provide a painless way to facilitate their discontinuing drug use as well as relieve them of any negative consequences for their drug use such as punishment or an unfavorable discharge from the service. But according to psychiatric researcher Holloway, drug use was more frequent among soldiers with characterological low self-esteem, for example, psychopathology, especially those with pre-Vietnam history of polysubstance use.[69]

The literature from the Army mental health professionals who worked in the field with drug users in Vietnam showed some lack of consensus regarding predisposition, ranging from characterologically susceptible and maladjusted[59,63,65,77] to uncertain,[52,89] at least for the soldiers who presented with symptoms. A corollary question also remained unanswered: how much should be generalized from clinical populations to the majority of drug using soldiers—those who did not require medical attention? Was their use also secondary to character defect? In attempting to answer these questions, professional disagreements surrounded the question of which soldiers were physically dependent, that is, whether a given soldier's continued drug use was an expression of "sickness" or misconduct (as mentioned earlier, it is notoriously difficult to distinguish the extent of physical dependence without objective means). (See also the summary of Cohen's speech to the I Corps Medical Society in Chapter 4.)

A study of the Minnesota Multiphasic Personality Inventory (MMPI) results of 101 Army enlisted soldiers detained for heroin detoxification prior to their return from Vietnam to the United States (September 1971–April 1972) by Hampton and Vogel did not definitively answer the question of predisposition. These investigators found a marked heterogeneity of

psychological test types. They concluded that 55% of their sample had abnormal MMPIs, whereas 35% had normal MMPIs. However, when they matched their results against those from civilian addicted groups, they noted that the military group had less psychopathology and a lower incidence of sociopathy.[115]

In their study, Robins et al collected demographic information comparing Vietnam returnees who used heroin in Vietnam with those who used no drugs or only marijuana. They found heroin users to be younger, single, less educated, from larger cities, and more often reared in broken homes. They also were more likely to come to Vietnam with a history of deviant behavior (crime, drug use, or high school dropout). Race was not significantly related to drug use, although blacks were more likely to be detected as opiate-positive at the point of their return to the United States. However, the strongest preservice factor that predicted continuing use after Vietnam was preservice narcotic use. The only pre-Vietnam military indicator was a history of disciplinary action.[104,105]

Especially salient was the finding that neither predisposition nor setting alone predicted narcotic use in Vietnam; they must be considered as an *interaction*. In other words, because Vietnam offered much greater availability of heroin than in the United States, this increased the impact of a predisposition to abuse narcotics ("abuse" is defined broadly). Soldiers with histories of preservice deviant behavior who did not use heroin prior to Vietnam may simply have lacked opportunity, but those who had the opportunity before service and chose not to use narcotics then might be expected to be mostly invulnerable to use in Vietnam (and they added, "perhaps because they were satisfied with alcohol.") It must be noted, however, that in their analysis Robins et al considered high drug accessibility as the principal intratheater, drug use-promoting influence.[35]

Finally, studies of Army returnees from the drawdown phase in Vietnam who exhibited persisting combinations of drug and alcohol problems as well as depression 2 to 3 years following their reentry into the United States strongly pointed to preservice risk factors of early alcohol problems, polydrug use, and antisocial behavior.[116]

Vietnam Variables

The Drug Market. The most prominent intratheater factor that fostered soldier use of illegal drugs was accessibility, especially to marijuana and heroin. These drugs were characterized by their exceptionally high potency (or purity in the case of the heroin), exceedingly low cost (by the standards of the soldiers), and the efficient distribution system throughout the country by indigenous Vietnamese. However, as has been noted, military order and discipline became far more threatened by the widespread use of heroin than marijuana. Many suspected that the marketing of heroin in Vietnam represented a communist strategy to demoralize both the US troops and the American public.

Over time, more convincing data suggested that widespread corruption among South Vietnamese officials, highly efficient criminal syndicates, and opportunity were primarily responsible. Increased demand among US troops in Southeast Asia brought expansion of the Golden Triangle's heroin-refining facilities, almost all of which were owned and protected by pro-American Thai and Laotian forces. Thai, Laotian, and South Vietnamese air forces and the paramilitary charter airline companies, such as Air America and Continental Air, soon dominated the opiate transportation business.[117] This suggested that the soldier demand for drugs fueled the market as opposed to the opposite, that is, that the market fueled the demand. Probably the best guess is that they were mutually reinforcing.

Heroin's High Addictive Potential. Did soldiers who experimented with heroin become physically compelled to extend their use because they needed increasing amounts to experience the same high or to avoid unbearable withdrawal symptoms? The aforementioned reports from the field that indicated low levels of addiction, the corroborative findings from the withdrawal study of Holloway et al, and the postdeployment addiction rates measured by Robins et al seem to rule out the likelihood that heroin's high addictive potential explained more than a fraction of the high prevalence of use by the lower-ranking enlisted soldiers in Vietnam (eg, 34% use prevalence vs 5% addiction prevalence). Still, this suggests that one out of every seven soldiers who used heroin became addicted—not an insignificant fraction).

Reduced Combat Activity and Military Demobilization. Because roughly one-third of soldiers, E-4 and below, were using heroin, at least occasionally, and use at this high rate cannot be fully explained by its accessibility or addictive potential, premorbid personality defects, or civilian peer-group norms, its use must, in large measure, be circumstantially determined, as was suggested by Robins et al. And if so, it also must be considered

volitional. So, what can be said about the circumstances faced by these drawdown-phase soldiers? A common myth that emerged from the Vietnam era was that heroin use was driven by combat stress; but this is very unlikely because use of heroin was rising as combat risk and numbers of casualties were dropping.

Holloway reported that heroin users told his investigation team they used drugs "to turn the place off" and that this was necessary because of the unique stresses in Vietnam (eg, boredom, being "hassled by lifers," bad living conditions, or combat).[69] Similarly, Stanton reported "boredom, disenchantment with the war, and feelings of victimization"[94(p562)] as soldier justifications.[94] In their study of late-war Vietnam returnees, Robins et al found no statistical correlation between heroin use and assignments, danger, or death of friends. Besides the wish to achieve euphoria, the most common explanations for use by their study participants included intolerance of Army regulations, homesickness, boredom, depression, and fear.[104]

In many respects these were predictable symptoms of a disengaging military force.[98,118–120] Even the use of narcotics by US soldiers was seen at the close of the Korean War, apparently partly attributed to increased drug accessibility.[41] Still, various indicators suggest that the troops during the drawdown in Vietnam were even more restive and antagonistic than those deployed at the close of the earlier conflicts and that the widespread use of narcotics, which was unprecedented in its scope and inconsistent with civilian, peer group norms, was a symptom of, and expressive of, their discontent and impatience.

As attested by Holloway from his drug program inspection trip, soldier survey, and studies of narcotic withdrawal in Vietnam, the process of withdrawing US forces from Vietnam brought significant, morale-depleting stressors for the soldiers deployed in the last years. Not only were combat risks still present, the outcome ambiguous, and public opposition intensifying, but also: (*a*) reduced combat activity was producing role uncertainty (eg, loss of a sense of purpose and justification for personal sacrifices of deployment); and (*b*) attrition and reconfiguration of units were contributing to decreased unit identification and cohesion (eg, reduced sense of commitment to military cohorts and the military mission).[69]

Social Dynamics of Heroin Use Among Enlisted Soldiers. Consideration of the soldier's social relationships is critical in understanding his drug use. Although a full discussion of the social psychology of soldiers is generally beyond the scope of this work, suffice it to say that the establishment of groups (cliques) by soldiers is necessary and predictable. Such groups constitute the alliances the soldier makes with those he feels are most like him and from whom he draws a sense of intimacy, affirmation, and security in the face of the rigors and strictness of military life. As such, they have traditionally allowed soldiers to maintain their psychological balance and resiliency. Group life is centered on maintaining boundaries, common values, and status discriminations within the group and establishing group-sanctioned/required behaviors.

Formation and maintenance of such groups is even more important for lower-ranking enlisted soldiers because they are the least powerful individuals within the larger system (lowest status, fewest assets). As a baseline, group stability and membership would be predictably even more important for the soldiers deployed in a dangerous, austere situation a long way from home—circumstances such as Vietnam. But, as noted previously in this work, the Army's 1-year, individualized rotation/replacement system in Vietnam was especially disruptive to soldiers maintaining unit ties and mission-centered allegiances.

MG Spurgeon Neel, the former MACV Surgeon, noted that there were signs as far back as 1969 and 1970 indicating the growing presence of dissenting soldier subgroups in Vietnam that were more motivated by racial, political, and especially drug culture priorities[16(p48)] (vs those centered on traditional military/combat objectives and respect for military leaders). By 1971, Zinberg understood the heroin-using soldiers in Vietnam as "socially habituated"—vs the psychologically or physically habituated, civilian addicts.[95] Similarly Holloway concluded, "[H]eroin use in Vietnam is best viewed in terms of the social structure that encouraged and maintained usage rather than in terms of personality, demographic, or pathological characteristics of individual users."[68(p1198)]

Exploration of the group dynamics that operated in Vietnam was undertaken by Larry Ingraham, an Army social psychologist. In late 1971, he conducted a stateside study of a cohort of 78 soldiers who had been identified as opiate-positive at the conclusion of their Vietnam assignment. Nearly three-quarters had used at least one illegal substance weekly prior to entering the Army, and at least one-fifth had tried heroin before Vietnam. However, demographic and other descriptors of the

study respondents did not clearly identify premilitary service risk factors. Most reported they smoked or "snorted" the heroin while in Vietnam, and, within their "head" society (communal, drug-using lower-ranking enlisted), status discriminations centered on drug choice and usage pattern, with the highest level for the exclusive marijuana users and lowest for those preferring barbiturates and amphetamines.

Although acknowledging that they had become dependent upon heroin in Vietnam, the study participants justified their use as adaptive to the unique stresses of the theater (not typically combat stress), considered their use as on a minor scale because they had not injected drugs, and denied any need for further treatment or rehabilitation because they maintained their habits in Vietnam without losing function or resorting to theft. Their jargon exalted the enlisted "heads," denigrated the "lifer/juicers" (alcohol-consuming career military superiors), and expressed intense anti-Army and antiwar passions. According to Ingraham, the principal dynamic underlying their drug use was that it fostered a bonding with others who shared specific attitudes and values, especially regarding drug use.

Group membership meant the soldier could experience an immediate and intense sense of acceptance and support. Curiously, perhaps because he did not conduct his research in Vietnam, Ingraham alleged the soldiers' antagonism about the Army and the war did not represent a political ideology or a rejection of conventional values. He argued they were repeating enlisted coping styles that had been observed in prior armies in war.[121] Nonetheless, his study made clear that among these heroin-positive soldiers, drug use and counter(military) values were fused and served to define these as "counter(military)-culture" groups.

Heroin Use Expressing Opposition to the War and Military Authority. As described in Chapter 1 and Chapter 2, following the drug-naïve years of the build-up phase in Vietnam, use of marijuana and other drugs began to rise in tandem with dropping soldier morale—a prelude to the heroin epidemic after mid-1970. Over time, the emergence of EM splinter groups, which were commonly centered on surreptitious drug use and antiwar, antimilitary attitudes, became evident to medical and mental health observers in the field. First notice of these motivational influences appearing in the psychiatric literature came in 1968 from observations by Colbach and Crowe working at the 67th Evacuation Hospital with a mix of combat and support troops. Imahara, from his vantage point of stockade psychiatrist in the "Long Binh Jail" (stockade) in 1968 and 1969, warned that there was a growing problem with disruptive, deviant soldiers—men who expressed, including through drug use, intense, essentially collective, hostility toward the military as an oppressive institution. This was especially prominent among black soldiers who viewed the white officers and NCOs as their persecutors.[122(p57)]

Bey, division psychiatrist for the 1st ID, and Zecchinelli, social work/psychology specialist, saw increasing marijuana use among the soldiers of the division in 1969 as expressive of counterauthority sentiments. Recall from earlier his observations regarding the growing trend for soldiers to adopt a "head" identity and primary affiliations with like-minded soldiers.[63] Mirin and McKenna found a similar social dynamic with respect to the patterns of marijuana use during their 1971 drug investigation tour, that is, that use served as a peer group sacrament, binding comrades and defining (alternative) group boundaries.[51] And in his journal, Ratner, serving at the 935th Psychiatric Detachment in 1970 and 1971, emphasized that antimilitary "passive-aggressiveness" was central in the psychodynamics of the heroin user (eg, it was a form of low-risk dissent and protest against the "ghetto" existence the lower-ranking soldiers felt forced to endure in Vietnam). Finally, contemporaneously with Ratner, this author found collective, antimilitary authority passions at least as motivationally influential as the pursuit of euphoria among the drug-using mix of combat and support troops encountered at the 98th Psychiatric Detachment (see Prologue).

Linden's report of his investigative visit in 1971 provided first-person testimony on the critical link between heroin use and the near-the-flashpoint dissidence that was so prevalent among the lowest ranks:

> Contending with heroin use in a mutinous unit with strained race relations is overwhelming to an officer trained only to order and deploy his men. The rear echelon officer stands over a caldron where the soldier's every atavistic impulse is boiled to the surface by the heat of enforced proximity. . . .
>
> At some bases, such as Camp Eagle [101st Airborne Division base], it seems that the commanding officer of every unit leads what in any other war would be singled out as a rare "trouble" unit. . . .
>
> [Heroin] is one device the [soldier] uses to live through a tour in Vietnam without being there.

> The drug—or evidence of it—is everywhere. If you look down through the slats of a base bus station anywhere in Vietnam, you will see dozens of the little glass vials that once contained the 96 to 99 per cent pure heroin. . . . Army psychiatrist Dr. [Robert] Landeen, who was with the 101st Airborne . . . found that in several companies as many as 40 per cent of the men used heroin. Peer group pressure only partially explains the rapid spread of use of heroin. Bill Karabaic, a drug counselor with the division, told me that for many [soldiers], fighting a war in Vietnam is so confusing and inassimilable that . . . they feel they are in a dream, that they are not really themselves. Because life there is not real, it becomes acceptable to snort skag [heroin] and frag [assassinate] the sarge. That's what your buddies are doing. When the dream stops and you return safely to the [United] States, you will stop—or so goes the dream. "Vietnam is a bad place to be," said Karabaic, "and most people want to get through as quickly and painlessly as possible. Heroin makes the time fly."[123(p13)]

Drug Use as "Self-Medication." Of course, the flip side for drug use as pathological is the prospect that it could support adaptation. As the preceding section described, an apparently untenable situation arose near the end of the war in Vietnam in which enlisted troops were pitted against their military leaders. By 1970, the first-term soldiers assigned in Vietnam, along with a sympathetic American public, became convinced that the government and the military were making them sick by keeping them there, and they felt blameless in using heroin—as self-medication. Of course, in a colloquial sense the same claim can be made by anyone who electively uses a mind-altering drug—that it is "therapy." On a practical basis, because these substances were illegal to possess in Vietnam, this is a moot point. But as a natural experiment it behooves one to consider that possibility, at least for soldiers not predisposed to misuse. Could marijuana, or heroin, used in the fashion most soldiers did, that is, via smoking, have served a coping, stress-mitigating function? In other words, did it promote adaptation under the particular morale-depleting combat theater circumstances in Vietnam? It certainly appears to have been unwittingly assumed by military leaders that alcohol use would serve this function throughout the war as it might have in earlier conflicts.

It would seem self-evident that the casual use of mind-altering substances is a threat to military discipline and overall combat preparedness but, in fact, many professional commentators, most of whom were not serving in Vietnam, interpreted the accelerating marijuana use and the later heroin epidemic in Vietnam as "self-medication," "therapy," and a "coping device." For example, from their interviews with Vietnam returnees, Bentel et al described the social bonding facilitated among soldiers by the communal use of heroin akin to marijuana use in the United States. They also claimed that many used drugs as therapy for their despair, boredom, and frustration.[114] Stanton served as an Army psychologist in Vietnam in 1969 and conducted a major drug use survey there.[62] Later he explored the drug abuse histories of Vietnam veterans and developed a similar perspective:

> What we had [in Vietnam] was a form of massive *self-medication* [author's emphasis] utilizing substances which, in addition, provided thrills and were amenable to a kind of small group communion experience. Certainly factors such as curiosity, rebellion, escape, and anti-fatigue were also important, along with deterioration in morale/discipline concomitant with mounting disenchantment with the war.[94(pp566–567)]

Sanders came to a similar conclusion from his interviews with returning veterans between 1967 and 1970. According to Sanders, drugs provided soldiers a means for counterauthority and antiwar group affiliation, as well as a personal mechanism for "manipulating time" and withdrawing from the pressures and frustrations of Vietnam—"a realistic and rational attempt at self-medication."[113(p64)] Colbach and Crowe saw motives for marijuana use along two planes: it served simultaneously as a "coping device" for the surrounding stresses and a "means of acting out against military authority. . . ."[59(p572)] Similarly, from their inspection visits to a dozen military installations in Southeast Asia in fall 1971, Mirin and McKenna, both Air Force psychiatrists, opined that the extensive use of marijuana was a means for lowering individual tension and that it represented a mostly adaptive coping strategy. ("Its ready availability and wide peer group acceptance made it the drug of choice among younger enlisted personnel for the self-medication of anxiety, anger, and depression."[51]) In Hawaii, Golosow and Childs concluded that among the 36 soldiers they treated

for withdrawal, heroin use in Vietnam had become a "coping device under trying and unusual circumstances in an alien world."[90]

So, given all these references to drug use in Vietnam as self-medication (ie, to blunt feelings of distress and even to quell the temptation to desert, mutiny, or attack a leader), and considering the requirement that the military field an effective fighting force in a theater of war, to what extent should drug use in Vietnam be considered misconduct, or overlooked as adaptive? Applying a medical model for explaining soldier drug use creates a conundrum: if possession of a drug is illegal, its use is "bad" (ie, misconduct), and military leaders are correct to, apart from offering some flexibility (the amnesty program), enforce the laws and regulations against drug use in order to shore up the deteriorating discipline and ensure combat readiness. On the other hand, if there is a growing consensus, including among military medical personnel, that use of these drugs is medicinal, is it not instead "good"? This riddle (adaptive, justifiable vs maladaptive, not justifiable) is conceptually resolvable if the overlapping motives behind soldier heroin use are deconstructed. To paraphrase from this volume's Prologue, through using heroin, soldiers in drawdown Vietnam sought to fulfill the four goals of: (1) temporary psychological "removal" (from place and circumstance); (2) submersion in an affirming affinity group; (3) pharmacological relief of individual tension; and (4) counterauthority behavior, that is, expressing passively and collectively an intent to sabotage the institution and thwart its authorities—a potential that was heightened *because* possession was illegal.

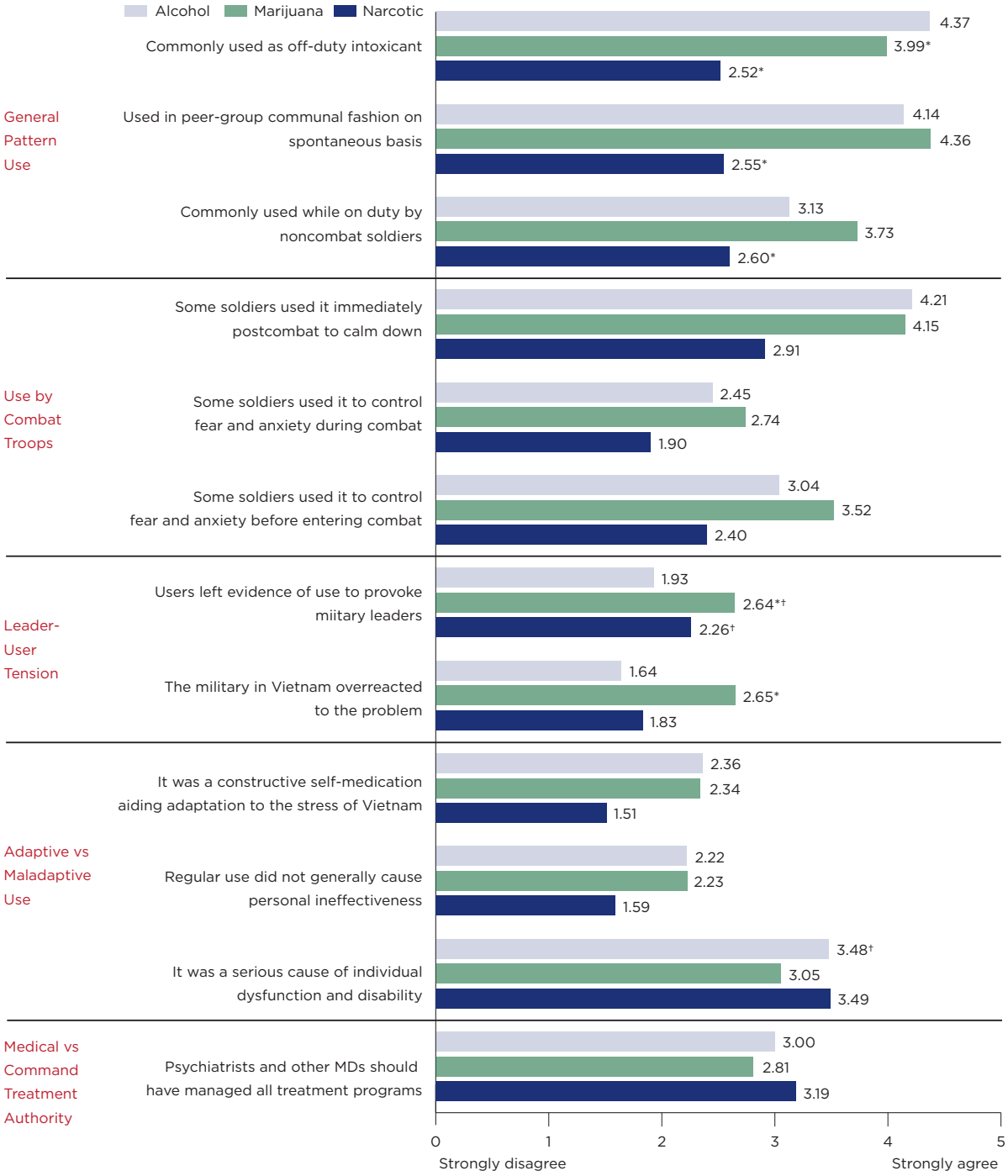
The first three of these motives might reasonably be seen as self-medication (and could refer to the use of alcohol as well), but because "counterauthority behavior" is also included, then the overall set serves as misconduct, at least by military standards. As a corollary, it would seem possible that only those with similar antimilitary sympathies would conclude that a behavior motivated by that objective should be defined simply as coping or (self-) therapy. Thus, by extension, the conundrum only persists if motive (4), which implies self-inflicted disability and sabotage—if not mutiny, or even desertion (psychological), remains unacknowledged. Somewhat in defense of the troops serving in drawdown Vietnam are Holloway's observation that the troops serving late in the war were "carrying out a mission which is less than universally popular,"[69(p112)] Mirin and McKenna's "[soldiers] lack a shared ideologic conviction about the war,"[51(p483)] and Baker's "[the soldier there] draws little esteem from contributing to an unpopular war effort"[124(p857)]; however, these characterizations dramatically understate the bitterness and resentment borne by these soldiers. More accurate and complete would be to say that the war became universally despised among those assigned there, most of whom were "citizen soldiers"; and that for the majority, pre-Vietnam loyalty to military objectives, means, and authority were consequently replaced by mistrust and antagonism as evidenced by inverted morale. Furthermore, by inference, these passions were among the primary reasons that lower-ranking soldiers elected to use illegal, socially forbidden, mind-altering drugs with such abandon while they were there and not upon their return to the United States.

WALTER REED ARMY INSTITUTE OF RESEARCH PSYCHIATRIST SURVEY FINDINGS: PATTERNS OF DRUG AND ALCOHOL ABUSE IN VIETNAM

The following extends the summary of findings from the WRAIR postwar survey (1982) of Army psychiatrists who served in Vietnam that was begun in Chapter 5. In that chapter, Table 5-3 noted that the Army psychiatrist participants in the WRAIR survey estimated that over the course of the war, alcohol dependence syndromes represented 10.4% of their diagnosable cases. They also indicated that drug dependence syndromes collectively represented 15% of their diagnosable cases, with psychiatrists who served in the second half of the war reporting significantly higher estimates (19%) than those who served in the first half of the war (8.1%). Also, in Chapter 8, Table 8-4 indicated that among a list of 17 behavior problems in Vietnam requiring professional involvement, survey psychiatrists ranked excessive use of alcohol as second and marijuana use as fourth. When the second half of the war was considered separately, heroin use (via smoking) was the sixth problem behavior, barbiturate use was seventh, and use of stimulants or hallucinogens was eighth.

To further explore patterns of use and effects for alcohol, marijuana, and narcotics, survey psychiatrists were provided 12 statements and asked to indicate for each the extent of their agreement on 1-to-5 scale with 1 = strongly disagree to 5 = strongly agree. Results are presented in Figure 9-4 and Table 9-2.

FIGURE 9-4. Means of survey psychiatrists' experience with substance abuse in extent of agreement on 1-to-5 scale with 1 = strongly disagree to 5 = strongly agree (N = 30–69). Responses are arranged in five conceptual groups.



Significant Anovas are indicated as follows:

* Early/late, that is, comparing responses of psychiatrists who served in the first versus second half of the war

† Support/combat, that is, comparing responses of "support" psychiatrists (those who only served with hospitals) and "combat" psychiatrists (those who served any time with a combat unit). [Subgroup values are shown in Chapter 9, Table 9-2].

TABLE 9-2. Statistically Significant Results for Subgroup Values (From Figure 9-4 Using Analysis of Variance)

Item	Drug	Total Sample	"Early" psych (n=33)	"Late" psych (n=38)	p. value	Support psych (n=39)	Combat psych (n=32)
Commonly used as off-duty intoxicant	Marijuana	3.99	3.59	4.30	.026		
	Narcotic	2.52	1.85	3.00	.001		
Used in peer-group communal fashion on spontaneous basis	Narcotic	2.55	1.89	2.94	.011		
Commonly used while on duty by noncombat soldiers	Narcotic	2.60	1.78	3.10	.001		
Users left evidence to provoke military leaders	Marijuana	2.64	2.09	3.03	.009		
					.031	2.96	2.25
	Narcotic	2.26			.034	2.65	1.75
The military in Vietnam overreacted to the problem	Marijuana	2.65	2.04	3.09	.015		
It was a serious cause of dysfunction and disability	Alcohol	3.48			.014	3.81	3.07

Psych: psychiatrist
Early: survey psychiatrists who served in the first half of the war
Late: survey psychiatrists who served in the second half of the war
Support: survey psychiatrists who served at hospitals
Combat: survey psychiatrists who served *anytime* with a combat unit

Several of the survey findings are striking and consistent with the preceding material. The more dramatic findings are high frequency for: extensive off-duty, communal use of marijuana, alcohol, and (late war) narcotics; common use of all three by noncombat troops while on duty; and extensive use of alcohol and marijuana by combat troops postcombat and, to a lesser extent, before entering combat. It is also noteworthy that the survey psychiatrists appear to refute the idea that any of these substances served adaptation in Vietnam. Instead they perceived that not only were all three drugs serious causes of individual dysfunction and disability, but that alcohol was the most deleterious, especially among noncombat troops.

SUMMARY AND CONCLUSIONS

Chapter 8 reviewed the psychiatric record and related literature pertaining to psychiatric and behavior problems for Army troops in general, especially the accelerating rates associated with the collapse of morale and military discipline in Vietnam as the war lengthened. Chief among them were clinical conditions stemming from the use and abuse of mind-altering substances, primarily alcohol, marijuana, and heroin. This chapter extends that review through a closer examination of the effects of these drugs, which proved to be especially insidious and disabling forms of soldier misconduct and dissent. The following summarizes the most salient observations:

- **It can be concluded from the available psychiatric reports and results of the WRAIR psychiatrist survey that among both enlisted troops and officers, there was a steady and high prevalence of alcohol problems, both as abuse (most) and as addiction (some), over the course of the war. Whereas modest alcohol use may have served traditional military ends in Vietnam by facilitating off-duty psychological numbing of the ordeals inherent in serving there and small group bonding, it also negatively affected the health, fitness, and performance of a sizable subset of susceptible soldiers.**
  - The Army in Vietnam did not collect epidemiologic data on alcohol problems identified as such.

- Psychiatrists' reports from the field suggested that between 10% and 20% of their cases were either primarily alcohol related or that alcohol was an aggravating factor.
- Psychiatrist respondents to the WRAIR survey indicated that alcohol was as serious a cause of soldier dysfunction and disability in Vietnam, as was heroin, especially among support troops.
- Psychotropic drugs (Thorazine was used most frequently, followed by Librium), were reported to be helpful in treating acute alcohol abuse.
- There were no effective treatments utilized for alcohol dependency in the theater. Apparently, for many of the affected soldiers (typically those with higher ranks), intractable or recurrent bouts of alcohol abuse ended their careers through administrative elimination from the service for alcoholism or related ineffectiveness. The anecdotal record suggests that some individuals chose suicide as an alternative. Also, some received medical evacuation out of the theater, even though this would have been contrary to Army policy because their acute condition would have quickly remitted while receiving hospital-level treatment in Vietnam.

- **Illegal drugs—primarily marijuana and hashish, barbiturates, stimulants, and narcotics—were commonly used socially by lower-ranking enlisted soldiers in Vietnam, and their use accelerated as the war prolonged. The Army failed to contain this epidemic or develop successful treatment and rehabilitation programs in the theater. These circumstances presumably jeopardized combat readiness and hastened the American pull out.**

  - During the buildup years, the rising prevalence of drug use, primarily marijuana and hashish, among first-term enlistees was evident, with a small percentage of users requiring inpatient psychiatric treatment for toxic brain syndromes (often with psychotic symptoms). The treating psychiatrists concluded that the locally grown marijuana was primarily responsible because of its especially high potency. After a few days of hospital management under conditions of abstinence, often augmented with use of psychotropic medications, the conditions remitted and these soldiers could be returned to duty with their units. However, some soldiers, apparently those with greater premorbid susceptibility, had more prolonged disability and required evacuation out of the theater for additional treatment.
  - By the transition years, drug problems became more common and complex and suggested eroding military health and discipline in the theater. Psychiatrists' reports and WRAIR psychiatrist survey data indicated higher and heavier marijuana use prevalence (approximately half of younger enlisted reported some use) than earlier, including among combat troops, with an associated rise in the number of soldiers requiring treatment for toxic brain syndromes. Clinical problems resulting from polydrug use also increased, especially among support troops, which involved their use of marijuana mixed with opium, amphetamines, or barbiturates. Some of the reports indicated that emerging troop disaffection appeared to be correlated with increasing drug use.
  - The drawdown phase of the war was dominated by an epidemic of heroin use among first-term enlisted soldiers (reported use as about one-third of soldiers), both combat and noncombat troops, accompanied by addiction and withdrawal problems for many (prevalence for addiction, ie, physiological dependence, was estimated to be approximately 5% of troops). The accelerating rates coincided with the widespread antagonism of lower ranks toward military authority and the US mission in Vietnam. Army leadership and medical/psychiatric personnel strenuously sought to stem this trend and identify and treat/rehabilitate heroin users, but poor results and public protest led to the medical evacuation of thousands of soldiers from the theater for continuing narcotic use. Although there was ample evidence that the soldiers who were more likely to become heavily involved in drug use were developmentally and characterologically predisposed, the widespread use of heroin indicated that social pathology and associated crisis had trumped individual psychopathology as causation. Moreover, in the end this insoluble medical/morale problem within the

ranks became the Army's Achilles' heel and emblematic of America's failure in Vietnam.

REFERENCES

1. Evans ON. Army aviation psychiatry in Vietnam. *US Army Vietnam Med Bull*. 1968;May/June:54–58.
2. Baker SL Jr. Drug abuse in the United States Army. *Bull N Y Acad Med*. 1971;47(6):541–549.
3. Rock NL, Stokes JW, Koshes RJ, Fagan J, Cline WR, Jones FD. US Army combat psychiatry. In: Jones FD, Sparacino LR, Wilcox VL, Rothberg JM, Stokes JW, eds. *War Psychiatry*. In: Zajtchuk R, Bellamy RF, eds. *Textbooks of Military Medicine*. Washington, DC: Department of the Army, Office of The Surgeon General, Borden Institute; 1995: 149–175.
4. Jones FD. Disorders of frustration and loneliness. In: Jones FD, Sparacino LR, Wilcox VL, Rothberg JM, Stokes JW, eds. *War Psychiatry*. In: Zajtchuk R, Bellamy RF, eds. *Textbooks of Military Medicine*. Washington, DC: Department of the Army, Office of The Surgeon General, Borden Institute; 1995: 63–83.
5. Watanabe HK, Harig PT, Rock, NL, Koshes RJ. Alcohol and drug abuse and dependence. In: Jones FD, Sparacino LR, Wilcox VL, Rothberg JM, eds. *Military Psychiatry: Preparing in Peace for War*. In: Zajtchuk R, Bellamy RF, eds. *Textbooks of Military Medicine*. Washington, DC: Department of the Army, Office of The Surgeon General, Borden Institute; 1994: 61–89.
6. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*. 2nd ed (DSM-II). Washington, DC: APA; 1968.
7. US Department of the Army. *Armed Forces Medical Diagnosis Nomenclature and Statistical Classification*. Washington, DC: DA; June 1963. Army Regulation 40-401.
8. US Department of the Army. *Personnel Separations, Officer Personnel*. Washington, DC: DA; July 1968. Army Regulation 635-105.
9. Byrdy HSR. *Division Psychiatry in Vietnam* (unpublished); 1967. [Full text available as Appendix 8 to this volume.]
10. Menard DL. The social work specialist in a combat division. *US Army Vietnam Med Bull*. 1968;March/April:48–57.
11. Bey D. *Wizard 6: A Combat Psychiatrist in Vietnam*. College Station, Tex: Texas A & M University Military History Series, 104; 2006.
12. Spector RH. *After Tet: The Bloodiest Year in Vietnam*. New York, NY: The Free Press; 1993.
13. Colbach EM, Parrish MD. Army mental health activities in Vietnam: 1965–1970. *Bull Menninger Clin*. 1970;34(6):333–342.
14. Roffman RA, Sapol E. Marijuana in Vietnam: a survey of use among Army enlisted men in two southern corps. *Int J Addict*. 1970;5(1):1–42.
15. Allerton WS. Army psychiatry in Vietnam. In: Bourne PG, ed. *The Psychology and Physiology of Stress: With Reference to Special Studies of the Viet Nam War*. New York, NY: Academic Press; 1969: 1-17.
16. Neel SH. *Medical Support of the US Army in Vietnam, 1965–1970*. Washington, DC: GPO; 1973.
17. Rothberg JM. A note on alcoholism: incidence and policy (letter). *NEJM*. 1975;292(21):1137.
18. Hays FW. Military aeromedical evacuation and psychiatric patients during the Viet Nam War. *Am J Psychiatry*. 1969;126(5):658–666.
19. Jones FD, Johnson AW Jr. Medical and psychiatric treatment policy and practice in Vietnam. *J Soc Issues*. 1975;31(4):49–65.
20. Datel WE, Johnson AW Jr. *Psychotropic Prescription Medication in Vietnam*. Alexandria, Va: Defense Technical Information Center; 1981. Document No. AD A097610. Available at: http://handle.dtic.mil/100.2/ADA097610.
21. Huffman RE. Which soldiers break down. A survey of 610 psychiatric patients in Vietnam. *Bull Menninger Clinic*. 1970;34(6):343–351.
22. Bowman JA. *Recent Experiences in Combat Psychiatry in Viet Nam* (unpublished); 1967. [Full text available as Appendix 11 to this volume.]
23. Kenny WF. Psychiatric disorders among support personnel. *US Army Vietnam Med Bull*. 1967;January/February:34–37.
24. Jones FD. Reactions to stress comparing combat and support troops. Presentation to: World Psychiatric Association; 29 August 1977;

Honolulu, Hawaii. [A summary of the principal study underlying this presentation is available as Appendix 16 to this volume.]
25. Talbott JA. The Saigon warriors during Tet. *US Army Vietnam Med Bull*. 1968;March/April:60–61.
26. Colbach EM. Marijuana use by GIs in Viet Nam. *Am J Psychiatry*. 1971;128(2):204–207.
27. Imahara J. In: Colbach EM. Marijuana use by GIs in Viet Nam. *Am J Psychiatry*. 1971;128:204–207.
28. Bloch HS. Army clinical psychiatry in the combat zone: 1967–1968. *Am J Psychiatry*. 1969;126(3):289–298.
29. Bey DR. *Division Psychiatry in Vietnam* (unpublished), copy provided to author.
30. Ratner RA. Unpublished journal, unnumbered pages, copy provided to author.
31. Fisher HW. Vietnam psychiatry. Portrait of anarchy. *Minn Med*. 1972;55(12):1165–1167.
32. Cahalan D, Cisin IH, Crossley HM. *American Drinking Practices: A National Study of Drinking Behavior and Attitudes*. New Brunswick, NJ: Rutgers Center of Alcohol Studies; 1969.
33. Cahalan D, Cisin IH, Gardner GL. *Drinking Practices and Problems in the US Army, 1972*. Washington, DC: GPO; 1972. Report No. 73-6. [Available at: Alexandria, Va: Defense Technical Information Center. Document No. AD A0763851.]
34. Goodwin DW, Davis DH, Robins LN. Drinking amid abundant illicit drugs. The Vietnam case. *Arch Gen Psychiatry*. 1975;32(2):230–233.
35. Robins LN. The interaction of setting and predisposition in explaining novel behavior: drug initiations before, in, and after Vietnam. In: Kandel E, ed. *Longitudinal Research in Drug Use: Empirical Findings and Methodological Issues*. Washington, DC: Hemisphere and Wiley; 1978: 179–196.
36. Rothberg JM. Alcoholism and the US Army (letter). *NEJM*. 1976;294(6):343.
37. Richard Nixon: "Special Message to the Congress on Drug Abuse Prevention and Control," 17 June 1971. Peters G, Woolley JT. *The American Presidency Project*. http://www.presidency.ucsb.edu/ws/?pid=3048. Accessed 30 July 2013.
38. Hauschild TB. Marijuana. *Mil Med*. 1971;136(2):105–109.
39. Johnson A, O'Rourke K. Drug rehabilitation in the combat zone. *Mil Med*. 1974;139(5):362–366.
40. Perkins ME. Opiate addiction and military psychiatry to the end of World War II. *Mil Med*. 1974;139(2):114–116.
41. Froede RC, Stahl CJ. Fatal narcotism in military personnel. *J Forensic Sci*. 1971;16(2):199–218.
42. Rock NL. Treatment program for military personnel with alcohol problems (unpublished). 1973.
43. Ratner RA. Drugs and despair in Vietnam. *U Chicago Magazine*. 1972;64:15–23.
44. Lipsman S, Doyle E, and the editors of Boston Publishing Co. *The Vietnam Experience: Fighting For Time*. Boston, Mass: Boston Publishing Co; 1983.
45. Manning FJ. Morale and cohesion in military psychiatry. In: Jones FD, Sparacino LR, Wilcox VL, Rothberg JM, eds. *Military Psychiatry: Preparing in Peace for War*. In: Zajtchuk R, Bellamy RF, eds. *Textbooks of Military Medicine*. Washington, DC: Department of the Army, Office of The Surgeon General, Borden Institute; 1994: 1–18.
46. Prugh GS. *Law at War: Vietnam 1964–1973*. Washington, DC: GPO; 1975.
47. Fidaleo RA. Marijuana: social and clinical observations. *US Army Vietnam Med Bull*. 1968;March/April:58–59.
48. Master FD. Some clinical observations of drug abuse among GI's in Vietnam. *J Ky Med Assoc*. 1971;69(3):193–195.
49. Steinbeck J IV. The importance of being stoned in Vietnam. *Washingtonian Magazine*. January 1968: 33–35, 56, 58, 60.
50. Postel WB. Marijuana use in Vietnam: a preliminary report. *US Army Vietnam Med Bull*. 1968;September/October:56–59.
51. Mirin SM, McKenna GJ. Combat zone adjustment: the role of MJ [marijuana] use. *Mil Med*. 1975;140(7):482–485.
52. Talbott JA, Teague JW. Marihuana psychosis. Acute toxic psychosis associated with the use of Cannabis derivatives. *JAMA*. 1969;210(2):299–302.

53. Roffman RA. *Vietnam* (unpublished memoir), copy provided to author.
54. Roffman RA. Unpublished material ("Marijuana Use Survey of Confinees in the Army Stockade at Long Binh") discussed in: Roffman RA, Sapol E. Marijuana in Vietnam: a survey of use among Army enlisted men in the two southern Corps. *Int J Addict*. 1970;5(1); 1–42.
55. Talbott JA. Pot reactions. *US Army Vietnam Med Bull*. 1968;January/February:40–41.
56. Heiman EM. Marihuana precipitated psychoses in patients evacuated to CONUS. *US Army Vietnam Med Bull*. 1968;May/June:75–77.
57. Department of Defense. General Order No. 33, 1968. In: Roffman RA, Sapol E. Marijuana in Vietnam: a survey of use among Army enlisted men in the two Southern Corps. *Intl J Addict*. 1970;5:9.
58. Casper E, Janacek J, Martinelli H Jr. Marijuana in Vietnam. *US Army Vietnam Med Bull*. 1968;September/October:60–72.
59. Colbach EM, Crowe RR. Marihuana associated psychosis in Vietnam. *Mil Med*. 1970;135(7):571–573.
60. Colbach EM, Willson SM. The binoctal craze. *US Army Vietnam Med Bull*. 1969;March/April:40–44.
61. Forrest DV. Marijuana to heroin . . . A missing link? [letter]. *Am J Psychiatry*. 1970;127:704–706.
62. Stanton MD. Drug use in Vietnam. A survey among Army personnel in the two northern corps. *Arch Gen Psychiatry*. 1972;26(3):279–286.
63. Bey DR, Zecchinelli VA. Marijuana as a coping device in Vietnam. *Mil Med*. 1971;136(5):448–450.
64. Kaplan JH. Marijuana and drug abuse in Vietnam. *Ann N Y Acad Sci*. 1971;191:261–269.
65. Treanor JJ, Skripol JN. Marijuana in a tactical unit in Vietnam. *US Army Vietnam Med Bull*. 1970;July/August:29–37.
66. Pietropinto A. Quoted in: Hauschild TB. Marijuana. *Mil Med*. 1971;136(2):105–109.
67. GIs called 'pot users' in Vietnam. *US Medicine*. 1 April 1970:7.
68. Holloway HC, Angel CR, Bardill DR and the members of Work Unit 032. Drug abuse in military personnel. In: *Annual Progress Report, 1972*. Washington, DC: Walter Reed Army Institute of Research; 1972: 1185–1201.
69. Holloway HC. Epidemiology of heroin dependency among soldiers in Vietnam. *Mil Med*. 1974;139(2):108–113.
70. Siegel AJ. The heroin crisis among US forces in Southeast Asia. An overview. *JAMA*. 1973;223(11):1258–1261.
71. Cookson P. Unpublished information cited in: Holloway HC. Epidemiology of heroin dependency among soldiers in Vietnam. *Mil Med*. 1974;139:108–113.
72. Char J. Drug abuse in Vietnam. *Am J Psychiatry*. 1972;129(4):463–465.
73. Budney AJ, Roffman R, Stephens RS, Walker D. Marijuana dependence and its treatment. *Addict Sci Clin Pract*. 2007;4(1):4–16.
74. Zinberg NE. Rehabilitation of heroin users in Vietnam. *Contemp Drug Problems*. 1972;1(2):263–294.
75. US Department of the Army. *Drug Abuse (Clinical Recognition and Treatment, Including the Diseases Often Associated)*. December 1972. Technical Bulletin No. 280.
76. Westin AV, Shaffer S. *Heroes and Heroin: The Shocking Story of Drug Addiction in the Military—and Its Impact on Society*. New York, NY: Pocket Books; 1972.
77. Ives JO, Army psychiatrist in Vietnam. Personal communication, July 2011.
78. Braumoeller FL, Terry JG. Nalline: an aid in detecting narcotic users. *Calif Med*. 1956;85(5):299–301.
79. Camp NM. Report of activities of the 98th Med Det (KO) for the six months ending 31 Dec 1970. [Full text available as Appendix 1 to this volume.]
80. Anonymous quote to the author, 15 September 2008.
81. Baker SL Jr. US Army heroin abuse identification program in Vietnam: implications for a methadone program. *Am J Public Health*. 1972;62(6):857–860.
82. Murphy M. When 30,000 GIs are using heroin, how can you fight a war? *Drug Forum*. 1971;1:87–98.

83. Holloway HC. CINCPAC Study for Evaluation of PACOM Drug Abuse Treatment/Rehabilitation Programs–Interim Report (1 September, 1971). [Abbreviated text available as Appendix 18 to this volume.]
84. Holloway HC. Profile of the military drug addict. Proceedings of Army World Wide Drug Abuse Conference, Fort McNair, Washington, DC, 27–29 September 1971.
85. Provided by Francis J Mulvihill Jr, MD (formerly assigned to the 67th Evacuation Hospital, Qui Nhon, September 1970–June 1971), 1983.
86. Ramos FE, Kruzich DJ. A survey of heroin users in Vietnam (unpublished); 15 April 1971.
87. Kruzich DJ. Army drug use in Vietnam: origins of the problem and official response (unpublished); May 1979.
88. Lloyd SJ Jr, Frates RC Jr, Domer DC. A clinical evaluation of 81 heroin addicts in Vietnam. *Mil Med*. 1973;138(5):298–300.
89. Joseph BS. Lessons on heroin abuse from treating users in Vietnam. *Hosp Community Psychiatry.* 1974;25(11):742–744.
90. Golosow N, Childs A. The soldier addict: a new battlefield casualty. *Int J Addict*. 1973;8(1):1–12.
91. Wilbur RS. The battle against drug dependency within the military. *J Drug Issues*. 1974;4(1):11–31.
92. Special Action Office for the National Drug Abuse Prevention Program. As reported in: Baker SL. US Army heroin abuse identification program in Vietnam: implications for a methadone program. *Am J Public Health*. 1972;62(6):859.
93. Robins LN. A follow-up study of Vietnam veterans' drug use: the transition to civilian life. *J Drug Issues*. 1974(4):61–63.
94. Stanton MD. Drugs, Vietnam, and the Vietnam veteran: an overview. *Am J Drug Alcohol Abuse*. 1976;3(4):557–570.
95. Zinberg NE. Heroin use in Vietnam and the United States. A contrast and critique. *Arch Gen Psychiatry*. 1972;26(5):486–488.
96. Drug center opens at Long Binh. *Army Reporter*. 25 October 1971:4.
97. Stanton SL. *The Rise and Fall of an American Army: US Ground Forces in Vietnam, 1965–1973*. Novato, Calif: Presidio Press; 1985.
98. Jones FD. Disorders of frustration and loneliness. In: Jones FD, Sparacino LR, Wilcox VL, Rothberg JM, Stokes JW, eds. *War Psychiatry*. In: Zajtchuk R, Bellamy RF, eds. *Textbooks of Military Medicine*. Washington, DC: Department of the Army, Office of The Surgeon General, Borden Institute; 1995: 63–83.
99. Kolb D, Nail RL, Gunderson EK. Differences in family characteristics of heroin injectors and inhalers. *J Nerv Ment Dis*. 1974;158(6):446–449.
100. DeHart RL, Sorrentino JP. Experience with drug abuse. *Mil Med*. 1973;138(5):294–297.
101. Kojak G Jr, Canby JP. Personality and behavior patterns of heroin-dependent American servicemen in Thailand. *Am J Psychiatry*. 1975;132(3):246–250.
102. Nelson KE. Quoted in: Bentel DJ, Crim D, Smith DE. Drug abuse in combat: the crisis of drugs and addiction among American troops in Vietnam. *J Psychedelic Drugs*. 1971;4:23–30.
103. Nelson KE, Panzarella J. *Preliminary Findings—Prevalence of Drug Use in Enlisted Vietnam Returnees Processing for ETS Separation, Oakland Overseas Processing Center*. Presidio, San Francisco, Calif: Letterman General Hospital; March 1971. Report for Department of the Army. [Final report available at: Alexandria, Va: Defense Technical Information Center. Document No. AD A743162.]
104. Robins LN, Helzer JE, Davis DH. Narcotic use in southeast Asia and afterward. An interview study of 898 Vietnam returnees. *Arch Gen Psychiatry*. 1975;32(8):955–961.
105. Helzer JE, Robins LN, Davis DH. Antecedents of narcotic use and addiction. A study of 898 Vietnam veterans. *Drug Alcohol Depend*. 1976;1(3):183–190.
106. Frenkel SI, Morgan DW, Greden JF. Heroin use among soldiers in the United States and Vietnam: a comparison in retrospect. *Int J Addict*. 1977;12(8):1143–1154.
107. Kuzmarov J. *The Myth of the Addicted Army: Vietnam and the Modern War on Drugs*.

Amherst and Boston, Mass: University of Massachusetts Press; 2009.
108. Holloway HC, Sodetz FJ, Elsmore TF and the members of Work Unit 102. Heroin dependence and withdrawal in the military heroin user in the US Army, Vietnam. In: *Annual Progress Report, 1973*. Washington, DC: Walter Reed Army Institute of Research; 1973: 1244–1246.
109. Howe RC, Hegge FW, Phillips JL. Acute heroin abstinence in man, I: Changes in behavior and sleep. *Drug Alcohol Depend*. 1980;5(5):341–356.
110. Howe RC, Hegge FW, Phillips JL. Acute heroin abstinence in man, II: Alterations in rapid eye movement (REM) sleep. *Drug Alcohol Depend*. 1980;6(3):149–161.
111. Robinson MG, Howe RC, Varni JG, Ream NW, Hegge FW. Assessment of pupil size during acute heroin withdrawal in Viet Nam. *Neurology*. 1974;24(8):729–732.
112. Bourne PG. *Men, Stress, and Vietnam*. Boston, Mass: Little, Brown; 1970.
113. Sanders CR. Doper's wonderland: functional drug use by military personnel in Vietnam. *J Drug Issues*. 1973;3:65–78.
114. Bentel DJ, Crim D, Smith DE. Drug abuse in combat: the crisis of drugs and addiction among American troops in Vietnam. *J Psychedelic Drugs*. 1971;4:23–30.
115. Hampton PT, Vogel DB. Personality characteristics of servicemen returned from Viet Nam identified as heroin abusers. *Am J Psychiatry*. 1973;130(9):1031–1032.
116. Nace EP, O'Brien CP, Mintz J, Ream NW, Myers AL. Drinking problems among Vietnam veterans. *Curr Alcohol*. 1977;2:35–324.
117. Solomon R. The rise and fall of the Laotian and Vietnamese opiate trades. *J Psychedelic Drugs*. 1979;11(3):159–171.
118. Tureen LL, Stein M. The base section psychiatric hospital. In: Hanson FR, ed. *Combat Psychiatry*. Washington, DC: US Government Printing Office; 1949: 105–134.
119. Harris FG. Some comments on the differential diagnosis and treatment of psychiatric breakdowns in Korea. *Proceedings of Course on Recent Advances in Medicine and Surgery*. Army Medical Service Graduate School. Washington, DC: Walter Reed Army Medical Center; 30 April 1954: 390–402.
120. Lee RA. The army "mutiny" of 1946. *J Am History*. 1966;53(3):555–571.
121. Ingraham LH. "The Nam" and "The World." Heroin use by US Army enlisted men serving in Vietnam. *Psychiatry*. 1974;37(2):114–128.
122. Imahara JK. Quoted in: Allerton WS, Forrest DV, Anderson JR, et al. Psychiatric casualties in Vietnam. In: Sherman LJ, Caffey EM Jr. *The Vietnam Veteran in Contemporary Society: Collected Materials Pertaining to the Young Veterans*. Washington, DC: Veterans Administration; 1972: sec. III: 54–59.
123. Linden E. The demoralization of an army: fragging and other withdrawal symptoms. *Saturday Rev*, 8 January 1972:12–17, 55.
124. Baker SL Jr. US Army heroin abuse identification program in Vietnam: implications for a methadone program. *Am J Public Health*. 1972;62(6):857–860.